FEDERAL RESERVE statistical release

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INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production increased 0.8 percent in December after gains of 0.2 percent in November and 0.8 percent in October. In the manufacturing sector, output rose 0.7 percent in December, and increases occurred in most major industry groups. The output of utilities jumped 2.7 percent, and the output at mines advanced 0.4 percent. Over the twelve months ending in December, total industrial production increased 4.4 percent, to a level that is 117.8 percent of its 1997 average, while total industrial capacity expanded a modest 1.2 percent. The rate of capacity utilization in

(over)

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

	1997=100				Percent change				
Industrial production	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	Dec. '03 to Dec. '04
Total index	115.7	116.6	116.8	117.8	-.3	.8	.2	.8	4.4
Previous estimates	115.9	116.7	117.0		-.1	.7	.2		
Major market groups									
Final Products	113.5	114.8	114.8	115.7	-.3	1.1	.0	.8	4.7
Consumer goods	110.7	111.9	111.9	112.7	-.6	1.1	.0	.7	2.7
Business equipment	121.1	122.8	122.5	123.6	.4	1.4	-.2	.9	9.8
Nonindustrial supplies	112.8	113.3	113.2	114.2	-.1	.4	-.1	.9	4.4
Construction	107.6	108.4	108.2	108.6	-.6	.7	-.1	.3	4.1
Materials	118.9	119.5	120.1	121.2	-.3	.5	.5	.9	4.0
Major industry groups									
Manufacturing (see note below)	117.7	118.8	118.9	119.7	-.4	.9	.1	.7	5.1
Previous estimates	117.8	118.6	118.9		-.4	.7	.2		
Mining	89.4	89.5	91.4	91.8	-2.7	.0	2.2	.4	-.4
Utilities	114.8	114.5	114.4	117.5	3.3	-.2	-.1	2.7	2.2

	Percent of capacity								Capacity growth
Capacity utilization	Average 1972–2003	1982 low	1988–89 high	2003 Dec.	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	Dec. '03 to Dec. '04
Total industry	81.1	70.8	85.1	76.8	78.0	78.5	78.6	79.2	1.2
Previous estimates					78.1	78.6	78.7		
Manufacturing (see note below)	79.9	68.5	85.6	75.0	76.8	77.4	77.4	77.8	1.2
Previous estimates					76.9	77.3	77.4		
Mining	87.1	78.6	85.8	87.0	84.6	84.7	86.6	87.0	-.4
Utilities	86.9	77.7	92.8	86.2	84.8	84.5	84.3	86.5	1.9
Stage-of-process groups									
Crude	86.4	77.3	88.9	85.1	84.3	84.5	85.8	86.4	-.2
Primary and semifinished	82.2	68.0	86.5	78.9	79.7	79.8	79.8	80.6	2.1
Finished	78.0	71.1	83.1	72.5	74.8	75.8	75.7	76.1	.3

r Revised. p Preliminary.

NOTE– The statistics in this release cover output, capacity, and capacity utilization in the industrial sector, which the Federal Reserve defines as manufacturing, mining, and electric and gas utilities. Manufacturing comprises those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* the logging and newspaper, periodical, book and directory publishing industries that have traditionally been considered manufacturing and included in the industrial sector.

December, at 79.2 percent, was 2.4 percentage points above its year-earlier level but still 1.9 percentage points below its 1972–2003 average.

Market Groups

The output of consumer goods rose 0.7 percent in December and increased at an annual rate of 4.4 percent for the fourth quarter as a whole. In December, the index for consumer nondurables increased 0.8 percent and received a significant boost from the output of consumer energy products, which jumped 2.9 percent in December largely because of an increase in residential sales of electricity. Among non-energy nondurables, the index for paper products rose 1.2 percent while the indexes for clothing and for foods and tobacco moved up by smaller amounts; these gains more than offset a second monthly decline in the index for chemical products. The output of consumer durables rose 0.6 percent, as the index for automotive products turned back up and the indexes for appliances, furniture, and carpeting and for miscellaneous goods increased. The output of home electronics tumbled again and ended the year nearly 8-1/2 percent below its level in December 2003.

The production of business equipment increased 0.9 percent in December and was nearly 10 percent above its year-earlier level; for the fourth quarter as a whole, this index rose at an annual rate of 5.9 percent. The output of information processing equipment added another 1.0 percent in December, the fourth month of similarly sized gains. Industrial and other equipment rose 1.3 percent; however, average output in the fourth quarter was little changed after having risen sharply over the previous four quarters. The production of defense and space equipment continued to climb in December, reaching a level 9.0 percent higher than a year earlier.

In December, nonindustrial supplies posted its largest one-month gain—0.9 percent—since February, mainly because of a jump of 1.1 percent in the output of business supplies. The index for materials also rose 0.9 percent; the rise in output in this category was supported both by a 1.3 percent gain for energy materials and by broad-based gains among durable and nondurable materials categories.

Industry Groups

Manufacturing production increased 0.7 percent in December, and the factory operating rate moved up 0.4 percentage point, to 77.8 percent, the highest rate of utilization since December 2000. Nonetheless, the factory operating rate was still more than 2 percentage points below its 1972–2003 average. In December, the production of durable goods increased 0.9 percent. The largest gain among the durable goods industries was in primary metals, in which output rose 3.0 percent. The production of computer and electronic products registered a 1.2 percent gain, and its level was 16.4 percent higher than a year earlier. Among the selected high-technology industries, the output of computer and peripheral equipment continued to expand at a monthly pace of about 1-1/2 percent; increases in the production of semiconductor and related electronic components strengthened for a second month in December after decelerating, on balance, over the previous eight months. The indexes for most other major categories of durable goods increased in December; the exceptions include wood products, which moved down for a second month, and electrical equipment, appliances, and components, which turned back down. The production of nondurable goods, which rose 0.3 percent, included output gains of at least 1 percent for textile and product mills, paper, and petroleum and coal products. Smaller production increases were posted in food, beverage, and tobacco products; apparel and leather; and printing and support. The production of chemicals edged down, and the output of plastics and rubber products was unchanged. Production in the non-NAICS manufacturing industries (logging and publishing) jumped 1.2 percent.

In December, the higher level of utilities output reflected a 3.0 percent increase in the output of electric utilities and a 1.3 percent rise in the output of natural gas utilities. The small gain in mining output was primarily the result of increases in crude oil extraction and coal mining. Capacity utilization for industries in the crude stage of processing rose 0.6 percentage point, to 86.4 percent, a rate that is equal to its 1972–2003 average. The operating rate for industries in the primary and semifinished stages increased 0.8 percentage point, to 80.6 percent, and the utilization rate for finished goods producers increased 0.4 percentage point, to 76.1 percent.

Revision of Industrial Production and Capacity Utilization

On December 22, 2004, the Federal Reserve Board issued its annual revision to the index of industrial production (IP), the related measures of capacity and capacity utilization, and the data on industrial use of electric power. Comprehensive source data from the Census Bureau's 2002 Economic Census were incorporated into the production database. In addition to these data, the revised IP indexes reflect data from selected editions of the Census Bureau's 2002 and 2003 Current Industrial Reports. Annual data from the U.S. Geological Survey regarding metallic and nonmetallic minerals (except fuels) for 2002 and 2003 were also introduced. The updating also included revisions to the monthly indicator for each industry (either physical product data, production-worker hours, or electric power usage) and revisions to seasonal factors.

Capacity and capacity utilization were revised to incorporate preliminary data from the Census Bureau's 2003 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 statistics on the industrial use of electric power incorporated additional information received from utilities for the past few years and included available data from the 2002 Economic Census.

The revision is available on the Board's website at www.federalreserve.gov/releases/G17. The revised data are also available through 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).

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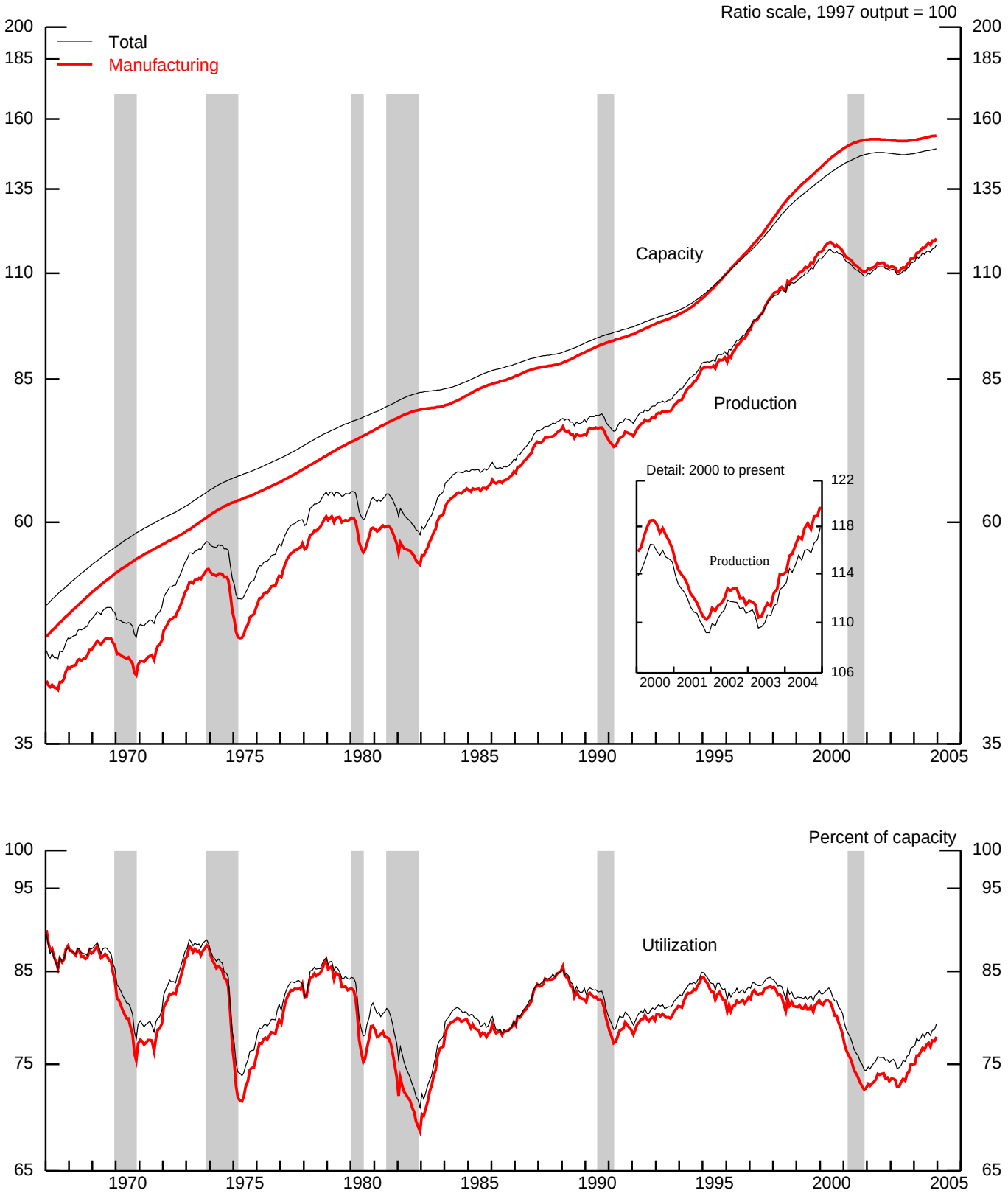
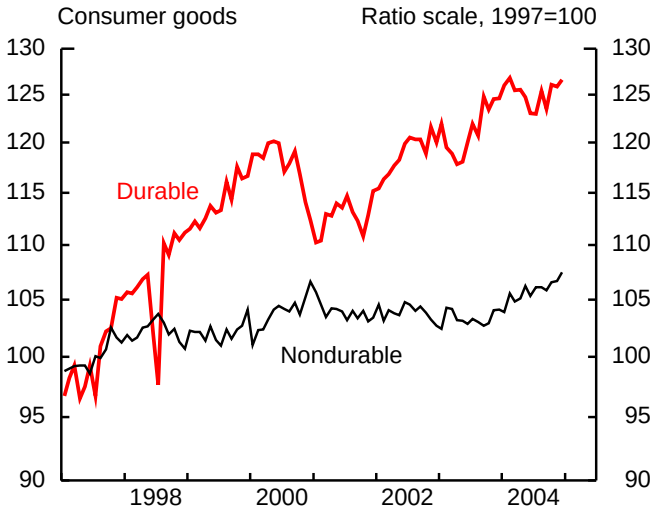
Further detail is available on the Board's web site (**www.federalreserve.gov/releases/G17/**).

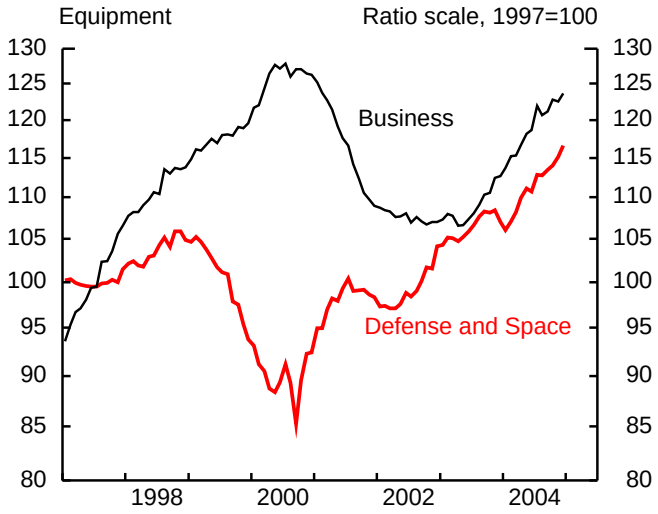
1. Industrial production, capacity, and utilization

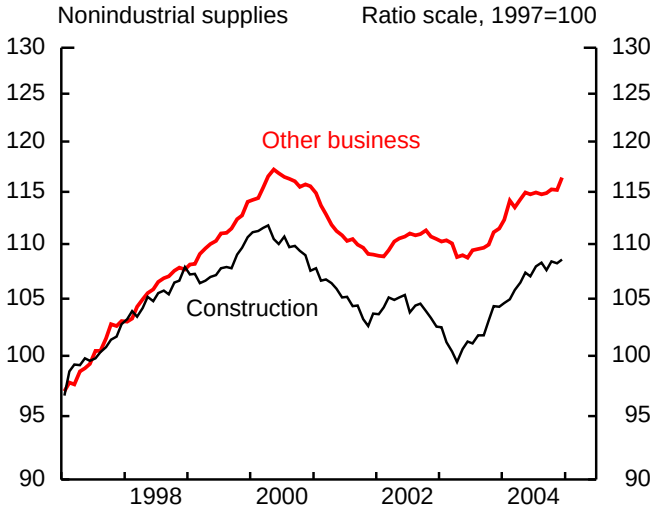


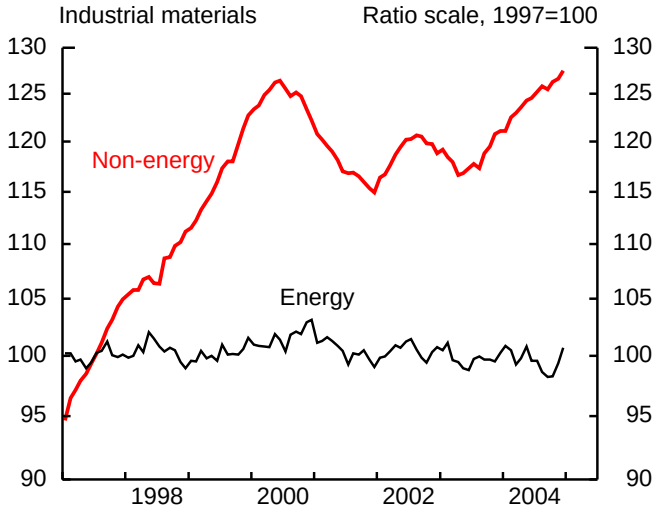
Notes: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER). See note on cover page.

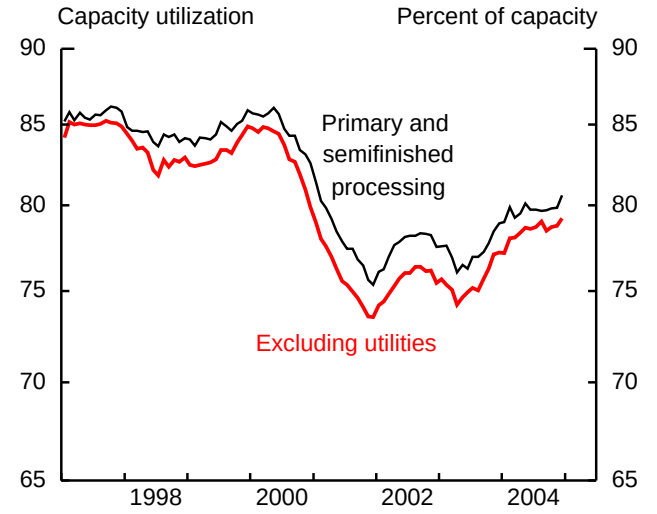
2. Industrial production and capacity utilization

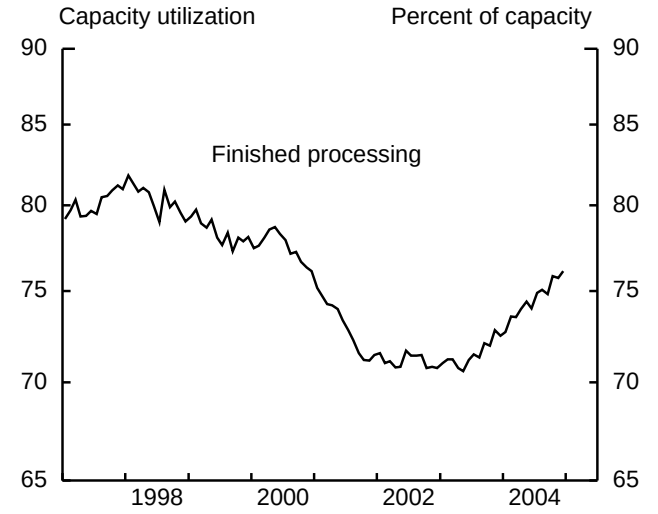




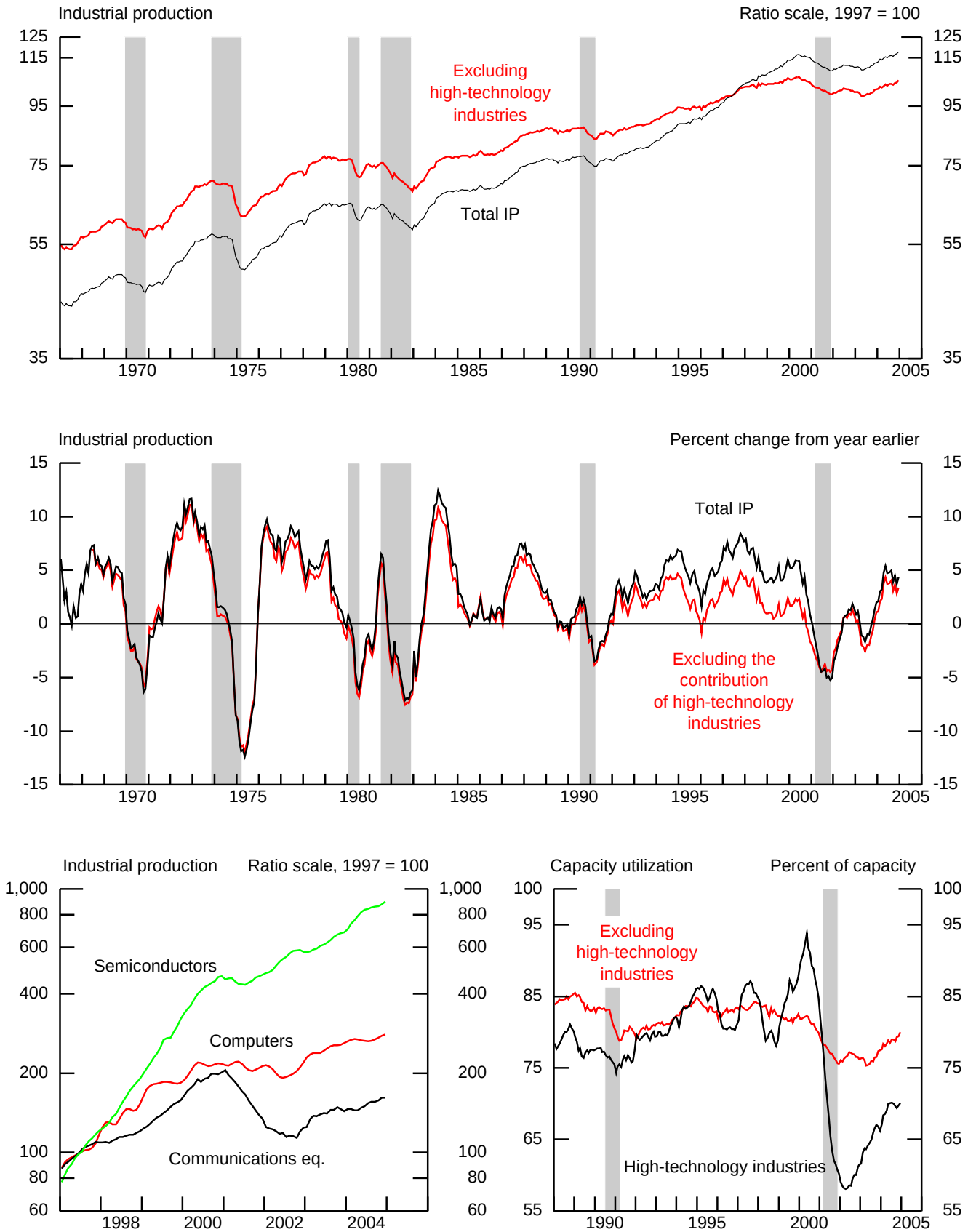








3. Industrial production and capacity utilization, high-technology industries



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		2003 proportion[1]	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Dec. '03 to Dec. '04
			2002	2003	2004	2004 Q1	Q2	Q3[r]	Q4[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	
Total IP		100.00	1.5	1.2	4.2	5.6	4.3	2.7	4.1	-.3	.8	.2	.8	4.4
MARKET GROUPS														
Final products and nonindustrial supplies		58.39	.6	1.7	4.5	6.3	4.2	3.2	4.4	-.2	.9	.0	.8	4.6
Consumer goods		30.86	1.6	1.3	2.7	4.8	.6	.8	4.4	-.6	1.1	.0	.7	2.7
Durable		8.79	6.4	3.3	1.6	6.3	-5.2	-1.5	7.3	-1.5	2.1	-.2	.6	1.6
Automotive products		4.70	10.1	5.2	1.3	3.9	-10.8	-.9	14.5	-1.6	3.5	-.4	.4	1.1
Home electronics		.36	-4.0	34.8	-7.7	20.6	-27.1	-23.5	8.1	-1.8	5.3	-4.4	-2.2	-8.4
Appliances, furniture, carpeting		1.42	1.8	1.4	2.8	9.1	2.8	-1.0	.6	-1.4	.1	.9	.6	2.8
Miscellaneous goods		2.30	4.3	-3.5	3.0	7.2	6.3	.7	-2.0	-1.3	-.1	.3	1.2	3.2
Nondurable		22.08	-.2	.4	3.1	4.2	3.1	1.8	3.4	-.3	.7	.1	.8	3.2
Non-energy		17.93	-2.3	.8	3.9	3.8	6.4	2.5	2.8	-.4	.8	-.1	.3	4.0
Foods and tobacco		9.72	-3.6	2.4	4.1	5.7	5.4	2.7	2.6	.1	.2	.4	.3	4.1
Clothing		.78	-9.7	-14.9	-4.8	1.1	-1.5	-17.6	.2	.7	-.5	.4	.8	-4.3
Chemical products		4.89	.9	.6	3.6	-1.8	9.3	4.3	2.8	-.9	2.1	-1.4	-.4	3.6
Paper products		2.03	-.8	.6	6.3	10.1	7.9	4.4	2.9	-1.7	.6	.3	1.2	6.8
Energy		4.15	10.1	-1.4	-.3	6.1	-10.6	-1.2	5.6	.3	.2	.9	2.9	-.4
Business equipment		9.90	-2.6	4.7	9.9	10.7	11.2	12.0	5.9	.4	1.4	-.2	.9	9.8
Transit		1.73	-12.6	.2	11.6	14.0	8.8	8.2	15.6	.2	3.4	.5	-.4	9.8
Information processing		3.06	-3.7	16.3	10.1	.8	9.7	18.5	12.1	.9	1.1	1.0	1.0	11.9
Industrial and other		5.11	2.1	-.5	9.3	15.8	12.9	9.8	-.5	.2	.8	-1.1	1.3	8.6
Defense and space equipment		1.96	3.8	5.3	6.9	-2.7	13.6	9.1	8.1	.7	.4	1.0	1.2	9.0
Construction supplies		4.26	.1	.6	4.3	4.7	7.2	3.7	1.7	-.6	.7	-.1	.3	4.1
Business supplies		11.03	1.4	.0	4.3	9.2	4.8	.7	2.6	.1	.3	-.1	1.1	4.5
Materials		41.61	2.8	.5	3.7	4.7	4.5	1.9	3.8	-.3	.5	.5	.9	4.0
Non-energy		30.18	3.5	.8	5.3	5.8	6.5	4.5	4.2	-.3	.7	.3	.7	5.3
Durable		18.67	4.6	2.2	6.9	8.3	7.1	5.4	6.6	-.2	1.0	.4	.9	7.0
Consumer parts		4.09	7.1	2.7	2.1	9.0	-6.8	-2.7	9.9	-.6	1.8	-.2	1.0	1.7
Equipment parts		6.18	6.2	5.8	15.7	19.1	20.2	13.4	10.4	.7	.9	1.2	1.0	16.0
Other		8.40	1.9	-.9	2.7	.3	4.8	3.5	2.4	-.6	.7	.0	.6	3.0
Nondurable		11.52	1.7	-1.3	2.6	1.9	5.5	2.9	.3	-.5	.2	.1	.4	2.5
Textile		.69	2.0	-13.0	-5.1	-9.3	-10.3	7.3	-6.9	-.6	-.9	-1.4	1.0	-5.2
Paper		2.69	2.1	-4.3	3.2	3.7	6.0	3.7	-.5	.7	-1.0	.8	.6	3.0
Chemical		4.52	2.1	2.0	4.2	.8	11.0	4.6	.8	-1.0	.1	.6	.2	4.1
Energy		11.43	.4	-.3	-.4	1.5	-.7	-4.8	2.7	-.4	.1	1.2	1.3	.4
INDUSTRY GROUPS														
Manufacturing		82.50	1.3	1.5	5.0	5.6	6.0	4.0	4.1	-.4	.9	.1	.7	5.1
Manufacturing (NAICS)		77.75	1.6	1.6	5.0	5.4	5.9	4.1	4.5	-.4	1.0	.1	.6	5.1
Durable manufacturing		42.73	3.2	3.3	6.7	8.1	6.0	5.9	6.6	-.3	1.2	.1	.9	6.7
Wood products	321	1.50	.0	3.2	.5	-.1	4.7	-2.2	-.3	-1.9	2.6	-1.0	-.6	-.3
Nonmetallic mineral products	327	2.23	.3	1.7	4.3	4.8	3.3	5.5	3.7	-.5	.0	.7	1.0	4.6
Primary metal	331	2.49	7.1	.6	4.8	-5.1	4.3	12.2	8.6	1.1	.7	-.5	3.0	4.8
Fabricated metal products	332	5.62	-.2	-2.9	3.2	4.5	6.2	2.6	-.4	-.8	.3	-.1	.1	2.8
Machinery	333	5.17	1.3	.6	12.2	24.9	12.1	7.0	5.9	.7	1.4	.2	.9	10.8
Computer and electronic products	334	7.64	5.6	14.5	14.9	12.1	19.4	16.9	11.5	.9	1.0	.8	1.2	16.4
Electrical equip., appliances, and components	335	2.13	-5.2	1.1	4.7	9.4	4.5	11.1	-5.5	-.1	-1.7	.3	-.3	4.3
Motor vehicles and parts	3361–3	7.49	11.3	4.8	2.5	6.9	-8.6	-1.1	14.4	-1.2	3.5	-.8	.5	2.0
Aerospace and miscellaneous transportation equipment	3364–9	3.55	-7.5	.8	5.8	2.3	5.9	4.7	10.5	-.5	1.3	1.6	1.5	7.0
Furniture and related products	337	1.70	4.2	-1.8	2.0	5.5	6.5	-1.4	-2.3	-1.5	.2	.0	.6	1.8
Miscellaneous	339	3.20	7.4	-2.2	4.5	5.7	5.9	1.3	5.0	-1.1	1.1	.2	1.7	5.5
Nondurable manufacturing		35.02	-.4	-.4	2.9	2.1	5.7	1.7	1.9	-.5	.8	-.1	.3	3.0
Food, beverage, and tobacco products	311,2	11.43	-2.9	2.1	3.6	5.3	4.4	1.9	2.6	.1	.3	.3	.4	3.7
Textile and product mills	313,4	1.18	.4	-8.5	-2.5	-2.8	-6.7	5.1	-5.0	-1.2	1.1	-2.7	1.1	-2.3
Apparel and leather	315,6	.85	-9.3	-14.3	-4.3	.9	-1.0	-16.1	.2	.7	-.5	.5	.6	-4.0
Paper	322	3.08	4.1	-3.3	3.7	3.0	8.5	2.8	.7	.0	.5	-.4	1.1	3.4
Printing and support	323	2.31	-3.2	-3.5	.8	4.2	-1.6	-.2	1.1	2.2	-1.3	.1	.3	.9
Petroleum and coal products	324	1.86	4.1	1.2	3.9	.3	3.5	6.4	5.3	-3.2	2.0	1.6	1.0	4.2
Chemical	325	10.60	1.0	1.2	3.7	-.6	9.9	3.1	2.5	-1.2	1.4	-.4	-.1	3.7
Plastics and rubber products	326	3.71	2.4	-2.2	1.6	.9	7.3	-2.0	.4	-1.1	1.2	-.3	.0	1.8
Other manufacturing (non-NAICS)	**1133,5111**	4.76	-3.9	.3	4.6	8.9	8.2	3.4	-1.9	-1.8	-.3	.1	1.2	5.2
Mining	**21**	7.62	-3.8	.2	-1.5	.6	-3.2	-2.0	-1.3	-2.7	.0	2.2	.4	-.4
Utilities	**2211,2**	9.88	7.1	-.6	2.3	9.7	-3.7	-4.7	8.7	3.3	-.2	-.1	2.7	2.2
Electric	2211	8.22	5.7	.5	3.5	10.1	.5	-7.4	11.9	4.0	.8	-1.0	3.0	3.5
Natural gas	2212	1.66	15.4	-6.2	-3.6	7.9	-23.1	11.3	-6.4	-.4	-5.4	4.9	1.3	-4.1

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 an NAICS code. Additional industry detail is available on the Board's web site (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		2003 proportion	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Dec. '03 to Dec. '04
			2002	2003	2004	2004 Q1	Q2	Q3[r]	Q4[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	
Total industry		100.00	1.5	1.2	4.2	5.6	4.3	2.7	4.1	-.3	.8	.2	.8	4.4
Energy		18.23	2.9	-.3	.6	5.1	-2.9	-3.9	4.3	.1	.1	1.0	1.8	1.0
Consumer products		4.15	10.1	-1.4	-.3	6.1	-10.6	-1.2	5.6	.3	.2	.9	2.9	-.4
Commercial products		2.38	4.7	.1	5.4	22.4	-1.4	-5.2	8.1	2.6	.2	-.2	2.3	5.0
Oil and gas well drilling		.27	-15.5	21.0	8.6	-.2	10.3	8.0	17.1	-.4	.4	4.8	1.2	10.8
Converted fuel		3.78	4.0	.0	1.7	5.4	2.8	-10.0	9.8	1.6	1.1	.4	1.7	2.2
Primary materials		7.65	-1.5	-.4	-1.4	-.4	-2.4	-2.2	-.6	-1.4	-.4	1.5	1.1	-.4
Non-energy		81.77	1.2	1.5	5.0	5.7	6.0	4.2	4.1	-.4	.9	.0	.6	5.1
Selected high-technology industries		4.76	8.1	18.7	18.6	20.7	24.3	15.6	14.0	.6	.8	1.7	1.7	20.4
Computer and peripheral equipment	3341	1.16	.9	21.8	7.6	16.1	-.4	-1.0	17.2	1.2	1.6	1.5	1.4	8.1
Communications equipment	3342	1.33	-14.3	22.5	9.6	-1.2	5.2	22.3	13.3	-.2	1.3	2.3	.3	12.6
Semiconductors and related electronic components	334412–9	2.26	25.2	16.2	29.2	37.2	49.9	20.0	12.9	.9	.2	1.5	2.6	31.0
Excluding selected high-technology industries		77.02	.7	.4	4.1	4.8	4.8	3.4	3.5	-.4	.9	-.1	.6	4.2
Motor vehicles and parts	3361–3	7.49	11.3	4.8	2.5	6.9	-8.6	-1.1	14.4	-1.2	3.5	-.8	.5	2.0
Motor vehicles	3361	3.48	11.1	6.7	2.2	6.1	-14.5	2.5	17.5	-2.0	4.3	-.8	-.3	1.5
Motor vehicle parts	3363	3.57	10.8	2.7	1.3	6.1	-6.3	-4.0	10.1	-.6	1.9	-.6	1.4	1.2
Excluding motor vehicles and parts		69.52	-.4	.0	4.3	4.6	6.4	3.9	2.4	-.4	.6	.0	.6	4.4
Consumer goods		22.30	-1.2	.7	3.5	4.6	5.4	1.4	2.5	-.6	.8	-.1	.4	3.6
Business equipment		7.52	-2.2	.1	9.4	11.1	12.8	11.7	2.5	.3	.9	-.6	1.2	9.0
Construction supplies		4.23	.2	.6	4.2	4.5	7.2	3.6	1.6	-.6	.7	-.1	.3	4.0
Business supplies		8.32	-.2	-.9	3.1	4.9	5.3	1.6	.6	-.7	.4	-.1	.6	3.3
Materials		25.15	.7	-.9	3.8	3.1	5.1	4.3	2.6	-.3	.5	.3	.5	3.7
Measures excluding selected high-technology industries														
Total industry		95.24	1.0	.3	3.5	4.9	3.3	2.0	3.7	-.3	.8	.1	.8	3.6
Manufacturing[1]		77.75	.7	.4	4.1	4.7	4.9	3.3	3.6	-.5	.9	.0	.6	4.1
Durable		38.17	2.3	1.2	5.1	6.4	3.8	4.7	5.7	-.3	1.2	.0	.8	5.1
Measures excluding motor vehicles and parts														
Total industry		92.51	.8	.9	4.3	5.5	5.5	3.0	3.4	-.2	.5	.3	.9	4.6
Manufacturing[1]		75.01	.4	1.2	5.2	5.5	7.6	4.5	3.2	-.4	.7	.1	.7	5.4
Durable		35.43	1.6	2.9	7.5	8.3	9.4	7.4	5.0	-.1	.7	.3	1.0	7.7
Measures excluding selected high-technology industries and motor vehicles and parts														
Total industry		87.75	.3	-.1	3.6	4.7	4.4	2.3	2.8	-.3	.5	.2	.8	3.7
Manufacturing[1]		70.25	-.3	.0	4.3	4.5	6.5	3.8	2.5	-.4	.7	.0	.6	4.4
Stage-of-process components of non-energy materials, measures of the input to														
Finished processors		13.63	5.5	1.9	8.2	11.6	7.4	6.4	7.3	.2	.7	.6	.9	8.1
Semifinished and primary processors		16.55	1.7	.0	2.9	1.2	5.7	2.9	1.8	-.7	.7	.0	.5	3.0

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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 Q1	Q2	Q3	Q4	2004 Sept.	Oct.	Nov.	Dec.
Total	11.96	12.36	11.89	11.83	12.01	11.78	12.06	11.91	12.05
Autos	4.23	4.39	4.20	4.26	4.14	4.32	4.06	4.06	4.31
Trucks	7.73	7.96	7.68	7.57	7.86	7.46	8.00	7.84	7.75
Light	7.37	7.64	7.35	7.19	7.46	7.08	7.59	7.42	7.38
Medium and heavy	.36	.33	.33	.38	.40	.38	.41	.43	.37
MEMO									
Autos and light trucks	11.60	12.03	11.56	11.46	11.60	11.39	11.65	11.48	11.68

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

1997 = 100, seasonally adjusted

Item		2003 proportion	2004 Apr.	May	June	July	Aug.	Sept.r	Oct.r	Nov.r	Dec.p
Total IP		100.00	114.7	115.5	115.1	115.9	116.0	115.7	116.6	116.8	117.8
MARKET GROUPS											
Final products and nonindustrial supplies		58.39	112.3	113.0	112.5	113.5	113.6	113.3	114.4	114.4	115.3
Consumer goods		30.86	110.7	111.3	110.2	110.8	111.4	110.7	111.9	111.9	112.7
Durable		8.79	125.6	124.8	123.1	123.0	125.4	123.5	126.1	125.9	126.6
Automotive products		4.70	135.9	133.8	130.6	130.9	135.3	133.1	137.8	137.3	137.9
Home electronics		.36	237.8	236.1	231.9	213.7	225.2	221.2	232.8	222.6	217.6
Appliances, furniture, carpeting		1.42	113.6	114.5	113.7	113.7	114.4	112.8	112.9	113.9	114.6
Miscellaneous goods		2.30	102.8	103.2	103.5	104.1	103.6	102.3	102.2	102.5	103.8
Nondurable		22.08	105.1	106.2	105.3	106.1	106.1	105.8	106.6	106.6	107.5
Non-energy		17.93	103.9	104.7	104.0	104.7	105.1	104.7	105.6	105.4	105.7
Foods and tobacco		9.72	102.8	103.9	103.3	104.1	103.9	104.0	104.3	104.7	105.1
Clothing		.78	51.1	50.1	49.3	48.1	47.5	47.8	47.6	47.8	48.2
Chemical products		4.89	124.7	125.1	124.4	125.4	126.9	125.7	128.3	126.5	126.0
Paper products		2.03	108.4	109.8	108.9	109.4	111.5	109.7	110.3	110.7	112.0
Energy		4.15	111.2	113.9	112.0	113.3	111.2	111.5	111.8	112.8	116.1
Business equipment		9.90	116.7	118.2	118.7	121.9	120.7	121.1	122.8	122.5	123.6
Transit		1.73	89.0	88.8	88.9	90.7	90.5	90.7	93.8	94.3	93.9
Information processing		3.06	167.7	171.0	172.8	176.7	177.7	179.3	181.2	183.0	184.8
Industrial and other		5.11	98.2	99.6	99.7	103.0	100.7	100.9	101.7	100.6	101.9
Defense and space equipment		1.96	109.9	111.1	110.7	112.8	112.7	113.5	114.0	115.2	116.6
Construction supplies		4.26	106.5	107.3	107.0	107.9	108.3	107.6	108.4	108.2	108.6
Business supplies		11.03	114.3	114.9	114.7	114.9	114.8	114.9	115.2	115.2	116.4
Materials		41.61	118.1	118.9	118.8	119.2	119.3	118.9	119.5	120.1	121.2
Non-energy		30.18	123.6	124.3	124.6	125.2	125.8	125.5	126.3	126.6	127.5
Durable		18.67	140.5	141.5	141.9	142.6	143.6	143.3	144.7	145.2	146.5
Consumer parts		4.09	109.5	109.1	108.0	106.5	109.2	108.5	110.5	110.2	111.3
Equipment parts		6.18	229.3	233.5	236.0	239.6	240.0	241.5	243.6	246.5	249.1
Other		8.40	97.4	97.9	98.1	98.7	98.9	98.3	99.0	99.0	99.7
Nondurable		11.52	97.1	97.4	97.6	98.2	98.3	97.8	98.0	98.0	98.5
Textile		.69	66.4	66.4	67.0	67.7	68.0	67.6	67.0	66.1	66.7
Paper		2.69	92.8	93.0	93.7	94.3	93.5	94.2	93.3	94.0	94.5
Chemical		4.52	103.8	104.0	104.7	105.2	106.0	104.9	105.0	105.7	105.9
Energy		11.43	99.8	100.8	99.6	99.6	98.6	98.2	98.3	99.4	100.7
INDUSTRY GROUPS											
Manufacturing		82.50	116.4	117.1	116.9	117.8	118.3	117.7	118.8	118.9	119.7
Manufacturing (NAICS)		77.75	117.2	117.9	117.8	118.7	119.0	118.6	119.8	119.9	120.6
Durable manufacturing		42.73	131.6	132.4	132.3	133.7	134.4	134.1	135.7	135.9	137.1
Wood products	321	1.50	105.3	106.4	103.8	106.3	104.7	102.8	105.4	104.4	103.8
Nonmetallic mineral products	327	2.23	105.3	104.5	104.7	105.5	106.9	106.4	106.4	107.1	108.2
Primary metal	331	2.49	90.0	90.8	92.1	93.4	93.2	94.2	94.9	94.5	97.3
Fabricated metal products	332	5.62	96.2	96.6	96.9	97.1	97.6	96.9	97.2	97.0	97.1
Machinery	333	5.17	95.2	96.5	96.4	99.1	96.6	97.3	98.6	98.9	99.7
Computer and electronic products	334	7.64	278.5	285.1	288.7	292.9	295.4	298.0	300.9	303.1	306.7
Electrical equip., appliances, and components	335	2.13	93.3	92.9	94.2	95.4	96.3	96.1	94.5	94.8	94.5
Motor vehicles and parts	3361–3	7.49	125.0	123.1	121.0	120.5	124.5	123.1	127.4	126.3	126.9
Aerospace and miscellaneous transportation equipment	3364–9	3.55	99.4	99.7	99.3	100.8	100.8	100.3	101.6	103.2	104.7
Furniture and related products	337	1.70	108.7	110.3	109.5	109.6	109.7	108.1	108.3	108.3	108.9
Miscellaneous	339	3.20	120.7	121.8	121.1	121.7	122.1	120.9	122.2	122.5	124.5
Nondurable manufacturing		35.02	99.8	100.3	100.2	100.7	100.7	100.2	101.0	100.9	101.2
Food, beverage, and tobacco products	311,2	11.43	103.5	104.6	103.9	104.6	104.4	104.5	104.9	105.2	105.6
Textile and product mills	313,4	1.18	74.7	75.8	75.3	76.8	76.4	75.5	76.3	74.3	75.1
Apparel and leather	315,6	.85	51.5	50.6	49.9	48.8	48.1	48.5	48.2	48.5	48.8
Paper	322	3.08	94.6	95.2	95.2	96.5	95.2	95.2	95.8	95.3	96.4
Printing and support	323	2.31	87.8	87.1	87.9	87.0	86.9	88.8	87.6	87.8	88.0
Petroleum and coal products	324	1.86	107.6	108.4	109.7	111.2	111.6	108.0	110.1	112.0	113.1
Chemical	325	10.60	110.0	110.3	110.3	110.9	111.8	110.5	112.0	111.6	111.5
Plastics and rubber products	326	3.71	104.2	105.0	104.9	105.0	104.4	103.2	104.5	104.2	104.2
Other manufacturing (non-NAICS)	**1133,5111**	4.76	103.4	104.5	103.5	104.0	105.9	104.0	103.7	103.8	105.0
Mining	**21**	7.62	92.2	91.6	91.2	92.3	91.9	89.4	89.5	91.4	91.8
Utilities	**2211,2**	9.88	113.3	116.2	113.8	113.3	111.1	114.8	114.5	114.4	117.5
Electric	2211	8.22	116.7	120.3	117.4	116.4	113.4	117.9	118.8	117.6	121.2
Natural gas	2212	1.66	95.3	95.5	95.1	97.1	98.5	98.1	92.8	97.4	98.7

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

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

1997 = 100, seasonally adjusted

Item		2003 proportion	2004 Apr.	May	June	July	Aug.	Sept.r	Oct.r	Nov.r	Dec.p
Total industry		100.00	114.7	115.5	115.1	115.9	116.0	115.7	116.6	116.8	117.8
Energy		18.23	105.4	106.6	105.3	105.5	104.2	104.4	104.5	105.5	107.4
Consumer products		4.15	111.2	113.9	112.0	113.3	111.2	111.5	111.8	112.8	116.1
Commercial products		2.38	122.0	122.3	121.3	120.6	118.5	121.7	121.9	121.6	124.4
Oil and gas well drilling		.27	114.9	113.1	113.3	115.5	116.4	116.0	116.4	122.0	123.5
Converted fuel		3.78	104.3	107.9	105.0	103.7	101.8	103.4	104.5	104.9	106.7
Primary materials		7.65	97.1	96.9	96.5	97.1	96.6	95.2	94.8	96.3	97.3
Non-energy		81.77	116.3	117.0	116.8	117.8	118.2	117.8	118.9	118.9	119.6
Selected high-technology industries		4.76	392.6	401.9	406.8	411.5	415.7	418.4	421.7	429.0	436.3
Computer and peripheral equipment	3341	1.16	268.5	267.0	265.4	264.7	265.5	268.6	273.0	277.1	281.1
Communications equipment	3342	1.33	144.4	148.1	150.0	154.0	155.8	155.5	157.4	161.1	161.5
Semiconductors and related electronic components	334412–9	2.26	788.5	816.9	833.0	841.3	851.7	858.9	860.6	873.6	896.3
Excluding selected high-technology industries		77.02	102.2	102.7	102.5	103.3	103.6	103.2	104.1	104.0	104.6
Motor vehicles and parts	3361–3	7.49	125.0	123.1	121.0	120.5	124.5	123.1	127.4	126.3	126.9
Motor vehicles	3361	3.48	129.4	125.5	122.6	122.9	129.7	127.1	132.6	131.6	131.1
Motor vehicle parts	3363	3.57	120.2	119.5	118.3	116.4	119.4	118.6	120.9	120.2	121.9
Excluding motor vehicles and parts		69.52	100.2	100.9	100.8	101.7	101.7	101.4	102.0	102.0	102.6
Consumer goods		22.30	104.9	105.7	105.0	105.5	105.9	105.3	106.1	106.1	106.5
Business equipment		7.52	98.8	100.2	100.7	103.7	102.1	102.3	103.3	102.7	103.9
Construction supplies		4.23	106.3	107.2	106.9	107.8	108.1	107.4	108.2	108.0	108.4
Business supplies		8.32	99.5	100.0	99.9	100.3	100.5	99.8	100.2	100.1	100.8
Materials		25.15	95.8	96.2	96.5	97.2	97.4	97.0	97.5	97.8	98.2
Measures excluding selected high-technology industries											
Total industry		95.24	102.8	103.4	103.0	103.7	103.7	103.4	104.2	104.3	105.1
Manufacturing[1]		77.75	102.4	102.9	102.6	103.4	103.7	103.2	104.2	104.1	104.8
Durable		38.17	104.5	104.9	104.6	105.6	106.1	105.8	107.1	107.0	107.9
Measures excluding motor vehicles and parts											
Total industry		92.51	113.9	114.9	114.7	115.6	115.4	115.1	115.8	116.1	117.1
Manufacturing[1]		75.01	115.6	116.5	116.5	117.6	117.7	117.2	118.0	118.2	119.0
Durable		35.43	132.2	133.5	133.9	135.6	135.6	135.5	136.5	137.0	138.3
Measures excluding selected high-technology industries and motor vehicles and parts											
Total industry		87.75	101.2	102.0	101.6	102.4	102.2	101.9	102.4	102.7	103.5
Manufacturing[1]		70.25	100.4	101.0	101.0	101.9	101.9	101.4	102.1	102.2	102.8
Stage-of-process components of non-energy materials, measures of the input to											
Finished processors		13.63	152.8	154.0	154.6	155.4	156.4	156.8	157.9	158.8	160.3
Semifinished and primary processors		16.55	99.9	100.3	100.4	100.9	101.3	100.5	101.2	101.2	101.7

r Revised. p Preliminary.
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.
One month earlier												
2002	58.3	53.0	61.3	57.7	58.3	61.7	46.7	50.0	50.3	41.0	51.7	46.3
2003	43.7	50.7	43.0	37.0	52.7	56.0	49.7	48.3	59.0	60.3	71.0	58.7
2004	59.0	61.7	49.7	61.7	58.3	53.5	58.3	56.3	44.7	60.0	55.7	
Three months earlier												
2002	52.0	57.9	59.2	57.0	62.0	61.3	56.7	50.3	44.3	45.3	46.0	44.3
2003	42.7	40.3	40.7	35.3	37.3	47.3	57.3	55.7	57.3	61.7	71.7	66.3
2004	66.3	61.0	62.0	62.7	61.7	61.3	60.0	58.0	53.0	56.3	55.3	
Six months earlier												
2002	48.7	46.5	54.5	57.9	60.9	60.9	56.3	55.7	53.3	49.0	45.3	41.0
2003	39.7	36.0	36.3	34.7	38.7	43.3	44.0	43.7	51.7	62.0	69.7	67.7
2004	67.3	70.3	67.7	72.3	65.7	62.0	66.3	62.7	58.3	61.0	60.0	

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		2003 proportion	1972-2003 ave.	1988-89 high	1990-91 low	1994-95 high	2004 Q1	Q2	Q3[r]	Q4[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]
Total industry		100.00	81.1	85.1	78.6	84.9	77.3	77.9	78.2	78.8	78.0	78.5	78.6	79.2
Manufacturing		84.92	79.9	85.6	77.2	84.3	75.6	76.5	77.0	77.6	76.8	77.4	77.4	77.8
Manufacturing (NAICS)		80.54	79.7	85.5	77.0	84.4	75.1	75.9	76.4	77.1	76.3	76.9	76.9	77.3
Durable manufacturing		46.18	78.1	84.5	73.4	83.6	73.1	73.8	74.4	75.2	74.3	75.1	75.0	75.5
Wood products	321	1.47	80.1	88.9	73.1	87.7	77.5	78.5	78.2	78.2	76.9	78.9	78.1	77.7
Nonmetallic mineral products	327	2.21	79.2	84.9	72.0	83.6	78.8	79.3	80.2	80.7	80.2	80.2	80.7	81.4
Primary metal	331	2.31	80.5	94.3	74.6	95.5	78.4	79.4	81.9	83.8	82.5	83.2	82.9	85.5
Fabricated metal products	332	6.26	76.9	80.2	71.6	83.6	68.5	69.6	70.1	70.0	69.8	70.1	70.0	70.1
Machinery	333	5.80	78.9	84.8	73.0	86.9	74.1	76.3	77.5	78.6	77.2	78.3	78.4	79.1
Computer and electronic products	334	9.30	79.0	81.7	76.6	83.9	68.3	69.8	70.9	71.0	70.9	71.0	70.9	71.1
Electrical equip., appliances, and components	335	2.21	82.8	87.5	75.1	92.5	76.7	77.8	80.1	79.3	80.4	79.1	79.4	79.3
Motor vehicles and parts	3361–3	7.15	77.6	90.3	56.0	87.8	82.7	80.4	79.8	82.2	80.0	82.6	81.9	82.1
Aerospace and miscellaneous transportation equipment	3364–9	4.29	72.7	88.7	82.1	67.9	63.5	64.3	64.9	66.4	64.6	65.4	66.4	67.3
Furniture and related products	337	1.86	78.8	83.6	69.4	83.4	72.2	73.6	73.5	73.3	72.8	73.1	73.1	73.6
Miscellaneous	339	3.32	76.5	81.7	77.7	80.6	75.2	76.3	76.5	77.4	76.0	76.8	77.0	78.3
Nondurable manufacturing		34.36	81.9	87.1	81.7	85.4	77.8	78.9	79.3	79.7	79.0	79.6	79.6	79.8
Food, beverage, and tobacco products	311,2	10.97	81.9	85.6	81.0	84.0	79.7	80.6	80.9	81.4	80.9	81.1	81.4	81.6
Textile and product mills	313,4	1.23	83.4	91.5	77.2	90.7	73.7	73.2	74.8	74.6	74.3	75.4	73.6	74.7
Apparel and leather	315,6	1.02	79.6	84.2	77.3	89.2	67.2	69.2	68.5	70.8	69.3	69.7	70.8	72.0
Paper	322	2.79	88.2	93.7	85.2	92.5	84.3	86.1	86.8	86.9	86.4	86.9	86.5	87.5
Printing and support	323	2.47	84.1	91.6	82.7	86.0	72.5	72.1	72.0	72.1	73.0	72.0	72.0	72.2
Petroleum and coal products	324	1.52	86.0	88.9	82.9	90.3	88.7	89.1	90.2	91.2	88.3	89.9	91.4	92.2
Chemical	325	10.83	78.5	85.7	80.9	81.1	73.8	75.4	75.9	76.2	75.4	76.4	76.1	76.0
Plastics and rubber products	326	3.52	83.7	91.1	77.1	92.2	81.7	83.4	83.2	83.4	82.5	83.5	83.4	83.4
Other manufacturing (non-NAICS)	**1133,5111**	4.38	84.8	90.5	80.4	83.9	85.3	87.0	87.6	87.0	87.0	86.7	86.7	87.7
Mining	**21**	6.24	87.1	85.8	83.5	89.1	87.3	86.6	86.3	86.1	84.6	84.7	86.6	87.0
Utilities	**2211,2**	8.84	86.9	92.8	84.2	93.9	86.3	85.1	83.7	85.1	84.8	84.5	84.3	86.5
Selected high-technology industries		6.06	78.6	81.0	74.3	86.4	68.0	69.7	69.9	69.7	69.6	69.4	69.7	70.1
Computer and peripheral equipment	3341	1.28	78.6	80.2	67.5	85.0	75.1	74.2	73.7	76.4	74.3	75.4	76.5	77.4
Communications equipment	3342	2.13	76.6	80.8	73.4	87.4	52.8	53.7	56.7	58.8	56.9	57.8	59.2	59.4
Semiconductors and related electronic components	334412–9	2.65	81.2	82.8	77.5	90.4	77.3	80.5	78.5	75.2	77.4	75.6	74.9	75.0
Measures excluding selected high-technology industries														
Total industry		93.94	81.2	85.5	78.8	84.8	78.0	78.6	78.9	79.6	78.7	79.3	79.4	80.0
Manufacturing[1]		78.86	80.0	86.0	77.3	84.2	76.3	77.2	77.8	78.4	77.6	78.3	78.3	78.7
STAGE-OF-PROCESS GROUPS														
Crude		9.55	86.4	88.9	84.8	89.3	85.3	85.8	85.7	85.6	84.3	84.5	85.8	86.4
Primary and semifinished		47.80	82.2	86.5	77.5	87.8	79.4	79.8	79.7	80.1	79.7	79.8	79.8	80.6
Finished		42.64	78.0	83.1	77.2	80.5	73.3	74.1	74.9	75.9	74.8	75.8	75.7	76.1

r Revised. p Preliminary.
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	1995-2004	2001	2002	2003	2004[p]	2004 Q1	Q2	Q3	Q4	2004 Dec.
Total industry	3.0	1.9	2.3	3.7	2.7	.5	-.2	1.2	1.0	1.2	1.3	1.2	.1
Manufacturing[1]	3.2	2.2	2.6	4.1	2.6	.0	-.1	1.1	.9	1.2	1.3	1.3	.1
Mining	.8	.1	-.9	-.5	2.0	-.6	-1.7	-.4	-.4	-.2	-.3	-.6	-.1
Utilities	4.3	2.1	1.6	2.5	3.9	4.6	3.0	1.9	2.2	2.0	1.8	1.8	.1
Selected high-technology industries	18.3	16.9	15.8	29.9	27.4	8.0	8.4	13.4	11.4	12.8	14.1	15.3	1.2
Manufacturing[1] ex. selected high-technology industries	2.5	1.3	1.7	1.8	.5	-.4	-.6	.1	-.1	.1	.1	.1	.0
STAGE-OF-PROCESS GROUPS													
Crude	1.7	.3	-.3	-.3	.9	-.8	-2.2	-.2	-.4	.0	-.1	-.3	.0
Primary and semifinished	3.0	1.5	2.6	4.6	3.0	.8	-.2	2.0	1.5	2.1	2.3	2.3	.2
Finished	3.7	3.2	2.6	3.5	2.4	.3	.6	.3	.5	.3	.2	.2	.0

p Preliminary.
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	2003 Q4	2004 Q1	Q2	Q3[r]	Q4[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]
Final products and nonindustrial supplies	2,815.1	2,857.4	2,781.3	2,824.5	2,842.8	2,863.9	2,898.3	2,856.4	2,889.6	2,891.1	2,914.1
Final products	2,113.6	2,162.7	2,108.8	2,139.0	2,148.8	2,167.5	2,197.1	2,160.7	2,190.8	2,191.5	2,209.0
Consumer goods	1,481.0	1,541.7	1,524.0	1,539.9	1,534.9	1,536.6	1,555.4	1,530.2	1,550.2	1,551.1	1,564.8
Durable	470.8	510.1	510.0	517.0	507.4	505.0	515.9	503.6	516.2	514.3	517.2
Automotive products	279.5	317.1	320.2	323.1	313.3	312.6	323.5	312.8	324.0	322.5	324.1
Other durable goods	191.4	193.1	190.1	194.2	194.2	192.6	192.6	191.0	192.4	192.0	193.3
Nondurable	1,010.2	1,032.4	1,015.4	1,024.5	1,028.2	1,032.0	1,040.5	1,027.0	1,035.4	1,037.8	1,048.4
Equipment, total	632.7	623.2	584.6	599.5	615.8	634.1	645.3	634.0	644.3	644.1	647.6
Business and defense	616.8	609.9	571.9	586.8	602.7	620.9	631.2	620.5	630.5	629.9	633.1
Business	558.7	536.6	500.8	516.3	529.7	546.7	555.4	545.9	555.8	554.1	556.3
Defense and space	58.1	72.7	70.0	69.8	72.2	73.6	75.1	73.9	74.3	75.1	76.0
Nonindustrial supplies	701.4	694.8	672.8	685.8	694.0	696.6	701.5	695.8	699.1	699.9	705.4
Construction supplies	196.8	192.2	186.6	188.5	191.8	193.7	194.6	193.0	194.6	194.2	194.9
Business supplies	504.6	502.6	486.3	497.3	502.2	502.9	506.9	502.8	504.5	505.7	510.5
Commercial energy products	136.0	147.8	141.6	147.8	147.5	146.1	148.7	147.1	147.3	148.3	150.6

r Revised. p Preliminary.

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

Percent change, seasonally adjusted

Item	2003 gross value[1]	Fourth quarter to fourth quarter			Annual rate				Monthly rate				Dec. '03 to Dec. '04
		2002	2003	2004	2004 Q1	Q2	Q3[r]	Q4[p]	2004 Sept.[r]	Oct.[r]	Nov.[r]	Dec.[p]	
Finished	1,743.2	.3	3.5	5.1	6.3	3.9	4.6	5.7	-.3	1.5	-.3	.5	5.0
Semi-finished	1,556.6	3.8	.2	4.8	9.0	4.4	.7	5.3	-.1	.9	.2	.9	4.8
Primary	925.6	3.4	.1	1.8	.7	-.2	2.2	4.7	.1	.2	.7	1.6	2.2
Crude	394.0	-.6	-1.3	1.8	3.3	3.2	2.4	-1.4	-2.3	.4	1.0	.6	2.4

r Revised. p Preliminary.
1. Billions of 2000 dollars.

Table 11
ELECTRIC POWER USE

1997 = 100

Item	1997 billion kWh	Seasonally adjusted						Not seasonally adjusted					
		2004 June	July	Aug.	Sept.[r]	Oct.[r]	Nov.[p]	2004 June	July	Aug.	Sept.[r]	Oct.[r]	Nov.[p]
Total Industry	983.9	95.2	95.0	94.6	93.0	93.2	93.8	96.6	95.7	96.9	96.1	95.0	93.4
Manufacturing[1]	890.9	95.8	95.7	95.3	93.5	93.8	94.5	97.4	96.5	97.9	96.8	95.8	94.0
Durable	386.5	95.2	95.5	96.0	95.3	94.8	95.2	97.6	97.0	98.8	98.3	96.3	93.7
Nondurable	498.4	96.3	95.8	94.9	92.2	93.0	94.0	97.3	96.1	97.1	95.6	95.4	94.2
Mining	93.0	85.9	85.5	84.2	85.3	84.0	84.0	85.4	83.5	82.8	85.7	84.7	85.1
Total ex. nuclear nondefense	962.6	96.1	95.8	95.3	94.6	94.0	94.7	98.5	97.5	98.8	97.9	95.5	93.8
Utility sales to industry	913.5	93.4	92.6	92.3	90.6	90.7	91.3	94.5	93.4	94.7	94.0	92.7	90.9
Industrial generation	70.4	131.6	131.3	129.9	131.4	132.4	134.7	129.6	132.0	131.8	128.7	132.6	132.4

r Revised. p Preliminary.
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.

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
IP (*percent change*)[1]																	
1982	-1.9	1.9	-.7	-.8	-.7	-.4	-.4	-.8	-.4	-.8	-.4	-.8	-7.5	-5.0	-6.0	-7.6	-5.1
1983	1.9	-.6	.9	1.2	.7	.6	1.6	1.1	1.6	.8	.3	.5	4.4	9.4	14.8	10.9	2.6
1984	2.1	.4	.5	.6	.5	.4	.3	.1	-.2	-.1	.4	.1	12.5	6.2	2.9	.5	9.0
1985	-.3	.4	.1	-.2	.1	.0	-.7	.5	.4	-.4	.3	1.0	1.1	.5	-.7	2.6	1.3
1986	.5	-.8	-.6	.0	.2	-.3	.6	-.2	.2	.4	.5	.9	2.4	-2.6	1.6	4.6	1.0
1987	-.3	1.3	.1	.6	.7	.5	.6	.7	.2	1.5	.5	.5	5.5	7.0	7.0	9.8	5.1
1988	.0	.4	.3	.5	-.1	.2	.2	.5	-.3	.6	.2	.4	3.4	3.3	2.1	3.2	5.0
1989	.3	-.5	.3	-.1	-.7	.0	-.9	1.0	-.3	.0	.3	.7	1.5	-1.9	-2.5	2.0	.9
1990	-.6	.9	.5	.0	.1	.3	-.2	.3	.2	-.7	-1.2	-.7	2.6	2.9	1.3	-5.9	.9
1991	-.5	-.6	-.5	.2	1.0	1.0	.0	.1	.8	-.2	-.1	-.3	-7.5	2.6	5.6	.9	-1.5
1992	-.6	.7	.8	.7	.5	.0	.8	-.4	.2	.7	.4	.0	-.3	7.1	2.7	3.9	2.8
1993	.5	.4	.0	.3	-.4	.2	.3	.1	.4	.7	.5	.5	3.7	1.1	2.2	6.3	3.3
1994	.4	.0	1.0	.5	.6	.7	.2	.5	.2	.9	.6	1.1	5.2	7.5	5.2	8.1	5.4
1995	.3	.0	.1	.0	.2	.3	-.4	1.4	.4	-.2	.2	.5	5.2	1.0	3.8	3.7	4.8
1996	-.9	1.5	-.2	.9	.7	.9	-.1	.7	.6	.1	.9	.7	1.7	8.3	5.5	6.4	4.3
1997	.3	1.2	.5	.2	.4	.5	.6	1.0	.9	.8	.6	.4	8.6	5.7	8.6	9.5	7.3
1998	.5	.2	.2	.6	.5	-.4	-.2	1.9	-.3	.8	-.2	.2	4.6	4.3	3.4	4.5	5.8
1999	.6	.4	.4	.2	.7	.0	.6	.6	-.3	1.2	.5	1.0	4.4	4.3	4.7	7.4	4.5
2000	-.1	.4	.6	.7	.6	.0	-.5	-.3	.4	-.5	-.1	-.2	4.7	6.7	-1.4	-2.0	4.3
2001	-1.0	-.6	-.3	-.2	-.5	-.6	-.4	-.1	-.5	-.4	-.5	.0	-6.7	-4.6	-4.7	-4.2	-3.6
2002	.7	-.2	.6	.4	.2	.7	-.1	.0	.0	-.5	.1	-.4	2.3	4.4	1.7	-2.3	-.3
2003	.2	.1	-.4	-.9	.1	.3	.6	-.1	.7	.2	1.0	.2	-.7	-4.0	4.1	5.7	.0
2004	.3	1.1	-.3	.5	.7	-.4	.7	.1	-.3	.8	.2	.8	5.6	4.3	2.7	4.1	4.1
IP (*1997=100*)																	
2002	109.9	109.7	110.3	110.7	111.0	111.8	111.7	111.6	111.6	111.1	111.2	110.7	110.0	111.2	111.6	111.0	111.0
2003	110.9	111.0	110.6	109.5	109.6	109.9	110.6	110.5	111.3	111.6	112.7	112.9	110.8	109.7	110.8	112.4	110.9
2004	113.2	114.4	114.1	114.7	115.5	115.1	115.9	116.0	115.7	116.6	116.8	117.8	113.9	115.1	115.9	117.1	115.5
Capacity (*percent of 1997 output*)																	
2002	147.0	147.2	147.3	147.4	147.5	147.5	147.5	147.5	147.4	147.4	147.3	147.2	147.2	147.5	147.5	147.3	147.4
2003	147.1	147.0	146.9	146.9	146.8	146.8	146.7	146.8	146.8	146.9	146.9	147.0	147.0	146.8	146.8	146.9	146.9
2004	147.2	147.3	147.5	147.6	147.8	147.9	148.1	148.2	148.4	148.5	148.7	148.8	147.3	147.8	148.2	148.7	148.0
Utilization (*percent*)																	
1982	75.5	76.8	76.0	75.2	74.6	74.1	73.7	73.0	72.6	71.9	71.5	70.8	76.1	74.6	73.1	71.4	73.8
1983	72.1	71.6	72.1	73.0	73.5	73.9	75.0	75.8	76.9	77.5	77.7	78.0	71.9	73.4	75.9	77.7	74.7
1984	79.5	79.8	80.1	80.4	80.7	80.9	81.0	80.9	80.6	80.4	80.5	80.4	79.8	80.7	80.8	80.4	80.4
1985	80.0	80.2	80.2	79.9	79.7	79.6	78.9	79.1	79.3	78.9	79.0	79.7	80.1	79.7	79.1	79.2	79.5
1986	80.0	79.2	78.6	78.5	78.6	78.2	78.6	78.4	78.4	78.7	78.9	79.5	79.3	78.5	78.5	79.0	78.8
1987	79.1	80.0	80.0	80.3	80.7	81.0	81.3	81.8	81.8	82.9	83.3	83.5	79.7	80.7	81.6	83.2	81.3
1988	83.5	83.7	83.9	84.2	84.1	84.2	84.3	84.7	84.4	84.8	84.8	85.1	83.7	84.2	84.5	84.9	84.3
1989	85.1	84.6	84.7	84.5	83.8	83.6	82.7	83.3	82.9	82.7	82.7	83.1	84.8	84.0	82.9	82.8	83.6
1990	82.4	83.0	83.2	83.0	82.9	83.0	82.7	82.7	82.8	82.0	80.9	80.2	82.9	82.9	82.7	81.1	82.4
1991	79.7	79.1	78.6	78.6	79.4	80.0	79.9	79.9	80.5	80.2	80.0	79.6	79.2	79.4	80.1	79.9	79.6
1992	79.1	79.5	80.0	80.4	80.6	80.4	80.8	80.3	80.3	80.7	80.9	80.8	79.5	80.4	80.5	80.8	80.3
1993	81.1	81.3	81.1	81.3	80.9	80.9	81.1	81.0	81.2	81.7	81.9	82.2	81.2	81.0	81.1	81.9	81.3
1994	82.4	82.2	82.8	83.0	83.3	83.6	83.6	83.7	83.6	84.1	84.3	84.9	82.5	83.3	83.6	84.4	83.5
1995	84.8	84.5	84.3	83.9	83.7	83.6	82.9	83.7	83.7	83.2	83.0	83.0	84.5	83.7	83.4	83.0	83.7
1996	81.9	82.7	82.1	82.5	82.7	83.1	82.6	82.8	82.9	82.6	83.0	83.2	82.2	82.8	82.8	82.9	82.7
1997	83.1	83.7	83.7	83.5	83.4	83.4	83.5	83.8	84.1	84.3	84.3	84.1	83.5	83.4	83.8	84.2	83.7
1998	84.0	83.6	83.3	83.4	83.3	82.5	81.9	83.1	82.4	82.7	82.1	82.0	83.7	83.1	82.5	82.3	82.9
1999	82.1	82.1	82.1	81.9	82.2	81.9	82.1	82.3	81.7	82.3	82.4	82.9	82.1	82.0	82.0	82.5	82.2
2000	82.5	82.5	82.7	82.9	83.2	82.9	82.2	81.7	81.7	81.1	80.7	80.3	82.6	83.0	81.9	80.7	82.0
2001	79.3	78.6	78.1	77.8	77.2	76.6	76.1	75.9	75.4	75.0	74.5	74.4	78.7	77.2	75.8	74.6	76.6
2002	74.8	74.6	74.9	75.1	75.3	75.8	75.7	75.7	75.7	75.4	75.5	75.2	74.7	75.4	75.7	75.4	75.3
2003	75.4	75.5	75.2	74.6	74.7	74.9	75.4	75.3	75.8	76.0	76.7	76.8	75.4	74.7	75.5	76.5	75.5
2004	76.9	77.7	77.4	77.7	78.2	77.8	78.3	78.3	78.0	78.5	78.6	79.2	77.3	77.9	78.2	78.8	78.0

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[1]
Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (*percent change*)[2]																	
1982	-2.3	2.7	-.8	-.6	-.2	-.2	-.2	-.8	-.4	-1.1	-.7	-.5	-8.8	-2.0	-4.1	-8.6	-5.4
1983	2.5	-.2	1.0	1.2	1.3	.8	1.5	.8	1.9	1.1	.3	.2	8.7	12.3	15.5	12.5	4.6
1984	1.9	1.1	.5	.5	.3	.5	.5	.2	-.2	.4	.4	.4	12.9	6.1	3.8	2.8	9.9
1985	-.4	-.3	.8	-.3	.1	.1	-.6	.6	.1	-.2	.6	.4	.1	1.0	.0	2.4	1.7
1986	1.2	-.7	-.3	.3	.2	-.4	.5	.3	.2	.4	.5	.9	4.6	-.3	2.4	5.0	2.2
1987	-.3	1.5	.0	.5	.7	.4	.7	.5	.5	1.6	.6	.6	6.0	6.7	6.9	11.2	5.5
1988	-.2	.1	.3	.8	-.1	.1	.1	.1	.4	.6	.2	.4	2.4	4.2	1.4	4.9	5.2
1989	.8	-1.0	-.1	.1	-.9	.2	-1.1	.9	-.3	-.1	.2	.2	1.6	-3.4	-3.0	.8	.8
1990	-.2	1.4	.4	-.2	.0	.3	-.2	.3	.0	-.8	-1.1	-.8	4.1	2.7	.6	-6.5	.7
1991	-.8	-.6	-.6	.3	.8	1.1	.3	.3	1.0	-.2	-.2	-.1	-8.9	2.1	7.3	1.6	-2.0
1992	-.6	.9	.9	.5	.7	.2	.8	-.3	.0	.6	.4	-.2	.8	8.0	3.8	2.7	3.7
1993	1.1	.2	-.1	.5	-.1	-.1	.3	.0	.6	.8	.5	.6	4.7	1.6	1.4	7.1	3.5
1994	.2	.1	1.3	.8	.7	.3	.5	.7	.3	1.1	.7	1.1	5.1	9.5	6.1	9.8	6.0
1995	.4	-.1	.2	-.1	.0	.4	-.6	1.2	.9	-.1	.0	.5	5.6	.4	3.1	4.6	5.3
1996	-1.1	1.5	-.3	1.2	.7	1.1	.3	.6	.8	.0	.9	1.0	.7	9.5	8.0	6.8	4.6
1997	.3	1.4	.8	.1	.5	.7	.5	1.2	.9	.7	.8	.5	10.2	6.8	9.5	10.2	8.5
1998	.8	.2	.1	.8	.3	-.5	-.2	2.2	-.4	1.0	.0	.4	6.3	3.9	3.6	6.6	6.6
1999	.4	.7	.1	.4	.9	-.2	.4	.9	-.3	1.3	.6	.9	4.9	4.9	4.5	9.0	5.2
2000	.0	.3	.9	.7	.4	.0	-.3	-.6	.3	-.5	-.5	-.5	5.2	6.7	-1.8	-3.7	4.6
2001	-.9	-.6	-.4	-.2	-.5	-.7	-.3	-.4	-.5	-.5	-.2	.2	-7.6	-4.8	-5.2	-4.0	-4.2
2002	.7	-.2	.4	.2	.3	.8	-.2	.1	.0	-.7	.0	-.5	2.8	3.4	2.2	-3.2	-.4
2003	.3	-.1	-.2	-.9	.1	.6	.3	-.2	1.0	.3	1.1	.0	-.6	-3.3	3.9	6.5	.0
2004	.2	1.2	.1	.6	.6	-.1	.8	.4	-.4	.9	.1	.7	5.6	6.0	4.0	4.1	4.7
IP (*1997=100*)																	
2002	111.2	110.9	111.4	111.6	111.9	112.8	112.6	112.8	112.7	112.0	112.0	111.4	111.2	112.1	112.7	111.8	111.9
2003	111.8	111.6	111.5	110.4	110.5	111.1	111.5	111.3	112.4	112.7	113.9	113.9	111.6	110.7	111.7	113.5	111.9
2004	114.1	115.5	115.6	116.4	117.1	116.9	117.8	118.3	117.7	118.8	118.9	119.7	115.1	116.8	117.9	119.1	117.2
Capacity (*percent of 1997 output*)																	
2002	152.2	152.3	152.3	152.3	152.3	152.3	152.3	152.2	152.2	152.1	152.0	152.0	152.3	152.3	152.2	152.0	152.2
2003	151.9	151.8	151.8	151.7	151.7	151.6	151.6	151.7	151.7	151.8	151.9	152.0	151.8	151.7	151.7	151.9	151.8
2004	152.1	152.2	152.3	152.5	152.6	152.8	153.0	153.1	153.3	153.4	153.6	153.8	152.2	152.6	153.1	153.6	152.9
Utilization (*percent*)																	
1982	71.9	73.6	72.9	72.3	72.0	71.7	71.4	70.7	70.4	69.5	68.9	68.5	72.8	72.0	70.9	69.0	71.2
1983	70.1	70.0	70.6	71.4	72.3	72.8	73.9	74.4	75.8	76.6	76.7	76.8	70.3	72.2	74.7	76.7	73.5
1984	78.2	78.9	79.2	79.4	79.4	79.6	79.8	79.8	79.4	79.6	79.6	79.7	78.8	79.5	79.7	79.6	79.4
1985	79.2	78.7	79.2	78.7	78.6	78.6	77.9	78.3	78.2	77.8	78.2	78.4	79.0	78.6	78.1	78.1	78.5
1986	79.2	78.5	78.2	78.4	78.4	78.1	78.4	78.4	78.5	78.6	78.9	79.4	78.7	78.3	78.4	79.0	78.6
1987	79.1	80.0	79.9	80.1	80.6	80.7	81.1	81.3	81.6	82.8	83.2	83.5	79.7	80.5	81.3	83.2	81.2
1988	83.3	83.4	83.6	84.2	84.0	84.1	84.1	84.1	84.3	84.8	84.9	85.1	83.4	84.1	84.2	84.9	84.1
1989	85.6	84.6	84.3	84.2	83.3	83.2	82.1	82.7	82.3	82.0	81.9	81.9	84.8	83.6	82.4	81.9	83.2
1990	81.5	82.5	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	77.8	77.2	77.3	77.8	78.5	78.6	78.7	79.4	79.1	78.8	78.6	77.8	77.9	78.9	78.8	78.3
1992	78.1	78.6	79.1	79.3	79.7	79.7	80.2	79.7	79.5	79.8	79.9	79.6	78.6	79.6	79.8	79.8	79.4
1993	80.3	80.3	80.0	80.3	80.1	79.9	79.9	79.8	80.1	80.6	80.8	81.1	80.2	80.1	79.9	80.8	80.3
1994	81.1	81.0	81.8	82.2	82.6	82.5	82.7	83.0	82.9	83.4	83.7	84.3	81.3	82.4	82.8	83.8	82.6
1995	84.3	83.9	83.6	83.2	82.8	82.7	81.8	82.4	82.7	82.2	81.8	81.8	83.9	82.9	82.3	82.0	82.8
1996	80.5	81.3	80.6	81.1	81.2	81.7	81.5	81.6	81.8	81.4	81.8	82.1	80.8	81.3	81.7	81.8	81.4
1997	81.9	82.7	82.9	82.5	82.4	82.6	82.5	83.0	83.2	83.2	83.3	83.2	82.5	82.5	82.9	83.2	82.8
1998	83.3	82.8	82.3	82.4	82.2	81.2	80.6	81.9	81.2	81.6	81.1	81.1	82.8	81.9	81.2	81.3	81.8
1999	81.0	81.2	80.9	80.9	81.2	80.7	80.8	81.1	80.5	81.2	81.4	81.8	81.1	81.0	80.8	81.5	81.1
2000	81.4	81.3	81.6	81.8	81.8	81.5	80.9	80.1	80.1	79.4	78.8	78.1	81.4	81.7	80.4	78.8	80.6
2001	77.1	76.5	76.0	75.6	75.1	74.4	74.1	73.7	73.2	72.8	72.5	72.6	76.5	75.0	73.7	72.6	74.5
2002	73.0	72.9	73.1	73.2	73.5	74.1	73.9	74.1	74.1	73.6	73.7	73.3	73.0	73.6	74.0	73.5	73.5
2003	73.6	73.5	73.4	72.8	72.8	73.3	73.5	73.4	74.1	74.3	75.0	75.0	73.5	73.0	73.7	74.8	73.7
2004	75.1	75.9	75.9	76.3	76.7	76.5	77.0	77.2	76.8	77.4	77.4	77.8	75.6	76.5	77.0	77.6	76.7

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
IP *(percent change)*[1]																	
1982	-1.9	1.8	-.8	-.9	-.8	-.5	-.5	-.8	-.5	-.9	-.5	-1.0	-8.4	-5.8	-6.7	-8.2	-6.0
1983	1.9	-.7	.8	1.2	.7	.5	1.5	1.2	1.3	.8	.2	.5	3.7	8.5	13.8	9.6	1.8
1984	2.0	.3	.4	.5	.4	.2	.2	.0	-.2	-.2	.4	.1	11.4	4.8	1.6	-.2	7.9
1985	-.3	.5	.1	.0	.1	.0	-.6	.4	.5	-.4	.3	1.1	.9	1.0	-.3	2.7	1.0
1986	.6	-.8	-.7	.0	.1	-.2	.3	-.3	.2	.4	.4	.8	2.5	-2.9	.6	4.0	.9
1987	-.4	1.2	.1	.5	.6	.4	.5	.6	.1	1.4	.5	.4	4.5	6.3	6.0	9.0	4.2
1988	.0	.4	.2	.4	-.1	.2	.1	.5	-.4	.5	.2	.4	3.2	2.7	1.5	2.9	4.4
1989	.3	-.5	.4	-.1	-.7	.0	-1.1	.9	-.3	-.1	.2	.7	1.7	-2.1	-3.3	1.3	.6
1990	-.7	.8	.4	-.1	.1	.3	-.2	.3	.2	-.8	-1.3	-.7	2.0	2.4	.9	-6.5	.3
1991	-.4	-.8	-.6	.2	1.0	1.0	.0	.1	.9	-.2	-.2	-.5	-8.0	2.1	5.4	.3	-2.0
1992	-.8	.7	.7	.6	.3	-.2	.7	-.5	.1	.6	.3	.0	-1.8	6.1	1.6	2.9	1.9
1993	.5	.3	.0	.3	-.4	.2	.3	.0	.3	.6	.4	.4	3.1	.6	1.4	5.1	2.5
1994	.4	.0	.8	.3	.5	.6	.0	.3	.0	.7	.4	.9	4.2	5.5	3.2	5.7	4.0
1995	.1	-.2	-.2	-.2	.0	.2	-.6	1.2	.1	-.5	.0	.4	2.8	-1.4	1.4	.5	2.4
1996	-1.1	1.3	-.4	.8	.4	.7	-.4	.4	.5	-.2	.8	.5	-.5	6.0	2.5	3.8	1.7
1997	.0	.8	.2	.0	.1	.3	.4	.7	.7	.7	.4	.1	4.9	2.0	5.8	7.1	4.2
1998	.2	.0	.1	.5	.3	-.8	-.6	1.7	-.5	.7	-.5	-.1	1.8	2.1	-.2	2.3	3.1
1999	.2	.1	.1	-.1	.5	-.3	.3	.5	-.5	1.0	.2	.7	.3	.7	1.6	4.9	1.2
2000	-.6	.1	.3	.3	.3	-.1	-.7	-.4	.2	-.6	-.3	-.3	.5	2.8	-3.5	-3.6	1.1
2001	-1.0	-.6	-.3	-.1	-.4	-.5	-.3	.0	-.5	-.4	-.5	.0	-6.9	-3.5	-3.7	-4.4	-4.1
2002	.8	-.2	.6	.4	.2	.7	-.2	-.2	-.1	-.5	-.1	-.5	2.6	4.2	.9	-3.4	-.2
2003	.1	.0	-.5	-1.0	.0	.2	.6	-.2	.7	.1	1.0	.2	-1.8	-5.1	3.3	5.1	-1.0
2004	.2	1.0	-.4	.5	.6	-.4	.7	.0	-.3	.8	.1	.8	4.9	3.3	2.0	3.7	3.4
IP *(1997=100)*																	
2002	100.3	100.1	100.7	101.0	101.2	101.9	101.8	101.6	101.5	101.0	100.9	100.4	100.3	101.4	101.6	100.7	101.0
2003	100.5	100.4	99.9	98.9	98.9	99.1	99.7	99.5	100.2	100.3	101.3	101.5	100.3	99.0	99.8	101.0	100.0
2004	101.7	102.7	102.3	102.8	103.4	103.0	103.7	103.7	103.4	104.2	104.3	105.1	102.2	103.1	103.6	104.5	103.4
Capacity *(percent of 1997 output)*																	
2002	131.8	131.9	131.9	132.0	132.0	132.0	132.0	132.0	132.0	131.9	131.8	131.7	131.9	132.0	132.0	131.8	131.9
2003	131.6	131.5	131.5	131.4	131.3	131.2	131.1	131.1	131.1	131.0	131.0	131.0	131.5	131.3	131.1	131.0	131.2
2004	131.1	131.1	131.1	131.2	131.2	131.2	131.3	131.3	131.3	131.4	131.4	131.4	131.1	131.2	131.3	131.4	131.2
Utilization *(percent)*																	
1982	75.3	76.5	75.8	75.0	74.3	73.9	73.5	72.8	72.4	71.7	71.3	70.6	75.9	74.4	72.9	71.2	73.6
1983	72.0	71.4	72.0	72.8	73.3	73.7	74.8	75.7	76.7	77.2	77.4	77.7	71.8	73.3	75.7	77.4	74.6
1984	79.3	79.5	79.7	80.1	80.3	80.4	80.5	80.4	80.1	79.9	80.1	80.1	79.5	80.3	80.4	80.0	80.0
1985	79.7	80.0	79.9	79.8	79.7	79.6	79.0	79.2	79.5	79.1	79.2	80.0	79.9	79.7	79.2	79.4	79.6
1986	80.3	79.6	78.9	78.8	78.9	78.7	78.9	78.6	78.6	78.9	79.2	79.7	79.6	78.8	78.7	79.3	79.1
1987	79.3	80.2	80.2	80.6	81.0	81.2	81.6	82.0	82.1	83.2	83.5	83.8	79.9	80.9	81.9	83.5	81.6
1988	83.8	84.1	84.2	84.6	84.4	84.5	84.6	85.0	84.6	85.0	85.1	85.4	84.1	84.5	84.7	85.1	84.6
1989	85.5	85.0	85.2	84.9	84.2	84.1	83.0	83.6	83.2	83.0	83.0	83.4	85.2	84.4	83.3	83.1	84.0
1990	82.7	83.3	83.5	83.3	83.2	83.3	83.0	83.1	83.1	82.4	81.2	80.5	83.2	83.3	83.1	81.4	82.7
1991	80.1	79.4	78.8	78.9	79.5	80.2	80.1	80.1	80.7	80.5	80.2	79.7	79.4	79.5	80.3	80.1	79.9
1992	79.0	79.5	80.0	80.4	80.6	80.4	80.9	80.4	80.4	80.8	81.0	80.9	79.5	80.5	80.6	80.9	80.4
1993	81.2	81.3	81.2	81.4	80.9	81.0	81.2	81.1	81.2	81.7	81.9	82.2	81.2	81.1	81.2	81.9	81.4
1994	82.4	82.3	82.9	83.0	83.3	83.7	83.6	83.7	83.6	84.0	84.2	84.8	82.5	83.3	83.6	84.3	83.5
1995	84.7	84.4	84.1	83.7	83.5	83.5	82.8	83.6	83.5	82.9	82.8	82.9	84.4	83.6	83.3	82.9	83.5
1996	81.8	82.7	82.2	82.7	82.9	83.3	82.8	83.0	83.2	82.8	83.2	83.4	82.2	83.0	83.0	83.2	82.8
1997	83.2	83.7	83.6	83.3	83.1	83.1	83.2	83.5	83.9	84.2	84.2	84.0	83.5	83.2	83.5	84.1	83.6
1998	83.9	83.7	83.5	83.7	83.7	82.8	82.1	83.3	82.7	83.1	82.5	82.3	83.7	83.4	82.7	82.6	83.1
1999	82.2	82.1	82.0	81.7	82.0	81.5	81.6	81.9	81.3	82.0	82.0	82.5	82.1	81.7	81.6	82.2	81.9
2000	81.9	81.8	82.0	82.2	82.3	82.1	81.5	81.0	81.1	80.6	80.3	79.9	81.9	82.2	81.2	80.2	81.4
2001	79.1	78.5	78.2	78.1	77.8	77.3	77.0	76.9	76.5	76.1	75.6	75.6	78.6	77.7	76.8	75.8	77.2
2002	76.1	75.9	76.3	76.5	76.7	77.2	77.1	77.0	76.9	76.5	76.5	76.2	76.1	76.8	77.0	76.4	76.6
2003	76.3	76.4	76.0	75.3	75.3	75.6	76.0	75.9	76.4	76.5	77.3	77.5	76.2	75.4	76.1	77.1	76.2
2004	77.6	78.3	78.0	78.4	78.8	78.5	79.0	79.0	78.7	79.3	79.4	80.0	78.0	78.6	78.9	79.6	78.8

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[1] 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)*[2]																	
1982	-2.4	2.5	-.8	-.7	-.3	-.3	-.3	-.7	-.5	-1.2	-.8	-.6	-10.1	-3.0	-4.9	-9.6	-6.5
1983	2.5	-.2	.9	1.1	1.3	.7	1.3	.9	1.6	1.1	.2	.2	8.0	11.3	14.3	10.9	3.6
1984	1.8	.9	.4	.3	.1	.3	.4	.0	-.3	.4	.3	.3	11.5	4.3	2.1	1.9	8.4
1985	-.5	-.2	.8	-.2	.1	.1	-.4	.6	.2	-.3	.6	.4	-.2	1.8	.5	2.5	1.4
1986	1.3	-.7	-.3	.3	.1	-.2	.2	.2	.2	.3	.4	.8	4.8	-.5	1.2	4.3	2.2
1987	-.4	1.4	.0	.4	.7	.3	.6	.3	.4	1.5	.6	.5	4.9	5.8	5.5	10.3	4.6
1988	-.2	.2	.3	.7	-.2	.0	.0	.1	.3	.6	.3	.4	2.1	3.5	.6	4.6	4.5
1989	.8	-1.1	.0	.0	-.9	.1	-1.3	.9	-.3	-.2	.1	.1	2.0	-3.7	-4.0	-.1	.4
1990	-.3	1.4	.3	-.2	.0	.2	-.2	.3	-.1	-.8	-1.2	-.8	3.3	2.1	.2	-7.2	.0
1991	-.8	-.8	-.8	.3	.7	1.1	.3	.2	1.1	-.2	-.3	-.3	-9.6	1.4	7.0	.9	-2.6
1992	-.8	.8	.9	.4	.6	.1	.7	-.4	-.1	.4	.3	-.3	-1.0	6.9	2.5	1.4	2.5
1993	1.1	.1	-.2	.5	-.1	-.2	.2	-.2	.5	.7	.4	.5	3.9	1.0	.4	5.7	2.6
1994	.1	.1	1.1	.6	.6	.1	.3	.5	.0	.8	.5	.9	3.9	7.2	3.8	7.0	4.4
1995	.1	-.3	-.1	-.4	-.2	.3	-.8	1.0	.6	-.4	-.2	.3	2.7	-2.5	.3	.9	2.5
1996	-1.3	1.3	-.5	1.0	.4	.9	.0	.4	.6	-.3	.7	.7	-1.9	6.8	4.5	3.7	1.6
1997	-.1	1.0	.4	-.3	.2	.5	.3	1.0	.7	.6	.5	.2	5.9	2.6	6.3	7.4	4.9
1998	.5	-.1	-.1	.6	.2	-1.0	-.7	2.1	-.7	.9	-.2	.1	3.0	1.3	-.7	4.1	3.5
1999	.0	.3	-.3	.0	.7	-.6	.0	.8	-.5	1.1	.3	.6	.2	.8	.8	6.2	1.4
2000	-.6	-.1	.6	.2	-.1	.0	-.6	-.8	.1	-.6	-.7	-.6	.4	2.2	-4.3	-5.7	.9
2001	-.9	-.5	-.4	.0	-.4	-.6	-.2	-.3	-.5	-.5	-.3	.2	-8.0	-3.4	-4.0	-4.2	-4.9
2002	.8	-.2	.4	.1	.3	.7	-.2	.0	-.1	-.8	-.1	-.6	3.2	3.1	1.3	-4.6	-.3
2003	.3	-.3	-.3	-1.0	.0	.5	.3	-.4	.9	.2	1.2	.0	-2.0	-4.6	2.9	5.9	-1.2
2004	.0	1.1	.1	.6	.5	-.2	.8	.3	-.5	.9	.0	.6	4.7	4.9	3.3	3.6	3.8
IP *(1997=100)*																	
2002	99.9	99.7	100.1	100.2	100.5	101.2	101.0	101.0	100.9	100.1	100.0	99.3	99.9	100.7	101.0	99.8	100.3
2003	99.6	99.3	99.0	98.0	97.9	98.5	98.8	98.4	99.3	99.5	100.6	100.6	99.3	98.1	98.8	100.2	99.1
2004	100.7	101.7	101.8	102.4	102.9	102.6	103.4	103.7	103.2	104.2	104.1	104.8	101.4	102.6	103.5	104.4	102.9
Capacity *(percent of 1997 output)*																	
2002	134.2	134.2	134.2	134.2	134.1	134.1	134.0	134.0	133.9	133.8	133.8	133.7	134.2	134.1	134.0	133.8	134.0
2003	133.6	133.5	133.4	133.4	133.3	133.2	133.1	133.1	133.0	133.0	133.0	132.9	133.5	133.3	133.1	133.0	133.2
2004	132.9	132.9	132.9	132.9	132.9	133.0	133.0	133.0	133.0	133.0	133.0	133.1	132.9	132.9	133.0	133.0	133.0
Utilization *(percent)*																	
1982	71.4	73.1	72.4	71.8	71.5	71.2	71.0	70.4	70.0	69.2	68.6	68.2	72.3	71.5	70.5	68.6	70.7
1983	69.9	69.7	70.3	71.1	72.1	72.6	73.5	74.2	75.4	76.2	76.3	76.4	70.0	71.9	74.4	76.3	73.1
1984	77.8	78.4	78.7	78.9	78.9	79.0	79.2	79.1	78.7	78.9	79.0	79.2	78.3	78.9	79.0	79.0	78.8
1985	78.6	78.3	78.8	78.6	78.5	78.5	78.0	78.4	78.4	78.1	78.4	78.7	78.6	78.5	78.2	78.4	78.4
1986	79.6	79.0	78.6	78.8	78.8	78.6	78.7	78.7	78.8	78.9	79.2	79.7	79.1	78.7	78.7	79.3	78.9
1987	79.3	80.3	80.2	80.4	80.9	81.0	81.4	81.6	81.9	83.1	83.5	83.9	79.9	80.8	81.6	83.5	81.5
1988	83.7	83.8	84.0	84.6	84.4	84.4	84.4	84.4	84.6	85.0	85.2	85.4	83.8	84.5	84.5	85.2	84.5
1989	86.0	85.0	84.9	84.7	83.8	83.8	82.5	83.1	82.7	82.3	82.3	82.2	85.3	84.1	82.8	82.3	83.6
1990	81.8	82.8	83.0	82.6	82.5	82.5	82.2	82.3	82.1	81.3	80.2	79.4	82.5	82.6	82.2	80.3	81.9
1991	78.7	78.0	77.3	77.5	77.9	78.7	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	78.5	79.2	79.4	79.8	79.7	80.2	79.7	79.6	79.8	79.9	79.6	78.6	79.6	79.8	79.8	79.4
1993	80.3	80.3	80.0	80.4	80.1	79.9	80.0	79.8	80.0	80.5	80.7	81.0	80.2	80.1	79.9	80.8	80.3
1994	81.0	81.0	81.8	82.1	82.5	82.5	82.6	82.9	82.8	83.3	83.6	84.2	81.3	82.4	82.8	83.7	82.5
1995	84.1	83.7	83.4	82.9	82.5	82.5	81.6	82.2	82.4	81.9	81.5	81.6	83.7	82.6	82.1	81.6	82.5
1996	80.3	81.1	80.5	81.2	81.3	81.8	81.6	81.7	82.0	81.5	81.9	82.3	80.7	81.4	81.8	81.9	81.5
1997	82.0	82.5	82.6	82.2	82.0	82.1	82.0	82.5	82.8	83.0	83.1	82.9	82.4	82.1	82.5	83.0	82.5
1998	83.1	82.7	82.4	82.7	82.5	81.5	80.7	82.1	81.3	81.9	81.5	81.3	82.7	82.2	81.4	81.6	82.0
1999	81.1	81.1	80.7	80.5	80.9	80.3	80.1	80.5	80.0	80.7	80.8	81.2	81.0	80.6	80.2	80.9	80.7
2000	80.6	80.4	80.7	80.8	80.6	80.5	79.9	79.2	79.2	78.6	78.0	77.5	80.6	80.6	79.4	78.0	79.7
2001	76.7	76.2	75.9	75.8	75.5	75.1	74.9	74.7	74.3	73.9	73.7	73.8	76.3	75.5	74.6	73.8	75.1
2002	74.4	74.3	74.6	74.7	74.9	75.5	75.4	75.4	75.3	74.8	74.7	74.3	74.4	75.0	75.4	74.6	74.9
2003	74.5	74.4	74.2	73.5	73.5	73.9	74.2	73.9	74.7	74.8	75.7	75.7	74.4	73.6	74.3	75.4	74.4
2004	75.7	76.5	76.6	77.0	77.4	77.2	77.8	78.0	77.6	78.3	78.3	78.7	76.3	77.2	77.8	78.4	77.4

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** 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 1997. 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**). 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 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 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 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 x 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 55 percent of the source data (in value-added terms) are available; the fraction of available source data increases to about 84 percent for estimates in the second month that the estimate is published, 95 percent in the third month, and 96 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 2003)

	Month of estimate			
Type of data	1st	2nd	3rd	4th
Physical product	26	41	50	50
Production-worker hours	35	35	35	35
Electric power use	0	12	12	12
IP data received	61	87	96	97
IP data estimated	39	13	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 (26 percent out of total of 48 percent). Of the 26 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 4 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 2004; for other series, the factors were estimated with data through at least June 2004. 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 1987–2003 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 1987–2003 period. In most cases (about 85 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 18 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 78 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 1972–2003 period, the average total industry utilization rate is 81.3 percent; for manufacturing, the average factory operating rate has been 80.2 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**).

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 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 4-digit NAICS industry levels and above. Where reports are late or unavailable for some reason, responses are estimated.

Seasonal Adjustment. Series are seasonal 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 December 2004 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.

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).

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.