

FEDERAL RESERVE statistical release



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INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial output rose 0.8 percent in August, following an upwardly revised increase of 1.0 percent in July. Production in manufacturing expanded 0.6 percent in August, and the index excluding motor vehicles and parts increased 0.4 percent. The gain in July for manufacturing was revised up 0.4 percentage point, to

(over)

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

Industrial production	2002=100						Percent change						Aug. '08 to Aug. '09
	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p	
Total index	97.7	97.2	96.1	95.8	96.7	97.4	-1.6	-.6	-1.1	-.4	1.0	.8	-10.7
<i>Previous estimates</i>	97.7	97.0	95.9	95.5	96.0		-1.6	-.7	-1.1	-.4	.5		
Major market groups													
Final Products	101.6	100.7	99.4	99.0	99.9	101.0	-1.1	-.9	-1.2	-.4	.9	1.1	-7.3
Consumer goods	98.3	97.7	96.7	96.4	97.1	98.4	-.4	-.6	-1.0	-.4	.8	1.3	-4.1
Business equipment	110.6	108.7	106.4	105.9	107.0	107.6	-2.6	-1.7	-2.1	-.5	1.1	.6	-14.7
Nonindustrial supplies	91.4	91.1	90.4	90.5	90.7	91.1	-1.9	-.4	-.8	.1	.2	.4	-13.2
Construction	82.7	82.0	82.0	82.0	82.5	82.5	-2.3	-.9	.1	.0	.7	.0	-18.5
Materials	96.5	96.2	95.2	94.7	95.9	96.4	-2.0	-.3	-1.0	-.5	1.3	.6	-13.0
Major industry groups													
Manufacturing (see note below)	96.1	95.6	94.7	94.4	95.7	96.3	-1.7	-.5	-.9	-.3	1.4	.6	-12.2
<i>Previous estimates</i>	96.0	95.4	94.4	93.9	94.8		-1.7	-.7	-1.0	-.6	1.0		
Mining	98.7	96.1	95.0	94.1	94.7	95.2	-2.6	-2.7	-1.1	-.9	.6	.5	-10.5
Utilities	106.1	106.4	104.3	103.8	102.2	104.1	-.3	.3	-2.0	-.5	-1.6	1.9	-.1
Capacity utilization													
	Percent of capacity												Capacity growth
	Average 1972-2008	1988-89 high	1990-91 low	1994-95 high	2001-02 low	2008 Aug.	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p	Aug. '08 to Aug. '09
Total industry	80.9	85.1	78.7	84.9	73.5	77.6	69.5	69.2	68.5	68.3	69.0	69.6	-.5
<i>Previous estimates</i>							69.5	69.0	68.3	68.1	68.5		
Manufacturing (see note below)	79.6	85.4	77.2	84.5	71.4	75.3	66.0	65.7	65.2	65.1	66.1	66.6	-.7
<i>Previous estimates</i>							65.9	65.6	65.0	64.7	65.4		
Mining	87.6	86.5	83.8	89.1	84.9	91.8	84.9	82.7	81.8	81.1	81.7	82.2	-.1
Utilities	86.8	92.8	84.2	93.3	84.2	80.2	80.8	80.9	79.2	78.7	77.3	78.7	1.8
Stage-of-process groups													
Crude	86.6	88.3	84.7	89.9	81.7	88.3	79.5	79.4	79.5	79.5	80.0	80.7	-.6
Primary and semifinished	82.0	86.5	77.9	87.9	74.3	77.1	67.1	66.9	65.9	65.8	66.3	66.7	-.7
Finished	77.7	83.0	77.2	80.3	70.0	73.7	68.2	67.6	67.0	66.7	67.7	68.5	.0

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.

1.4 percent; in addition, factory output for April through June is now somewhat less weak than reported previously. Production at mines moved up 0.5 percent in August. The output of utilities gained 1.9 percent, as temperatures swung from an unseasonably mild July to a slightly warmer-than-usual August. At 97.4 percent of its 2002 average, total industrial production was 10.7 percent below its level of a year earlier. In August, the capacity utilization rate for total industry advanced to 69.6 percent, a level 11.3 percentage points below its average for the period 1972 through 2008.

Market Groups

The output of consumer goods strengthened 1.3 percent in August, as the production indexes for both durables and nondurables climbed. The gain in consumer durables was the result of an increase in automotive products. The indexes for the other major categories of durables registered losses: Home electronics fell 1.4 percent; appliances, furniture, and carpeting declined 0.8 percent; and miscellaneous goods decreased 1.0 percent. The output of nondurable consumer goods rose 1.1 percent because of advances in both the energy and non-energy sectors. The index for non-energy consumer nondurable goods jumped 1.2 percent, with gains in all of its major components. The production indexes for foods and tobacco and for clothing moved up more than 1.5 percent, while the indexes for chemical products and for paper products recorded smaller gains. The production of consumer energy goods increased 0.8 percent.

The index for business equipment rose 0.6 percent in August, following a gain of 1.1 percent in July. Within business equipment, the output of transit equipment increased 2.3 percent in August, and the output of industrial and other equipment rose 0.8 percent; these gains more than offset a decline of 0.8 percent in information processing equipment. The output of transit equipment was boosted by advances in motor vehicles and aircraft. The decrease in the production of information processing equipment principally resulted from declines in electromedical equipment and in search and navigation equipment. The index for defense and space equipment was unchanged, following a gain of nearly 2 percent in July.

After a revised increase of 0.7 percent in July, the output of construction supplies was unchanged in August. The index for business supplies advanced 0.6, percent primarily as a result of a gain in sales by utilities to commercial businesses.

The production of materials rose 0.6 percent, with gains in nondurable and energy materials outweighing a small loss in durables. Within the category of durable materials, equipment parts fell 0.4 percent, consumer parts slipped 0.2 percent, and other durable materials inched up 0.1 percent. Nondurable materials increased 0.8 percent with the advances widespread; the indexes for textiles, paper, and chemical materials all rose. Energy materials increased 1.2 percent; a gain in electricity generation accounted for almost 1 percentage point of the advance.

Industry Groups

Production in manufacturing expanded 0.6 percent in August, and the factory operating rate increased to 66.6 percent, a rate 13.0 percentage points below its 1972–2008 average. The upward revision to manufacturing production in July was led by output gains for steel products and high-tech products that were stronger than previously reported, while much of the upward revision for April through June reflected higher production of chemicals. The output of durable goods moved up 0.5 percent in August. The index for motor vehicles and parts advanced 5.5 percent, after increasing 20.1 percent in July. Nevertheless, in August this index stood more than 20 percent below its year-earlier level. Primary metals; machinery; electrical equipment, appliances, and components; and miscellaneous manufacturing all posted gains between $\frac{1}{2}$ and 1 percent. However, the output of nonmetallic mineral products dropped 1.9 percent, and the indexes for wood products and for computer and

electronic products both contracted 0.8 percent. The output of nondurable goods rose 0.7 percent, with mixed results across components. The index for food, beverage, and tobacco products expanded 1.6 percent. Less sizable gains were recorded for textile and product mills, apparel and leather, chemicals, and plastics and rubber products. The indexes for paper and for printing and related support activities each edged down 0.2 percent, while the index for petroleum and coal products fell 0.5 percent because of lower refinery output.

The index for other manufacturing (non-NAICS), which consists of publishing and logging, rose 0.9 percent in August.

The index for utilities increased 1.9 percent, primarily as a result of a gain in the output of electricity. The operating rate for utilities climbed 1.4 percentage points, to 78.7 percent. Mining production moved up 0.5 percent, and the utilization rate rose to 82.2 percent, a rate 5.4 percentage points below its 1972–2008 average.

Capacity utilization rates at industries grouped by stage of process were as follows: For the crude stage, utilization increased 0.7 percentage point, to 80.7 percent, a rate nearly 6 percentage points below its 1972–2008 average; for the primary and semifinished stages, utilization moved up 0.4 percentage point, to 66.7 percent, a rate 15.3 percentage points below its long-run average; and for the finished stage, utilization increased 0.8 percentage point, to 68.5 percent, a rate 9.2 percentage points below its long-run average.

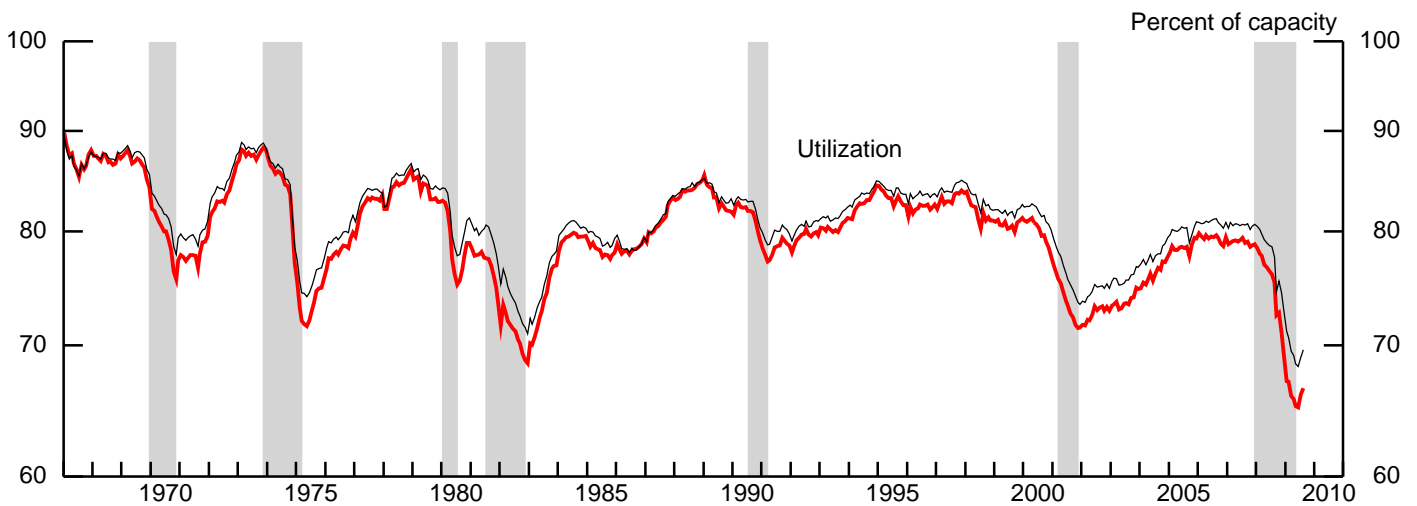
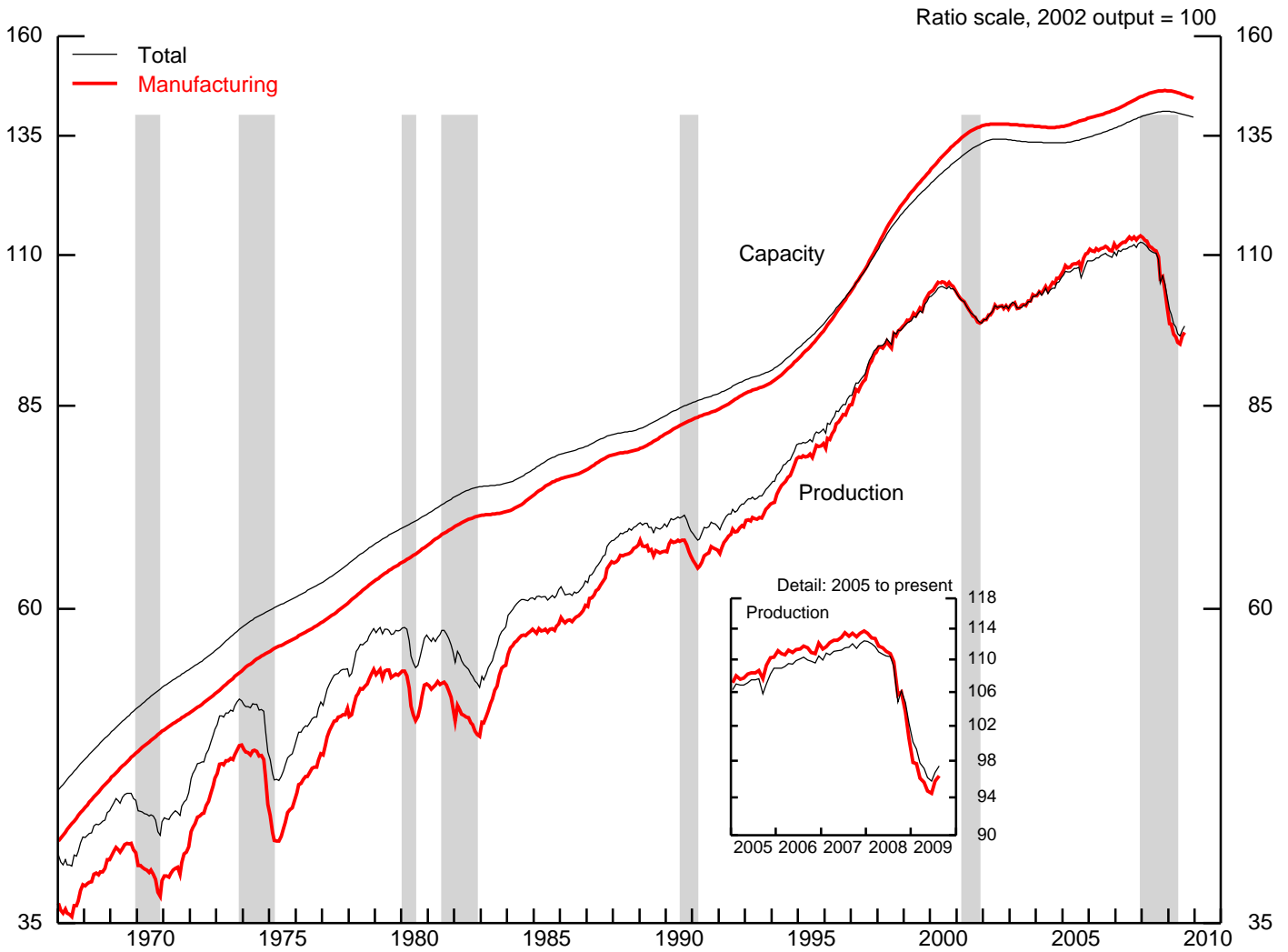
Note: This release includes the G.17 publication schedule for 2010.

Tables

1. Industrial Production: Market and Industry Group Summary; percent change
2. Industrial Production: Special Aggregates and Selected Detail; percent change
3. Motor Vehicle Assemblies
4. Industrial Production: Market and Industry Group Summary; indexes
5. Industrial Production: Special Aggregates and Selected Detail; indexes
6. Diffusion Indexes of Industrial Production
7. Capacity Utilization
8. Industrial Capacity
9. Gross Value of Products and Nonindustrial Supplies
10. Gross-Value-Weighted Industrial Production: Stage-of-Process Groups
11. Historical Statistics: Total Industry
12. Historical Statistics: Manufacturing
13. Historical Statistics: Total Industry Excluding Selected High-Technology Industries
14. Historical Statistics: Manufacturing Excluding Selected High-Technology Industries

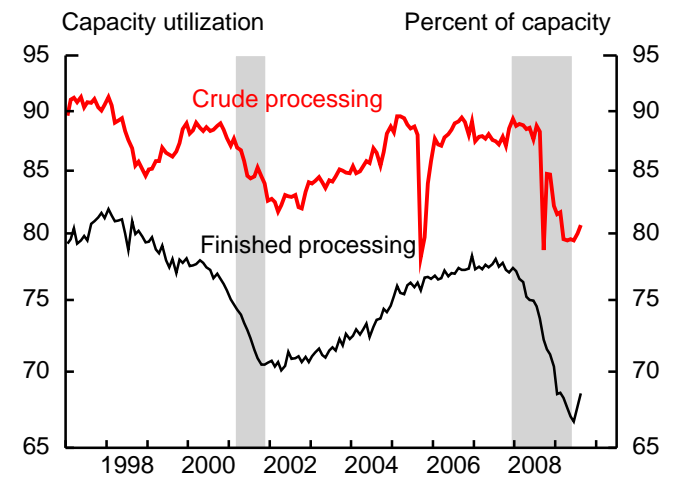
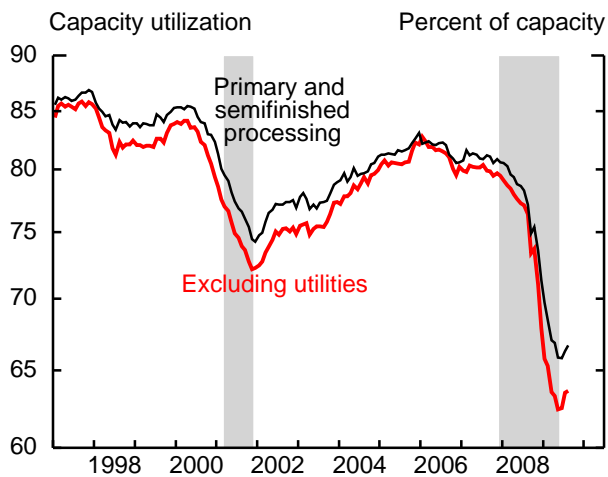
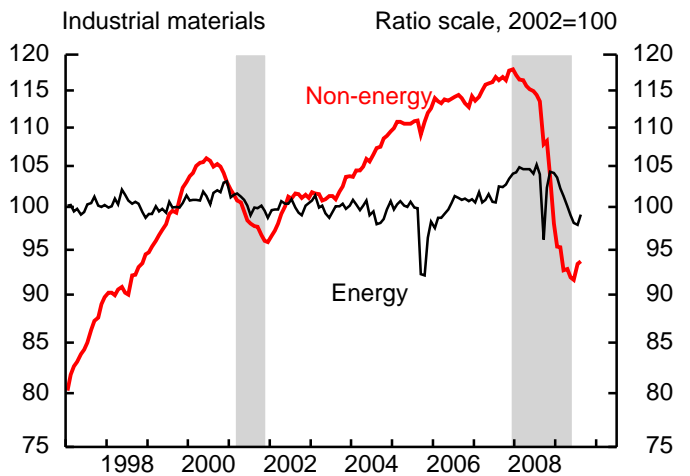
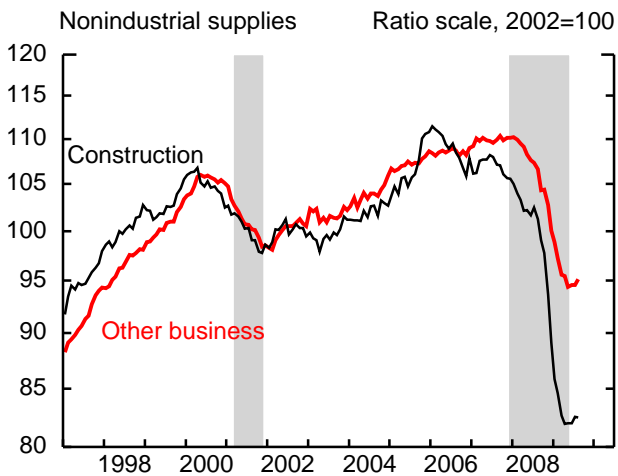
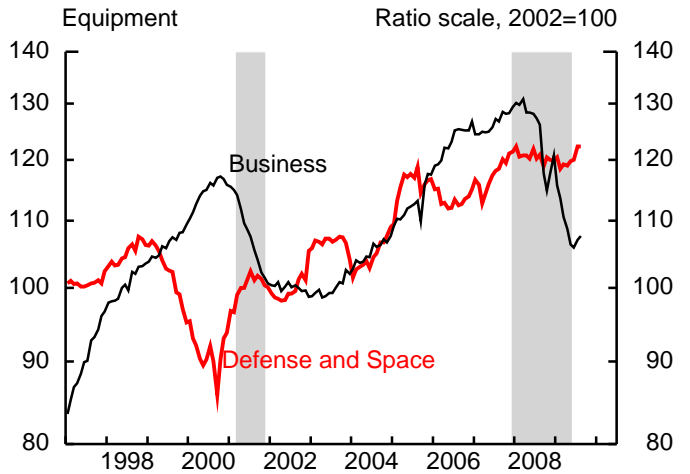
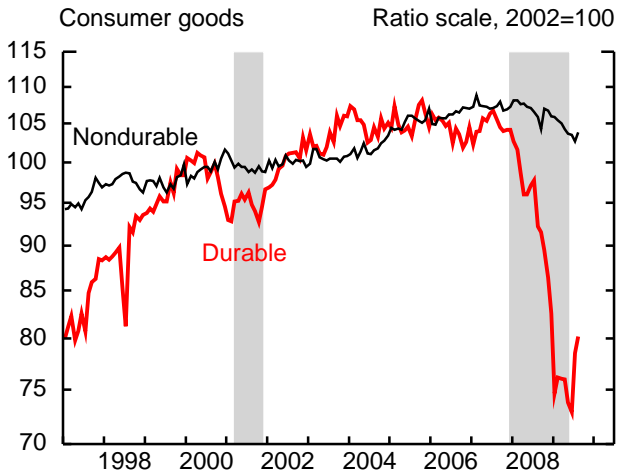
Further detail is available on the Board's website (www.federalreserve.gov/releases/G17/).

1. Industrial production, capacity, and utilization



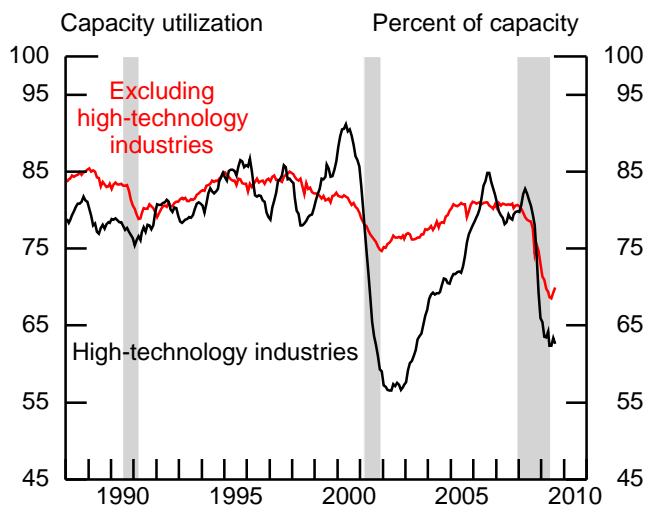
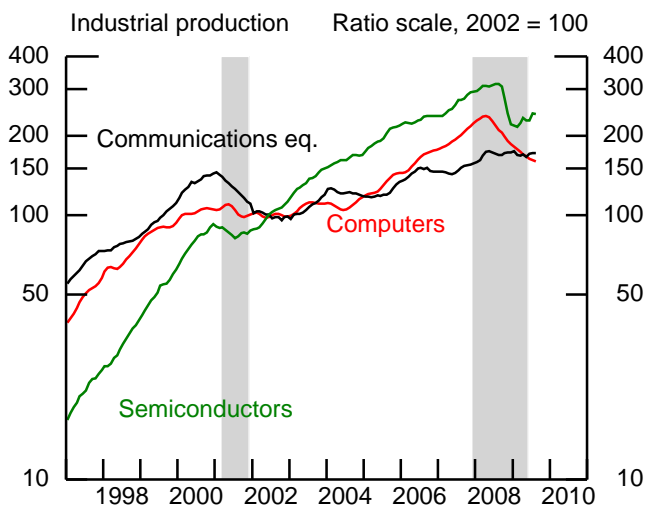
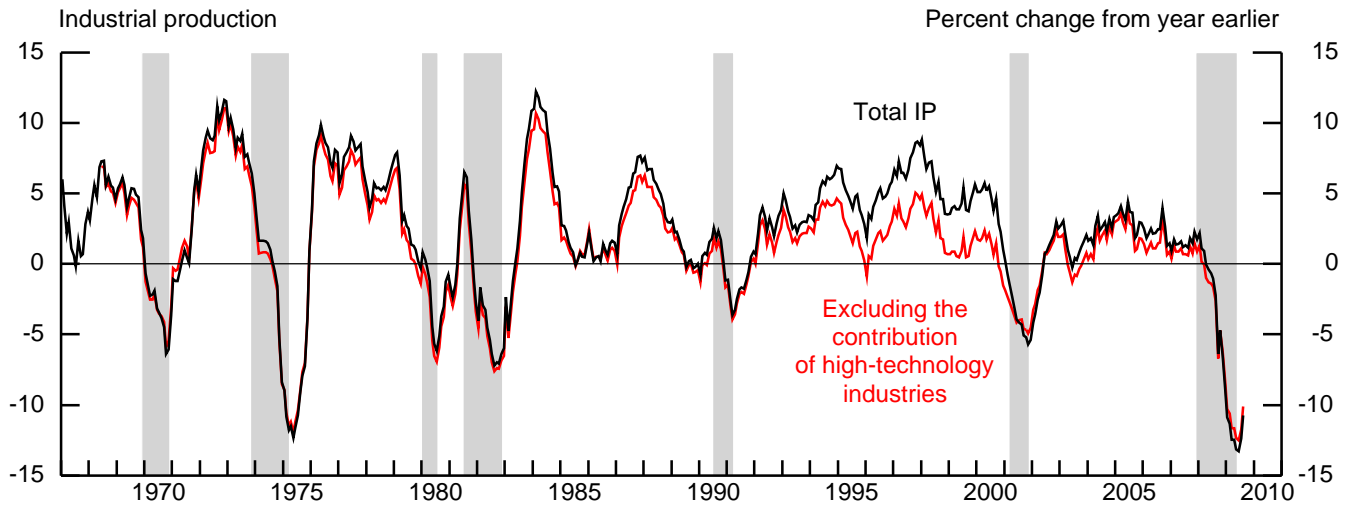
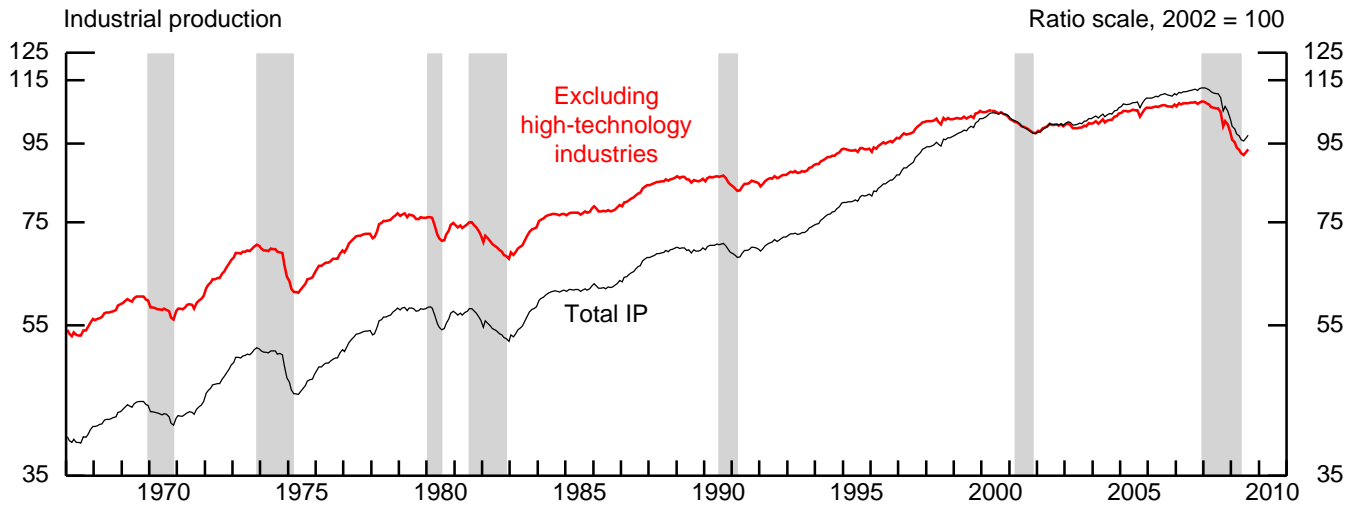
Notes: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER). The last shaded area begins with the peak as defined by the NBER and ends at the trough of a 3 month moving average of manufacturing IP.

2. Industrial production and capacity utilization



Notes: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER). The last shaded area begins with the peak as defined by the NBER and ends at the trough of a 3 month moving average of manufacturing IP.

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. The last shaded area begins with the peak as defined by the NBER and ends at the trough of a 3 month moving average of manufacturing IP.

Table 2
INDUSTRIAL PRODUCTION: SPECIAL AGGREGATES AND SELECTED DETAIL
 Percent change, seasonally adjusted

Item	2008 proportion	Fourth quarter to fourth quarter			Annual rate			Monthly rate						Aug. '08 to Aug. '09	
		2006	2007	2008	2008 Q4	2009 Q1 ^r	Q2 ^r	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p		
Total industry	100.00	1.8	1.8	-6.7	-13.0	-19.0	-10.5	-1.6	-6	-1.1	-4	1.0	.8	-10.7	
Energy	23.88	3.9	2.1	1.3	11.2	-6.5	-14.2	-1.2	-8	-1.8	-7	-7	1.1	-4.9	
Consumer products	6.10	-.1	1.9	3.6	28.8	-.8	-12.4	-.9	-.4	-2.7	-.4	-1.9	.8	-.4	
Commercial products	3.04	1.2	1.9	.5	2.5	-.8	-8.7	-.2	.5	-2.6	.1	-2	1.5	-1.0	
Oil and gas well drilling	213111	.78	14.9	-7	6.9	-6.7	-72.3	-75.0	-17.1	-10.0	-5.6	-4.0	-2	1.2	-51.1
Converted fuel	4.25	2.6	5.7	-4.4	7.5	-9.9	-11.0	.2	-1.3	-.3	-1.9	.4	1.4	-3.3	
Primary energy	9.71	6.8	1.2	2.0	7.6	-2.4	-12.9	-1.3	-1.2	-1.5	-.3	-7	1.1	-5.2	
Non-energy	76.12	1.2	1.7	-9.4	-20.2	-23.1	-9.3	-1.7	-.5	-.9	-.3	1.4	.7	-12.9	
Selected high-technology industries	4.17	13.1	18.2	-6.9	-38.1	-24.3	.7	.5	1.9	-2.2	.8	2.5	-.5	-15.8	
Computers and peripheral equipment	3341	1.02	22.1	24.2	-11.9	-31.6	-26.5	-22.1	-2.0	-2.1	-2.0	-1.9	-1.2	-1.1	-23.8
Communications equipment	3342	1.32	12.4	6.6	10.4	6.2	-3.5	-4.1	-.9	1.5	-2.5	2.9	.7	.0	1.8
Semiconductors and related electronic components	334412-9	1.84	9.8	22.3	-15.0	-60.9	-38.1	22.2	3.3	4.6	-2.0	.3	6.1	-.6	-23.2
Excluding selected high-technology industries	71.95	.4	.7	-9.5	-19.0	-23.1	-9.8	-1.9	-.7	-.8	-.3	1.4	.7	-12.7	
Motor vehicles and parts	3361-3	4.51	-6.2	-1.9	-23.3	-37.4	-69.5	-13.8	1.7	-1.2	-7.7	-3.6	20.1	5.5	-20.2
Motor vehicles	3361	1.92	-7.6	-1.9	-30.3	-49.6	-83.7	-8.3	6.0	-2.1	-12.8	-5.3	41.3	11.7	-18.1
Motor vehicle parts	3363	2.30	-4.3	.3	-14.8	-25.2	-53.7	-18.8	-.6	-.4	-5.8	-3.5	9.7	1.3	-21.0
Excluding motor vehicles and parts	67.44	.9	.9	-8.5	-17.6	-19.1	-9.6	-2.0	-.6	-.4	-.2	.5	.5	-12.3	
Consumer goods	20.65	.8	-1.1	-4.2	-8.5	-9.2	-5.2	-.6	-.9	-.1	-.1	-2	1.0	-5.2	
Business equipment	7.43	6.2	2.3	-8.8	-16.3	-5.9	-21.7	-3.0	-1.8	-1.9	-.9	.6	.4	-14.1	
Construction supplies	4.83	-3.4	-1.0	-11.8	-26.6	-34.1	-10.8	-2.3	-.9	.1	-1	.7	.0	-18.7	
Business supplies	7.32	-.6	.4	-9.8	-17.4	-24.8	-11.1	-2.5	-.6	-.5	.3	.0	.2	-14.4	
Materials	25.51	1.4	2.4	-11.2	-23.9	-26.5	-9.6	-3.0	.0	-.5	-.1	1.1	.3	-16.2	
Measures excluding selected high-technology industries															
Total industry	95.83	1.2	1.1	-6.7	-11.7	-18.8	-10.9	-1.7	-.7	-1.0	-.4	.9	.8	-10.5	
Manufacturing ¹	74.82	.4	.9	-8.9	-16.8	-21.9	-9.5	-1.8	-.6	-.9	-.3	1.3	.7	-12.0	
Durable	34.07	-.4	1.4	-11.7	-24.5	-32.3	-17.9	-2.6	-1.1	-2.1	-.9	3.3	.6	-17.9	
Measures excluding motor vehicles and parts															
Total industry	95.49	2.3	2.0	-5.9	-11.7	-16.0	-10.4	-1.7	-.6	-.8	-.2	.3	.6	-10.4	
Manufacturing ¹	74.48	1.8	2.1	-7.8	-16.9	-18.3	-8.8	-1.8	-.4	-.6	-.1	.6	.4	-11.8	
Durable	33.73	2.5	4.0	-9.3	-24.6	-25.0	-16.2	-2.7	-.7	-1.5	-.5	1.5	-.1	-17.4	
Measures excluding selected high-technology industries and motor vehicles and parts															
Total industry	91.32	1.7	1.2	-5.8	-10.3	-15.6	-10.8	-1.8	-.7	-.8	-.3	.2	.6	-10.1	
Manufacturing ¹	70.31	1.0	1.1	-7.8	-15.4	-18.0	-9.3	-1.9	-.6	-.5	-.2	.5	.4	-11.5	
Stage-of-process components of non-energy materials, measures of the input to															
Finished processors	11.43	1.7	4.0	-11.1	-30.2	-38.2	-16.4	-3.0	-.4	-2.1	-1.0	3.3	-.1	-21.3	
Primary and semifinished processors	17.56	1.3	3.2	-12.5	-25.3	-24.5	-4.9	-2.5	.5	-.4	.1	1.2	.6	-15.0	

r Revised. p Preliminary.
 1. Refer to note on cover page.

Table 3
MOTOR VEHICLE ASSEMBLIES
 Millions of units, seasonally adjusted annual rate

Item	2008 average	2008 Q3	Q4	2009 Q1	Q2	2009 Mar.	Apr.	May	June	July	Aug.
Total	8.67	8.60	7.27	4.57	4.46	5.06	4.99	4.29	4.11	5.86	6.57
Autos	3.78	4.13	3.34	1.66	1.85	1.97	1.90	1.83	1.80	2.27	2.58
Trucks	4.90	4.47	3.93	2.91	2.62	3.09	3.08	2.45	2.31	3.60	3.99
Light	4.67	4.27	3.73	2.76	2.51	2.95	2.98	2.36	2.18	3.47	3.84
Medium and heavy	.22	.21	.20	.15	.11	.14	.10	.10	.13	.12	.15
Memo											
Autos and light trucks	8.45	8.39	7.07	4.42	4.35	4.91	4.89	4.19	3.97	5.74	6.42

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/mvsv.htm

Table 4
INDUSTRIAL PRODUCTION INDEXES: MARKET AND INDUSTRY GROUP SUMMARY

2002 = 100, seasonally adjusted

Item	2008 proportion	2008 Dec.	2009 Jan.	Feb.	Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p
Total IP	100.00	102.4	100.1	99.3	97.7	97.2	96.1	95.8	96.7	97.4
MARKET GROUPS										
Final products and nonindustrial supplies	57.05	103.5	101.0	100.0	98.8	98.0	96.9	96.6	97.4	98.2
Consumer goods	29.54	100.6	98.6	98.7	98.3	97.7	96.7	96.4	97.1	98.4
Durable	6.32	82.6	74.6	76.1	76.1	75.9	73.8	72.9	78.6	80.2
Automotive products	2.88	74.5	58.7	64.2	66.2	65.8	62.9	61.6	72.2	76.4
Home electronics	.34	174.1	176.3	174.3	170.1	165.9	160.4	158.0	156.7	154.6
Appliances, furniture, carpeting	.99	72.3	72.2	70.9	69.4	70.3	69.3	67.1	68.0	67.5
Miscellaneous goods	2.11	90.4	89.4	86.6	84.5	84.6	83.4	83.9	85.1	84.3
Nondurable	23.22	106.0	105.9	105.5	105.0	104.3	103.7	103.5	102.7	103.9
Non-energy	17.12	102.9	102.8	103.4	103.2	102.1	102.2	102.1	101.7	102.9
Foods and tobacco	9.39	105.7	105.6	106.6	106.6	105.6	106.9	105.8	105.2	107.0
Clothing	.42	62.0	60.2	58.8	58.8	58.9	58.1	55.0	57.0	58.2
Chemical products	5.09	107.8	108.5	109.0	109.9	108.6	107.0	108.8	108.1	108.8
Paper products	1.70	90.0	88.2	88.9	84.5	82.5	81.5	82.8	82.7	82.9
Energy	6.10	114.9	114.8	111.2	110.2	110.5	107.5	107.1	105.0	105.9
Business equipment	9.48	120.8	115.7	113.6	110.6	108.7	106.4	105.9	107.0	107.6
Transit	1.53	113.4	96.9	98.4	96.6	93.0	90.1	89.5	93.4	95.6
Information processing	2.92	157.1	155.6	151.8	150.9	151.2	149.9	149.8	151.0	149.8
Industrial and other	5.03	105.0	102.3	99.6	95.6	93.4	91.0	90.4	90.6	91.4
Defense and space equipment	1.66	119.9	120.5	118.4	119.2	119.0	119.8	120.0	122.3	122.3
Construction supplies	4.87	89.1	85.8	84.6	82.7	82.0	82.0	82.0	82.5	82.5
Business supplies	10.65	100.1	98.9	97.3	95.6	95.5	94.4	94.6	94.6	95.1
Materials	42.95	101.0	99.0	98.5	96.5	96.2	95.2	94.7	95.9	96.4
Non-energy	28.99	98.0	95.4	95.3	92.7	92.9	91.9	91.6	93.4	93.7
Durable	16.83	104.0	98.9	97.0	93.8	92.8	90.4	89.5	92.6	92.6
Consumer parts	2.69	68.5	57.4	57.6	55.8	55.7	52.6	49.8	56.1	56.0
Equipment parts	5.93	152.5	149.1	146.1	142.9	142.1	138.1	137.1	140.0	139.5
Other	8.21	90.8	87.7	85.5	81.9	80.6	79.4	79.4	81.1	81.2
Nondurable	12.16	88.9	89.2	91.2	89.5	90.9	91.6	92.0	92.2	92.9
Textile	.50	61.6	62.3	58.9	57.4	58.9	58.1	58.5	56.6	57.0
Paper	2.32	83.2	81.4	83.2	79.1	78.3	80.5	81.8	81.8	82.0
Chemical	5.87	91.5	93.5	97.1	95.5	99.6	99.6	100.4	101.2	102.4
Energy	13.96	104.2	103.6	102.2	101.3	100.1	99.0	98.1	97.9	99.0
INDUSTRY GROUPS										
Manufacturing	78.99	100.6	97.8	97.7	96.1	95.6	94.7	94.4	95.7	96.3
Manufacturing (NAICS) 31-33	75.29	101.6	98.8	98.7	97.3	96.9	96.0	95.6	97.0	97.6
Durable manufacturing	38.10	105.3	99.9	98.7	96.4	95.7	93.7	93.0	96.0	96.4
Wood products	321	1.02	69.7	67.7	68.1	66.2	65.5	65.2	65.9	65.8
Nonmetallic mineral products	327	2.23	91.5	86.4	84.9	81.9	82.6	81.9	81.8	84.9
Primary metal	331	2.49	71.9	67.3	64.5	60.7	60.5	59.5	61.2	67.5
Fabricated metal products	332	5.91	102.4	98.2	95.6	91.3	89.4	87.6	87.3	87.3
Machinery	333	4.89	99.7	96.2	94.0	88.7	86.7	83.9	82.1	82.6
Computer and electronic products	334	6.89	176.2	174.9	171.6	171.4	172.8	170.7	170.5	173.9
Electrical equip., appliances, and components	335	2.00	99.1	98.2	95.8	92.7	92.1	91.0	89.8	89.7
Motor vehicles and parts	3361-3	4.51	69.2	51.2	55.8	56.7	56.1	51.8	49.9	59.9
Aerospace and miscellaneous transportation equipment	3364-9	3.54	123.2	119.3	117.8	116.8	115.2	113.7	113.2	115.1
Furniture and related products	337	1.33	79.9	79.1	76.5	75.1	72.4	72.0	70.9	71.7
Miscellaneous	339	3.27	114.5	114.6	112.4	111.6	113.0	112.4	112.1	113.1
Nondurable manufacturing	37.20	97.0	96.7	97.7	96.9	96.9	97.0	97.0	96.9	97.6
Food, beverage, and tobacco products	311,2	11.46	106.0	106.1	107.3	107.3	106.4	107.7	106.5	105.8
Textile and product mills	313,4	.89	63.6	63.9	61.7	59.7	60.3	59.2	59.1	58.0
Apparel and leather	315,6	.57	70.3	68.1	66.8	66.8	65.4	65.5	61.9	63.8
Paper	322	2.62	81.3	80.1	82.9	78.9	78.2	80.9	82.5	82.4
Printing and support	323	1.80	87.4	85.3	82.7	81.6	80.1	79.6	80.2	79.5
Petroleum and coal products	324	4.72	108.4	105.7	108.7	108.8	109.0	106.9	108.3	107.2
Chemical	325	12.06	98.7	99.8	101.6	101.3	102.6	102.1	102.6	102.8
Plastics and rubber products	326	3.08	89.4	88.2	86.0	83.4	82.9	82.2	82.2	83.2
Other manufacturing (non-NAICS) 1133,5111	3.70	84.6	81.4	80.4	76.1	74.1	73.4	74.3	74.3	75.0
Mining	21	10.60	103.4	102.8	101.3	98.7	96.1	95.0	94.1	94.7
Utilities	2211,2	10.41	111.3	111.5	106.4	106.1	106.4	104.3	103.8	102.2
Electric	2211	8.65	112.7	112.3	108.5	108.5	108.5	107.0	105.5	103.6
Natural gas	2212	1.76	104.5	107.4	96.4	95.0	96.5	91.6	95.6	95.7

^r Revised, ^p Preliminary.

NOTE. Refer to notes on table 1.

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES
2002 = 100, seasonally adjusted

Item	2008 proportion	2008 Dec.	2009 Jan.	Feb.	Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p
Total industry	100.00	102.4	100.1	99.3	97.7	97.2	96.1	95.8	96.7	97.4
Energy	23.88	109.2	108.7	106.1	104.8	104.0	102.1	101.4	100.7	101.8
Consumer products	6.10	114.9	114.8	111.2	110.2	110.5	107.5	107.1	105.0	105.9
Commercial products	3.04	115.6	117.1	114.1	113.8	114.4	111.4	111.5	111.2	112.8
Oil and gas well drilling	213111	.78	172.7	154.4	130.7	108.3	97.5	92.1	88.4	88.3
Converted fuel	4.25	103.8	103.7	101.0	101.1	99.8	99.5	97.6	98.0	99.3
Primary energy	9.71	104.0	103.2	102.4	101.0	99.8	98.3	98.1	97.4	98.5
Non-energy	76.12	99.6	96.8	96.6	94.9	94.4	93.6	93.4	94.7	95.3
Selected high-technology industries	4.17	204.9	204.2	199.5	200.4	204.2	199.7	201.3	206.2	205.2
Computers and peripheral equipment	3341	1.02	185.5	181.7	177.2	173.7	170.1	166.7	163.6	159.8
Communications equipment	3342	1.32	172.5	175.2	169.1	167.6	170.1	165.9	170.6	171.8
Semiconductors and related electronic components	334412-9	1.84	220.5	218.0	215.8	222.9	233.1	228.4	229.0	241.4
Excluding selected high-technology industries	71.95	94.5	91.8	91.7	90.0	89.4	88.7	88.4	89.6	90.2
Motor vehicles and parts	3361-3	4.51	69.2	51.2	55.8	56.7	56.1	51.8	49.9	59.9
Motor vehicles	3361	1.92	61.7	35.8	44.7	47.4	46.4	40.5	38.3	54.1
Motor vehicle parts	3363	2.30	76.8	65.2	66.5	66.1	65.9	62.0	59.9	65.7
Excluding motor vehicles and parts	67.44	96.7	95.2	94.7	92.8	92.2	91.8	91.6	92.1	92.6
Consumer goods	20.65	99.3	99.1	99.3	98.7	97.8	97.7	97.6	97.4	98.3
Business equipment	7.43	113.3	109.8	107.6	104.4	102.4	100.5	99.7	100.2	100.6
Construction supplies	4.83	88.6	85.3	84.0	82.1	81.4	81.5	81.5	82.0	82.0
Business supplies	7.32	90.8	88.7	87.7	85.5	85.0	84.6	84.8	84.8	84.9
Materials	25.51	92.6	91.1	90.9	88.2	88.1	87.7	87.6	88.5	88.8
Measures excluding selected high-technology industries										
Total industry	95.83	98.4	96.1	95.4	93.8	93.2	92.2	91.8	92.7	93.4
Manufacturing ¹	74.82	95.6	92.9	92.9	91.2	90.7	89.9	89.6	90.7	91.4
Durable	34.07	95.4	89.9	89.0	86.6	85.7	83.9	83.2	85.9	86.4
Measures excluding motor vehicles and parts										
Total industry	95.49	104.4	103.2	102.1	100.3	99.7	98.9	98.7	99.0	99.5
Manufacturing ¹	74.48	103.2	101.6	101.1	99.3	98.8	98.2	98.1	98.6	99.0
Durable	33.73	112.3	109.3	107.0	104.1	103.3	101.8	101.3	102.9	102.8
Measures excluding selected high-technology industries and motor vehicles and parts										
Total industry	91.32	100.2	98.9	97.9	96.1	95.5	94.7	94.5	94.7	95.3
Manufacturing ¹	70.31	97.8	96.2	95.9	94.0	93.5	93.0	92.8	93.2	93.6
Stage-of-process components of non-energy materials, measures of the input to										
Finished processors	11.43	106.0	100.5	99.7	96.7	96.3	94.3	93.3	96.4	96.2
Primary and semifinished processors	17.56	92.1	91.1	91.4	89.1	89.6	89.3	89.3	90.4	90.9

^r Revised. ^p Preliminary.

1. Refer to note on cover page.

Table 6
DIFUSION INDEXES OF INDUSTRIAL PRODUCTION
Percent

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One month earlier												
2007	44.9	57.7	54.5	59.9	45.8	58.3	51.9	45.5	58.3	45.5	58.0	53.8
2008	43.9	42.0	46.2	42.3	50.3	50.6	46.2	41.3	29.5	39.7	28.8	20.2
2009	33.0	41.5	33.0	44.2	39.7	39.4	59.3					
Three months earlier												
2007	50.0	55.6	52.1	63.1	58.7	56.7	54.8	52.9	54.5	44.6	56.1	51.9
2008	49.4	40.7	37.5	40.1	44.2	41.0	43.6	38.1	26.6	30.1	23.1	22.4
2009	16.3	20.2	30.4	38.5	35.1	38.1	43.6					
Six months earlier												
2007	43.3	46.9	49.5	56.3	58.2	53.1	59.9	54.5	53.8	47.1	52.2	56.4
2008	46.5	47.4	47.1	44.9	39.1	34.6	36.9	38.5	25.0	25.3	25.6	16.7
2009	16.0	16.0	21.8	17.9	20.2	30.8	38.6					

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	2008 proportion	1972- 2008 ave.	1994- 95 high	2001- 02 low	2008 Q4	2009 Q1 ^r	Q2 ^r	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p
Total industry	100.00	80.9	84.9	73.5	74.2	70.4	68.6	69.5	69.2	68.5	68.3	69.0	69.6
Manufacturing¹	79.68	79.6	84.5	71.4	70.9	66.7	65.3	66.0	65.7	65.2	65.1	66.1	66.6
Manufacturing (NAICS) 31-33	76.08	79.4	84.6	70.9	70.9	66.7	65.5	66.1	65.9	65.3	65.2	66.2	66.7
Durable manufacturing	39.36	77.8	83.7	67.8	67.1	61.0	58.5	59.9	59.4	58.2	57.8	59.7	60.1
Wood products 321	1.27	79.2	87.5	70.4	54.8	49.4	48.5	48.7	48.3	48.3	48.9	49.5	49.2
Nonmetallic mineral products 327	2.42	77.7	82.5	70.4	63.0	56.1	54.8	54.5	55.0	54.6	54.7	56.8	55.8
Primary metal 331	2.69	80.5	94.7	68.0	61.4	48.0	45.2	45.4	45.2	44.5	45.8	50.6	51.1
Fabricated metal products 332	5.61	77.5	85.5	69.4	74.1	67.1	62.6	64.6	63.4	62.2	62.1	62.2	62.4
Machinery 333	4.80	78.6	87.9	62.8	70.3	63.3	57.6	60.5	59.2	57.4	56.2	56.6	57.2
Computer and electronic products 334	7.11	78.3	84.4	58.8	69.4	65.1	63.8	64.4	64.6	63.5	63.1	64.0	63.2
Electrical equip., appliances, and components 335	1.83	83.2	93.1	72.1	78.4	73.6	70.1	71.4	70.9	70.2	69.3	69.3	69.8
Motor vehicles and parts 3361-3	5.52	76.7	88.7	69.2	53.6	40.0	38.9	41.7	41.4	38.4	37.1	44.8	47.4
Aerospace and miscellaneous transportation equipment 3364-9	3.32	73.2	68.6	64.4	72.0	76.7	74.1	75.9	74.8	73.9	73.5	74.8	74.7
Furniture and related products 337	1.39	78.4	83.1	68.3	65.1	61.6	58.3	60.4	58.5	58.5	57.8	58.7	57.8
Miscellaneous 339	3.40	76.5	81.3	71.0	69.4	67.2	66.9	66.4	67.2	66.8	66.7	67.2	67.9
Nondurable manufacturing	36.72	81.5	85.7	75.0	74.8	72.8	73.1	72.8	72.9	73.1	73.2	73.2	73.9
Food, beverage, and tobacco products 311,2	10.86	81.5	85.0	75.6	77.1	76.2	76.3	76.5	75.9	76.9	76.0	75.6	76.9
Textile and product mills 313,4	.96	81.6	91.7	68.7	64.7	60.1	59.0	58.5	59.4	58.6	58.9	58.1	58.7
Apparel and leather 315,6	.56	79.5	88.1	63.6	72.2	67.9	65.6	67.7	66.5	66.8	63.5	65.6	66.4
Paper 322	2.41	87.6	92.7	78.8	74.4	70.3	70.5	68.9	68.4	70.9	72.4	72.5	72.4
Printing and support 323	1.79	83.4	87.0	72.7	72.7	68.2	66.7	67.3	66.4	66.4	67.3	67.1	67.4
Petroleum and coal products 324	5.00	86.1	91.1	86.0	85.7	83.9	84.2	84.8	84.9	83.3	84.5	83.6	83.3
Chemical 325	12.17	78.2	81.1	69.5	70.0	68.8	70.1	69.1	70.2	69.9	70.4	70.6	71.3
Plastics and rubber products 326	2.97	83.6	92.2	74.6	72.7	67.3	65.1	65.6	65.3	64.9	65.1	66.1	66.3
Other manufacturing (non-NAICS) 1133,5111	3.61	84.2	83.0	79.8	72.5	66.9	62.6	64.2	62.6	62.1	62.9	63.0	63.6
Mining 21	11.14	87.6	89.1	84.9	89.6	86.8	81.9	84.9	82.7	81.8	81.1	81.7	82.2
Utilities 2211,2	9.17	86.8	93.3	84.2	83.6	82.4	79.6	80.8	80.9	79.2	78.7	77.3	78.7
Selected high-technology industries	4.24	78.2	86.5	56.5	69.8	64.1	63.0	63.5	64.2	62.4	62.4	63.4	62.6
Computers and peripheral equipment 3341	.98	78.1	87.3	66.8	74.1	68.9	64.1	67.3	65.6	64.1	62.5	61.4	60.3
Communications equipment 3342	1.33	76.2	82.9	41.6	74.3	72.0	69.9	70.3	70.9	68.7	70.2	70.4	70.0
Semiconductors and related electronic components 334412-9	1.92	80.6	91.7	58.0	64.5	56.4	57.9	57.0	59.2	57.5	57.1	60.0	59.0
Measures excluding selected high-technology industries	95.76	81.0	84.9	74.7	74.4	70.7	68.9	69.8	69.4	68.7	68.5	69.2	69.9
Total industry	75.44	79.7	84.4	72.7	71.0	66.8	65.5	66.1	65.8	65.3	65.2	66.2	66.8
STAGE-OF-PROCESS GROUPS													
Crude	15.83	86.6	89.9	81.7	83.8	80.9	79.5	79.5	79.4	79.5	79.5	80.0	80.7
Primary and semifinished	46.62	82.0	87.9	74.3	73.4	68.4	66.2	67.1	66.9	65.9	65.8	66.3	66.7
Finished	37.55	77.7	80.3	70.0	71.0	68.4	67.1	68.2	67.6	67.0	66.7	67.7	68.5

^r Revised. ^p Preliminary.

1. Refer to 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	1995-2009	2006	2007	2008	2009	2008 Q4	2009 Q1	Q2	Q3	2009 Aug.
Total industry	3.1	1.9	2.3	2.7	1.5	2.0	1.1	-9	.4	-.2	-.8	-1.3	-.1
Manufacturing ¹	3.3	2.2	2.5	3.1	1.4	2.2	1.3	-1.2	.4	-.4	-1.1	-1.5	-.1
Mining	.7	.0	-.8	-.3	2.3	1.4	1.1	-.7	1.0	.3	-.5	-1.3	-.1
Utilities	4.2	2.2	1.8	2.2	1.3	1.3	2.3	1.8	1.9	1.8	1.7	1.8	.2
Selected high-technology industries													
Manufacturing ¹ ex. selected high-technology industries	19.8	17.3	15.6	22.3	5.7	22.9	6.3	8.4	3.6	5.8	8.4	9.8	.8
	2.6	1.3	1.6	1.4	1.1	1.0	1.0	-1.6	.2	-.7	-1.6	-2.1	-.2
STAGE-OF-PROCESS GROUPS													
Crude	1.7	.3	-.4	.0	1.5	1.4	1.2	-1.2	.7	-.2	-1.1	-1.8	-.2
Primary and semifinished	3.0	1.4	2.5	3.2	1.3	2.0	.8	-1.0	.0	-.5	-.9	-1.2	-.1
Finished	3.9	3.3	2.7	3.0	1.8	2.4	2.2	-.6	1.2	.2	-.5	-1.0	-.1

1. Refer to 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	2008	2008 Q4	2009 Q1 ^r	Q2 ^r	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p
Final products and nonindustrial supplies	2,815.3	2,946.7	2,851.1	2,717.3	2,648.6	2,695.0	2,676.1	2,638.5	2,631.2	2,661.0	2,689.2
Final products	2,106.9	2,238.6	2,178.9	2,085.3	2,030.2	2,073.2	2,054.7	2,022.4	2,013.6	2,042.6	2,069.7
Consumer goods	1,475.5	1,559.7	1,532.3	1,472.6	1,450.9	1,473.8	1,466.9	1,446.6	1,439.1	1,460.2	1,481.6
Durable	472.7	445.6	403.0	341.3	337.1	348.0	347.3	334.9	329.1	365.2	377.5
Automotive products	278.7	258.1	228.7	178.0	179.6	188.8	187.7	177.8	173.4	208.0	221.8
Other durable goods	194.0	187.5	174.1	162.9	157.2	159.0	159.4	156.8	155.4	157.2	155.9
Nondurable	1,002.9	1,097.3	1,102.2	1,092.5	1,075.9	1,088.5	1,082.7	1,073.7	1,071.4	1,061.5	1,071.4
Equipment, total	631.4	689.7	651.6	616.1	578.1	600.0	586.9	574.2	573.2	581.0	586.3
Business and defense	615.0	671.4	632.5	605.9	573.8	593.6	582.0	569.8	569.5	577.1	582.3
Business	560.4	599.1	559.2	532.0	498.2	519.2	507.2	494.0	493.5	499.6	504.7
Defense and space	54.5	72.5	72.2	71.9	72.1	71.9	71.8	72.1	72.3	73.6	73.8
Nonindustrial supplies	708.4	709.6	675.0	635.5	621.5	625.9	624.9	619.3	620.3	622.0	623.8
Construction supplies	211.8	202.9	188.6	169.4	165.1	166.0	164.8	165.2	165.3	166.8	166.7
Business supplies	496.5	507.3	487.4	467.7	458.0	461.6	461.9	455.5	456.5	456.5	458.5
Commercial energy products	135.7	156.7	155.1	154.7	151.3	153.4	154.2	149.7	150.0	150.1	151.7

^r Revised. ^p Preliminary.

Table 10
GROSS-VALUE-WEIGHTED INDUSTRIAL PRODUCTION: STAGE-OF-PROCESS GROUPS
Percent change, seasonally adjusted

Item	2008 gross value ¹	Fourth quarter to fourth quarter			Annual rate			Monthly rate						Aug. '08 to Aug. '09
		2006	2007	2008	2008 Q4	2009 Q1 ^r	Q2 ^r	2009 Mar. ^r	Apr. ^r	May ^r	June ^r	July ^r	Aug. ^p	
Finished	1926.7	2.2	1.0	-7.6	-14.6	-20.3	-9.8	-.7	-1.2	-1.1	-.8	2.5	1.7	-8.5
Semifinished	1668.3	-1.5	2.1	-7.7	-17.2	-26.5	-14.4	-2.2	-.4	-1.5	-1.1	1.0	.5	-14.7
Primary	960.3	-.3	2.2	-7.2	-8.0	-16.1	-7.9	-1.6	.1	-2.0	1.2	.2	.1	-9.6
Crude	417.8	7.8	2.0	-7.9	-13.0	-10.2	4.1	-1.6	1.0	.7	.3	.3	.7	-7.4

^r Revised. ^p Preliminary.

1. Billions of 2000 dollars.

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

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent change)¹																	
1987	-.3	1.3	.1	.6	.7	.5	.6	.7	.3	1.5	.5	.5	5.5	7.0	7.3	10.2	5.2
1988	.0	.4	.2	.5	-.1	.2	.2	.5	-.3	.5	.2	.4	3.6	3.6	2.1	2.9	5.2
1989	.2	-.4	.3	.0	-.7	.0	-.9	.9	-.3	-.1	.3	.6	1.6	-1.7	-2.4	1.8	.9
1990	-.5	-.9	.5	-.1	.2	.3	-.1	.2	.2	-.7	-1.2	-.7	3.1	2.8	1.2	-6.1	1.0
1991	-.5	-.6	-.5	.2	1.0	1.0	.0	.1	.9	-.2	-.1	-.4	-7.4	2.6	5.5	.9	-1.6
1992	-.6	.8	.8	.7	.4	.0	.8	-.5	.2	.7	.4	.0	-.5	7.2	2.9	4.0	2.8
1993	.5	.3	.0	.3	-.4	.2	.4	.0	.4	.7	.4	.5	3.6	.9	2.1	6.0	3.3
1994	.4	.0	1.1	.5	.6	.7	.2	.5	.2	.9	.6	1.1	5.2	7.5	5.1	8.1	5.3
1995	.3	.0	.2	.0	.2	.3	-.4	1.4	.4	-.2	.3	.4	5.1	1.2	3.9	3.4	4.8
1996	-.7	1.7	-.2	.8	.6	.9	-.1	.6	.6	.0	.8	.6	2.9	8.1	5.4	5.6	4.4
1997	.1	1.2	.8	.0	.7	.5	.5	1.4	.9	.7	.9	.4	7.9	6.4	9.6	10.4	7.3
1998	.5	.0	.1	.4	.7	-.6	-.4	2.1	-.3	.7	-.1	.3	4.4	3.2	2.9	5.1	5.9
1999	.5	.4	.2	.2	.7	-.2	.6	.5	-.3	1.4	.6	.8	4.4	3.7	4.1	8.1	4.3
2000	.0	.4	.4	.6	.2	.1	-.2	-.2	.5	-.4	.0	-.4	4.8	4.9	-.3	-1.2	4.2
2001	-.7	-.6	-.3	-.3	-.7	-.6	-.4	-.4	-.3	-.6	-.5	.0	-5.7	-5.3	-5.7	-5.0	-3.4
2002	.5	.0	.8	.3	.5	.9	-.3	.1	.1	-.3	.4	-.5	2.5	5.9	2.1	-.4	-.1
2003	.7	.3	-.1	-.8	.0	.1	.4	-.1	.6	.1	.9	-.1	2.9	-3.0	2.6	4.1	1.3
2004	.3	.5	-.6	.5	.7	-.9	.7	.2	.0	.9	.2	.7	2.8	1.8	1.9	5.7	2.5
2005	.4	.6	-.1	.0	.3	.4	-.1	.2	-1.7	1.1	1.1	.6	5.7	1.7	-.7	4.0	3.3
2006	.0	.0	.2	.4	-.1	.4	.2	.2	-.3	-.1	-.2	.8	3.6	2.2	2.0	-.6	2.3
2007	-.5	.8	-.2	.4	.1	.0	.3	.1	.4	-.5	.6	.3	1.8	2.4	2.1	.8	1.5
2008	-.1	-.3	-.4	-.6	-.3	-.2	-.1	-1.1	-4.0	1.3	-1.3	-2.3	.2	-4.6	-9.0	-13.0	-2.2
2009	-2.2	-.8	-1.6	-.6	-1.1	-.4	1.0	.8					-19.0	-10.5			
IP (2002=100)																	
2007	109.9	110.8	110.6	111.1	111.1	111.2	111.5	111.6	112.0	111.4	112.1	112.4	110.5	111.1	111.7	112.0	111.3
2008	112.3	112.0	111.6	111.0	110.7	110.4	110.4	109.2	104.8	106.2	104.8	102.4	112.0	110.7	108.1	104.4	108.8
2009	100.1	99.3	97.7	97.2	96.1	95.8	96.7	97.4					99.1	96.4			
Capacity (percent of 2002 output)																	
2007	136.9	137.1	137.3	137.6	137.8	138.0	138.3	138.5	138.7	139.0	139.2	139.4	137.1	137.8	138.5	139.2	138.1
2008	139.6	139.8	139.9	140.1	140.2	140.4	140.5	140.6	140.7	140.7	140.7	140.7	139.8	140.2	140.6	140.7	140.3
2009	140.7	140.7	140.6	140.5	140.4	140.2	140.1	139.9					140.7	140.4			
Utilization (percent)																	
1987	79.0	79.9	79.9	80.2	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	83.8	84.2	84.1	84.2	84.3	84.7	84.3	84.7	84.8	85.0	83.6	84.2	84.4	84.8	84.3
1989	85.1	84.6	84.7	84.6	83.8	83.7	82.8	83.3	83.0	82.7	82.8	83.1	84.8	84.0	83.0	82.9	83.7
1990	82.5	83.1	83.3	83.0	83.0	83.1	82.8	82.9	82.9	82.2	81.0	80.3	83.0	83.1	82.9	81.2	82.5
1991	79.9	79.2	78.7	78.8	79.5	80.1	80.0	80.0	80.6	80.4	80.2	79.8	79.3	79.5	80.2	80.1	79.8
1992	79.1	79.6	80.1	80.5	80.6	80.5	81.0	80.4	80.5	80.9	81.1	80.9	79.6	80.6	80.6	81.0	80.4
1993	81.2	81.4	81.3	81.4	81.0	81.1	81.3	81.2	81.4	81.9	82.1	82.3	81.3	81.2	81.3	82.1	81.5
1994	82.5	82.3	83.0	83.2	83.4	83.7	83.6	83.7	83.6	84.1	84.3	84.9	82.6	83.4	83.6	84.4	83.5
1995	84.9	84.6	84.4	84.1	84.0	83.9	83.3	84.2	84.2	83.7	83.6	83.6	84.6	84.0	83.9	83.6	84.0
1996	82.6	83.6	83.1	83.4	83.5	83.9	83.4	83.5	83.6	83.2	83.5	83.7	83.1	83.6	83.5	83.5	83.4
1997	83.3	83.9	84.2	83.8	83.9	83.8	83.8	84.4	84.7	84.7	85.0	84.7	83.8	83.8	84.3	84.8	84.2
1998	84.6	84.1	83.6	83.5	83.6	82.6	81.8	83.1	82.4	82.6	82.1	82.0	84.1	83.2	82.4	82.2	83.0
1999	82.1	82.1	81.9	81.7	82.0	81.5	81.8	81.9	81.3	82.1	82.2	82.6	82.0	81.8	81.6	82.3	81.9
2000	82.3	82.4	82.4	82.6	82.5	82.3	81.8	81.4	81.5	80.9	80.7	80.1	82.4	82.5	81.6	80.6	81.7
2001	79.3	78.6	78.1	77.7	76.9	76.2	75.7	75.2	74.7	74.1	73.6	73.5	78.7	76.9	75.2	73.7	76.1
2002	73.7	73.6	74.1	74.2	74.5	75.2	74.9	75.0	75.0	74.9	75.2	74.9	73.8	74.7	75.0	75.0	74.6
2003	75.5	75.8	75.7	75.1	75.2	75.3	75.6	75.6	76.0	76.1	76.8	76.7	75.6	75.2	75.7	76.5	75.8
2004	77.0	77.4	76.9	77.3	77.9	77.2	77.7	77.9	77.9	78.7	78.8	79.4	77.1	77.5	77.9	79.0	77.9
2005	79.7	80.2	80.1	80.0	80.2	80.4	80.3	80.4	78.9	79.7	80.5	80.9	80.0	80.2	79.9	80.4	80.1
2006	80.9	80.8	80.8	81.0	80.8	81.1	81.1	81.2	80.8	80.6	80.3	80.9	80.8	81.0	81.1	80.6	80.9
2007	80.3	80.8	80.6	80.7	80.7	80.6	80.7	80.6	80.7	80.2	80.5	80.6	80.6	80.6	80.7	80.4	80.6
2008	80.5	80.2	79.8	79.2	78.9	78.7	78.6	77.6	74.5	75.4	74.4	72.7	80.1	78.9	76.9	74.2	77.6
2009	71.1	70.6	69.5	69.2	68.5	68.3	69.0	69.6					70.4	68.6			

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

Table 12
HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing¹

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent change)²																	
1987	-.3	1.4	.1	.5	.7	.4	.7	.5	.6	1.6	.6	.6	6.1	6.7	7.1	11.7	5.7
1988	-.2	.2	.3	.9	-.1	.1	.1	.1	.3	.5	.3	.4	2.6	4.5	1.4	4.5	5.4
1989	.8	-.9	-.1	.1	-.9	.2	-1.1	.9	-.2	-.2	.2	.1	1.8	-3.1	-2.9	.6	.8
1990	-.1	1.4	.5	-.3	.1	.2	-.2	.2	.0	-.8	-1.1	-.8	4.6	2.7	.6	-6.7	.8
1991	-.8	-.6	-.7	.3	.7	1.1	.2	.2	1.1	-.2	-.3	-.1	-8.8	2.1	7.1	1.6	-2.0
1992	-.6	.9	1.0	.5	.6	.3	.8	-.4	.1	.6	.4	-.2	.6	8.2	4.0	2.8	3.6
1993	1.1	.1	-.2	.6	-.1	-.1	.3	-.1	.6	.8	.4	.5	4.5	1.4	1.3	6.8	3.5
1994	.2	.1	1.3	.8	.7	.3	.4	.7	.3	1.0	.8	1.1	5.0	9.5	5.9	9.8	5.9
1995	.3	-.1	.2	-.1	.0	.4	-.6	1.2	.9	-.1	.1	.4	5.4	.6	3.2	4.2	5.2
1996	-.8	1.7	-.2	1.0	.7	1.1	.3	.6	.7	-.1	.8	.9	2.1	9.1	7.8	5.8	4.8
1997	.1	1.4	1.2	-.2	.9	.7	.4	1.7	.9	.6	1.1	.5	9.4	7.6	10.8	11.1	8.5
1998	.8	.0	-.1	.6	.6	-.7	-.5	2.5	-.3	.9	.2	.5	6.0	2.7	3.0	7.3	6.7
1999	.4	.7	-.1	.3	.9	-.4	.5	.8	-.3	1.6	.7	.7	5.0	4.2	3.8	9.8	5.0
2000	.1	.3	.7	.6	-.1	.2	.0	-.5	.5	-.4	-.3	-.7	5.3	4.7	-.5	-2.8	4.5
2001	-.6	-.6	-.3	-.2	-.8	-.7	-.3	-.7	-.3	-.7	-.2	.2	-6.6	-5.5	-6.3	-4.8	-4.1
2002	.4	.0	.7	.0	.7	1.1	-.4	.3	.1	-.5	.4	-.5	3.0	5.2	2.9	-.9	-.1
2003	.6	.1	.3	-1.0	.1	.5	.1	-.2	.8	.1	1.1	-.2	2.4	-2.0	2.3	4.6	1.3
2004	.1	.7	-.3	.5	.7	-.8	.8	.6	-.2	1.0	.0	.7	2.5	2.9	3.6	5.2	3.0
2005	-.7	.8	-.4	.1	.5	.2	.0	.3	-1.0	1.6	.9	.1	6.2	1.9	.5	6.6	4.0
2006	.7	-.3	-.1	.5	-.3	.3	.1	.3	-.2	-.5	-.2	1.2	3.3	1.0	1.4	-.9	2.5
2007	-.6	.3	.4	.3	.0	.3	.6	-.4	.4	-.4	.4	.3	1.7	3.2	2.4	.1	1.4
2008	-.3	-.5	-.1	-.9	-.2	-.4	-.3	-.9	-3.7	.3	-.2	-2.9	-1.2	-5.4	-9.3	-18.1	-3.2
2009	-2.8	-.1	-1.7	-.5	-.9	-.3	1.4	.6					-22.0	-9.0			
IP (2002=100)																	
2007	111.4	111.7	112.2	112.5	112.5	112.9	113.5	113.0	113.4	112.9	113.3	113.7	111.7	112.6	113.3	113.3	112.7
2008	113.4	112.8	112.7	111.7	111.5	111.0	110.8	109.7	105.7	106.0	103.6	100.6	113.0	111.4	108.7	103.4	109.1
2009	97.8	97.7	96.1	95.6	94.7	94.4	95.7	96.3					97.2	94.9			
Capacity (percent of 2002 output)																	
2007	141.3	141.5	141.8	142.0	142.3	142.6	142.9	143.2	143.4	143.7	144.0	144.2	141.5	142.3	143.1	144.0	142.7
2008	144.5	144.7	144.9	145.1	145.3	145.5	145.6	145.7	145.8	145.8	145.8	145.8	144.7	145.3	145.7	145.8	145.4
2009	145.7	145.7	145.6	145.4	145.3	145.1	144.9	144.7					145.7	145.3			
Utilization (percent)																	
1987	79.0	79.9	79.8	80.0	80.4	80.5	80.8	81.1	81.4	82.5	82.9	83.3	79.6	80.3	81.1	82.9	81.0
1988	83.0	83.1	83.3	84.0	83.8	83.9	84.0	84.0	84.2	84.6	84.7	84.9	83.2	83.9	84.0	84.7	84.0
1989	85.4	84.5	84.3	84.2	83.3	83.3	82.2	82.7	82.3	82.0	82.0	81.9	84.7	83.6	82.4	82.0	83.2
1990	81.6	82.6	82.8	82.4	82.3	82.3	82.0	82.0	81.8	81.0	80.0	79.2	82.3	82.3	81.9	80.1	81.7
1991	78.5	77.9	77.2	77.4	77.8	78.5	78.6	78.7	79.4	79.2	78.9	78.7	77.9	77.9	78.9	78.9	78.4
1992	78.0	78.6	79.2	79.4	79.7	79.8	80.2	79.7	79.6	79.9	80.0	79.7	78.6	79.6	79.8	79.8	79.5
1993	80.4	80.3	80.1	80.4	80.2	80.0	80.1	79.9	80.3	80.8	81.0	81.2	80.2	80.2	80.1	81.0	80.4
1994	81.2	81.1	82.0	82.4	82.7	82.7	82.7	83.0	83.0	83.5	83.8	84.5	81.4	82.6	82.9	83.9	82.7
1995	84.4	84.0	83.9	83.5	83.2	83.2	82.4	83.0	83.4	82.9	82.5	82.5	84.1	83.3	82.9	82.6	83.2
1996	81.4	82.3	81.7	82.1	82.2	82.6	82.4	82.5	82.6	82.1	82.3	82.5	81.8	82.3	82.5	82.3	82.2
1997	82.1	82.8	83.3	82.6	82.9	82.9	82.7	83.5	83.7	83.6	83.9	83.7	82.8	82.8	83.3	83.7	83.2
1998	83.8	83.2	82.5	82.4	82.3	81.2	80.3	81.8	81.0	81.3	81.0	81.0	83.2	82.0	81.0	81.1	81.8
1999	80.9	81.1	80.6	80.5	80.9	80.3	80.3	80.5	79.9	80.8	81.0	81.3	80.9	80.6	80.3	81.0	80.7
2000	81.0	80.9	81.1	81.3	80.8	80.7	80.3	79.6	79.6	79.0	78.5	77.7	81.0	80.9	79.9	78.4	80.1
2001	76.9	76.2	75.7	75.3	74.5	73.8	73.4	72.7	72.3	71.7	71.4	71.5	76.3	74.5	72.8	71.5	73.8
2002	71.7	71.7	72.1	72.1	72.5	73.3	73.0	73.2	73.3	72.9	73.2	72.9	71.8	72.6	73.1	73.0	72.7
2003	73.3	73.5	73.7	73.0	73.1	73.5	73.6	73.4	74.0	74.1	74.9	74.8	73.5	73.2	73.7	74.6	73.7
2004	74.8	75.4	75.2	75.6	76.1	75.5	76.2	76.6	76.5	77.2	77.2	77.6	75.1	75.7	76.4	77.3	76.2
2005	78.1	78.7	78.3	78.3	78.5	78.6	78.4	78.6	77.7	78.8	79.4	79.4	78.3	78.5	78.2	79.2	78.6
2006	79.8	79.5	79.3	79.6	79.3	79.5	79.5	79.6	79.4	78.9	78.7	79.5	79.6	79.5	79.5	79.0	79.4
2007	78.8	78.9	79.1	79.2	79.1	79.1	79.4	78.9	79.1	78.6	78.7	78.8	79.0	79.1	79.1	78.7	79.0
2008	78.5	78.0	77.8	77.0	76.7	76.3	76.1	75.3	72.5	72.7	71.1	69.0	78.1	76.7	74.6	70.9	75.1
2009	67.1	67.1	66.0	65.7	65.2	65.1	66.1	66.6					66.7	65.3			

1. Refer to note on cover page.

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

Table 13
HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Total Industry Excluding Selected High-Technology Industries¹

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent change)²																	
1987	-5	1.2	.2	.5	.6	.4	.5	.6	.2	1.4	.5	.4	4.5	6.2	6.0	9.1	4.3
1988	.0	.4	.2	.5	-1	.2	.1	.5	-4	.5	.2	.4	3.1	2.8	1.5	2.6	4.4
1989	.3	-4	.3	-1	-7	.0	-1.1	.9	-3	-2	.2	.6	1.9	-1.8	-3.3	1.0	.6
1990	-7	.9	.5	-2	.1	.2	-2	.2	.2	-8	-1.3	-7	2.3	2.3	.9	-6.7	.3
1991	-4	-7	-6	.2	1.0	1.0	.0	.0	.9	-2	-2	-5	-8.0	2.2	5.4	.5	-2.0
1992	-8	.7	.8	.6	.3	-1	.8	-6	.1	.6	.3	.0	-2.0	6.1	1.8	2.9	1.9
1993	.5	.3	-1	.3	-5	.2	.4	-1	.3	.7	.3	.5	3.2	.2	1.5	5.1	2.5
1994	.4	.0	.9	.3	.4	.6	.0	.3	.0	.6	.4	.9	4.4	5.4	3.2	5.6	4.0
1995	.2	-2	-1	-3	.0	.1	-5	1.1	.1	-5	.1	.2	3.0	-1.4	1.4	.4	2.4
1996	-1.0	1.4	-3	.7	.5	.7	-4	.4	.4	-3	.8	.5	-4	6.2	2.2	3.2	1.7
1997	-1	.9	.5	-4	.3	.2	.2	1.1	.7	.6	.7	.1	5.1	2.2	6.0	7.9	4.2
1998	.2	-1	-1	.2	.6	-9	-8	2.0	-6	.5	-3	.0	1.9	1.0	-3	2.0	3.1
1999	.2	.1	-1	-1	.6	-5	.3	.4	-5	1.2	.3	.5	.8	.3	1.2	5.8	1.2
2000	-4	-1	.1	.4	-1	.0	-5	-4	.4	-5	-2	-6	.4	1.7	-2.7	-2.7	1.1
2001	-7	.5	-3	-1	-7	-5	-3	-3	-4	-6	-4	-1	-6.3	-4.4	-4.6	-4.9	-4.0
2002	.7	-1	.8	.2	.5	.8	-4	.0	.1	-3	.4	-6	2.8	5.4	1.3	-1.0	-1
2003	.7	.1	-3	-1.0	-1	.0	.2	-1	.6	-1	.8	-1	1.5	-4.5	1.3	3.2	.2
2004	.2	.5	-6	.5	.8	-9	.7	.2	-1	.9	.3	.7	2.0	1.9	1.5	5.4	1.8
2005	.4	.6	-2	-1	.2	.3	-2	.0	-2.0	1.1	1.1	.6	5.0	.9	-2.1	2.8	2.6
2006	.0	-1	.2	.3	-2	.3	.2	.1	-4	-1	-2	.9	3.1	1.5	1.2	-9	1.5
2007	-5	.8	-3	.3	.0	-1	.2	.0	.3	-7	.5	.3	1.7	1.8	1.0	-1	.9
2008	-1	-4	-5	-7	-3	-2	.0	-1.1	-4.1	1.5	-1.1	-2.2	-6	-5.3	-9.0	-11.7	-2.8
2009	-2.3	-7	-1.7	-7	-1.0	-4	.9	.8					-18.8	-10.9			
IP (2002=100)																	
2007	106.3	107.2	106.9	107.2	107.3	107.2	107.4	107.4	107.7	107.0	107.5	107.8	106.8	107.2	107.5	107.5	107.2
2008	107.7	107.3	106.8	106.1	105.8	105.6	105.6	104.4	100.2	101.7	100.6	98.4	107.3	105.8	103.4	100.2	104.2
2009	96.1	95.4	93.8	93.2	92.2	91.8	92.7	93.4					95.1	92.4			
Capacity (percent of 2002 output)																	
2007	132.4	132.5	132.6	132.7	132.8	132.9	133.0	133.1	133.2	133.4	133.5	133.6	132.5	132.8	133.1	133.5	133.0
2008	133.8	133.9	134.0	134.2	134.3	134.4	134.5	134.6	134.7	134.7	134.7	134.7	133.9	134.3	134.6	134.7	134.4
2009	134.7	134.6	134.5	134.3	134.2	134.0	133.8	133.6					134.6	134.2			
Utilization (percent)																	
1987	79.2	80.1	80.1	80.4	80.8	81.1	81.4	81.8	81.9	83.0	83.4	83.7	79.8	80.8	81.7	83.4	81.4
1988	83.6	84.0	84.1	84.5	84.3	84.5	84.5	84.9	84.5	84.9	85.0	85.3	83.9	84.4	84.7	85.1	84.5
1989	85.4	85.0	85.2	85.0	84.2	84.1	83.1	83.7	83.3	83.0	83.0	83.4	85.2	84.4	83.3	83.1	84.0
1990	82.7	83.3	83.6	83.3	83.3	83.4	83.1	83.2	83.2	82.5	81.3	80.6	83.2	83.3	83.2	81.4	82.8
1991	80.1	79.4	78.9	78.9	79.6	80.3	80.2	80.1	80.8	80.5	80.3	79.8	79.5	79.6	80.4	80.2	79.9
1992	79.0	79.6	80.1	80.5	80.6	80.5	81.0	80.5	80.5	80.9	81.1	81.1	79.6	80.5	80.7	81.0	80.4
1993	81.4	81.6	81.4	81.6	81.1	81.2	81.4	81.3	81.5	82.0	82.1	82.4	81.5	81.3	81.4	82.2	81.6
1994	82.6	82.5	83.1	83.2	83.4	83.8	83.7	83.8	83.7	84.1	84.3	84.9	82.8	83.5	83.7	84.4	83.6
1995	84.9	84.6	84.4	84.0	83.9	83.8	83.2	84.0	84.0	83.5	83.4	83.4	84.6	83.9	83.8	83.4	83.9
1996	82.4	83.4	83.0	83.4	83.7	84.1	83.6	83.7	83.8	83.4	83.9	84.1	82.9	83.7	83.7	83.8	83.5
1997	83.8	84.3	84.5	83.9	83.9	83.8	83.7	84.3	84.6	84.8	85.0	84.8	84.2	83.9	84.2	84.9	84.3
1998	84.7	84.3	84.0	83.8	84.1	83.0	82.1	83.5	82.7	82.9	82.4	82.2	84.3	83.7	82.8	82.5	83.3
1999	82.2	82.1	81.8	81.5	81.8	81.3	81.3	81.5	81.0	81.9	81.9	82.3	82.0	81.5	81.3	82.0	81.7
2000	81.8	81.7	81.7	81.9	81.7	81.6	81.1	80.7	80.9	80.4	80.2	79.6	81.7	81.8	80.9	80.1	81.1
2001	79.0	78.5	78.1	77.9	77.3	76.8	76.5	76.2	75.8	75.3	74.9	74.7	78.5	77.4	76.2	75.0	76.7
2002	75.2	75.1	75.6	75.8	76.1	76.7	76.4	76.4	76.5	76.3	76.7	76.2	75.3	76.2	76.5	76.4	76.1
2003	76.8	77.0	76.9	76.2	76.2	76.2	76.5	76.4	76.9	76.9	77.5	77.4	76.9	76.2	76.6	77.3	76.7
2004	77.6	77.9	77.4	77.9	78.5	77.7	78.3	78.4	78.4	79.1	79.4	79.9	77.6	78.0	78.4	79.5	78.4
2005	80.2	80.7	80.6	80.5	80.7	80.9	80.7	80.7	79.1	79.9	80.7	81.1	80.5	80.7	80.2	80.5	80.5
2006	81.0	80.8	80.9	81.0	80.8	81.0	81.0	81.0	80.6	80.4	80.2	80.8	80.9	80.9	80.9	80.5	80.8
2007	80.3	80.9	80.6	80.8	80.8	80.7	80.7	80.7	80.8	80.2	80.6	80.7	80.6	80.7	80.7	80.5	80.6
2008	80.5	80.2	79.7	79.1	78.8	78.6	78.5	77.6	74.4	75.5	74.6	73.0	80.1	78.8	76.8	74.4	77.5
2009	71.4	70.9	69.8	69.4	68.7	68.5	69.2	69.9					70.7	68.9			

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

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

Table 14
HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing¹ Excluding Selected High-Technology Industries²

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent change)³																	
1987	-4	1.4	.1	.4	.6	.2	.6	.4	.5	1.5	.6	.5	4.9	5.7	5.5	10.5	4.6
1988	-2	.2	.2	.8	-.2	.1	.0	.1	.3	.5	.3	.4	2.0	3.6	.6	4.2	4.4
1989	.8	-1.0	.0	.0	-.9	.2	-1.3	.9	-.3	-.3	.1	.0	2.2	-3.4	-4.0	-.5	.4
1990	-2	1.4	.4	-.3	.1	.2	-.2	.2	-.1	-.9	-1.2	-.8	3.7	2.0	.1	-7.5	.0
1991	-8	-.7	-.8	.4	.6	1.1	.3	.1	1.1	-.2	-.3	-.3	-9.6	1.5	7.1	1.2	-2.6
1992	-.9	.9	.9	.4	.5	.1	.8	-.5	-.1	.4	.3	-.2	-1.2	6.9	2.6	1.4	2.6
1993	1.1	.0	-.3	.5	-.2	-.2	.3	-.2	.5	.8	.3	.5	4.1	.5	.5	5.7	2.5
1994	.1	.1	1.2	.5	.5	.2	.3	.5	.1	.7	.5	.9	4.0	7.1	3.7	6.9	4.4
1995	.2	-.3	-.1	-.4	-.2	.2	-.8	.9	.6	-.4	-.1	.1	3.0	-2.5	.3	.8	2.5
1996	-1.2	1.4	-.5	1.0	.5	.8	.0	.3	.5	-.4	.7	.7	-1.9	7.0	4.2	3.0	1.5
1997	-.2	1.1	.9	-.7	.5	.4	.0	1.4	.6	.5	.9	.2	6.2	2.7	6.5	8.3	4.9
1998	.6	-.2	-.3	.3	.5	-1.1	-.9	2.4	-.7	.7	-.1	.2	3.1	.1	-.6	3.8	3.5
1999	.0	.4	-.4	.0	.8	-.7	.0	.7	-.5	1.5	.4	.4	.8	.2	.4	7.2	1.4
2000	-.4	-.1	.3	.4	-.5	.1	-.3	-.8	.4	-.5	-.6	-.9	.1	.9	-3.4	-4.7	.8
2001	-.6	-.5	-.3	-.1	-.7	-.5	-.1	-.7	-.3	-.7	-.2	.1	-7.4	-4.5	-5.0	-4.8	-4.9
2002	.6	-.1	.8	-.1	.6	1.0	-.5	.2	.1	-.5	.3	-.7	3.5	4.6	1.9	-1.7	.0
2003	.6	-.1	.1	-1.1	.0	.4	-.1	-.3	.8	-.1	1.0	-.3	.7	-3.8	.8	3.6	.0
2004	-.1	.7	-.3	.5	.8	-.9	.9	.6	-.3	1.0	.0	.6	1.5	3.1	3.3	4.9	2.2
2005	-.6	.7	-.5	.0	.4	.1	-.2	.1	-1.3	1.5	.8	.0	5.5	.9	-1.2	5.1	3.2
2006	.7	-.4	-.2	.5	-.4	.2	.0	.2	-.3	-.5	-.2	1.2	2.6	.0	.3	-1.2	1.5
2007	-.7	.3	.4	.2	.0	.2	.4	-.5	.3	-.6	.3	.2	1.5	2.4	1.0	-1.2	.7
2008	-.3	-.7	-.2	-1.0	-.2	-.4	-.2	-.9	-3.8	.6	-2.0	-2.9	-2.3	-6.4	-9.3	-16.8	-4.0
2009	-2.9	.0	-1.8	-.6	-.9	-.3	1.3	.7					-21.9	-9.5			
IP (2002=100)																	
2007	106.9	107.1	107.5	107.8	107.7	107.9	108.4	107.8	108.1	107.5	107.8	108.0	107.2	107.8	108.1	107.7	107.7
2008	107.7	107.0	106.7	105.6	105.4	105.0	104.8	103.8	99.9	100.5	98.5	95.6	107.1	105.4	102.8	98.2	103.4
2009	92.9	92.9	91.2	90.7	89.9	89.6	90.7	91.4					92.3	90.0			
Capacity (percent of 2002 output)																	
2007	135.8	135.9	136.0	136.1	136.2	136.3	136.4	136.5	136.7	136.8	137.0	137.1	135.9	136.2	136.5	137.0	136.4
2008	137.3	137.5	137.6	137.8	137.9	138.1	138.2	138.3	138.3	138.4	138.3	138.3	137.5	137.9	138.3	138.3	138.0
2009	138.2	138.1	137.9	137.8	137.5	137.3	137.1	136.8					138.1	137.5			
Utilization (percent)																	
1987	79.2	80.2	80.1	80.3	80.7	80.8	81.1	81.3	81.7	82.8	83.2	83.6	79.8	80.6	81.4	83.2	81.3
1988	83.4	83.5	83.7	84.3	84.2	84.2	84.2	84.2	84.4	84.8	85.0	85.2	83.5	84.2	84.3	85.0	84.3
1989	85.9	84.9	84.8	84.7	83.8	83.7	82.5	83.1	82.7	82.3	82.3	82.1	85.2	84.1	82.8	82.2	83.6
1990	81.8	82.9	83.0	82.6	82.6	82.6	82.3	82.3	82.2	81.3	80.2	79.4	82.6	82.6	82.2	80.3	81.9
1991	78.7	78.0	77.3	77.4	77.8	78.6	78.7	78.7	79.5	79.3	78.9	78.6	78.0	78.0	79.0	78.9	78.5
1992	77.8	78.4	79.1	79.3	79.6	79.7	80.2	79.7	79.5	79.8	80.0	79.7	78.5	79.5	79.8	79.8	79.4
1993	80.5	80.5	80.2	80.5	80.3	80.0	80.2	80.0	80.3	80.8	81.0	81.3	80.4	80.3	80.2	81.0	80.5
1994	81.3	81.2	82.1	82.4	82.7	82.7	82.8	83.1	83.0	83.5	83.8	84.4	81.5	82.6	83.0	83.9	82.7
1995	84.4	84.0	83.8	83.3	83.0	83.0	82.2	82.7	83.1	82.5	82.3	82.2	84.1	83.1	82.6	82.3	83.0
1996	81.0	81.9	81.4	82.0	82.2	82.7	82.5	82.6	82.7	82.2	82.6	82.9	81.4	82.3	82.6	82.6	82.2
1997	82.5	83.1	83.6	82.7	82.8	82.8	82.5	83.3	83.5	83.5	83.9	83.7	83.1	82.7	83.1	83.7	83.1
1998	83.8	83.3	82.7	82.7	82.8	81.5	80.5	82.1	81.3	81.5	81.2	81.1	83.3	82.3	81.3	81.3	82.1
1999	80.9	81.0	80.4	80.2	80.6	79.8	79.7	80.0	79.4	80.4	80.6	80.7	80.8	80.2	79.7	80.6	80.3
2000	80.3	80.0	80.2	80.3	79.8	79.7	79.3	78.6	78.8	78.3	77.7	76.9	80.2	79.9	78.9	77.6	79.1
2001	76.3	75.8	75.5	75.4	74.8	74.3	74.2	73.6	73.4	72.8	72.7	72.8	75.9	74.8	73.7	72.7	74.3
2002	73.2	73.1	73.7	73.7	74.1	74.9	74.5	74.7	74.8	74.5	74.8	74.3	73.3	74.2	74.7	74.5	74.2
2003	74.8	74.8	74.9	74.1	74.1	74.5	74.5	74.3	74.9	74.8	75.6	75.4	74.8	74.2	74.5	75.3	74.7
2004	75.3	75.9	75.7	76.1	76.7	76.0	76.7	77.1	76.9	77.7	77.7	78.2	75.6	76.3	76.9	77.8	76.7
2005	78.6	79.2	78.7	78.7	79.0	79.1	78.9	78.9	77.9	79.0	79.5	79.4	78.8	78.9	78.5	79.3	78.9
2006	79.9	79.5	79.3	79.6	79.2	79.3	79.2	79.3	79.0	78.6	78.4	79.3	79.6	79.4	79.2	78.8	79.2
2007	78.7	78.8	79.1	79.2	79.1	79.2	79.4	78.9	79.1	78.5	78.7	78.8	78.9	79.2	79.2	78.7	79.0
2008	78.4	77.8	77.5	76.6	76.4	76.1	75.8	75.1	72.2	72.6	71.2	69.1	77.9	76.4	74.4	71.0	74.9
2009	67.2	67.2	66.1	65.8	65.3	65.2	66.2	66.8					66.8	65.5			

1. Refer to note on cover page.

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

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

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. More detailed descriptions of industrial production and capacity utilization are available on the Board's website at www.federalreserve.gov/releases/G17. In addition, the website includes files containing data shown in the release, more detailed series that are published in a monthly supplement to the G.17, and historical data. Instructions on 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 (NAICS) definition of manufacturing *plus* those industries—newspaper, periodical, book, and directory publishing plus logging—that have traditionally been considered to be manufacturing. For the period since 1997, the total IP index has been constructed from 312 individual series based on the 2002 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.htm).

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 and unit values or sales) 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 direct measures of 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 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 the *Federal Reserve Bulletins* of 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 shown below. An output index for month m is denoted by I_m^A for aggregate A and I_m for each of its components. The monthly price measure in the formula (p_m) is interpolated from an annual series of value added divided by the average annual IP index.

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

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/IPWeightsSa.txt).

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 five 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 72 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 86 percent for estimates in the second month that the estimate is published, 95 percent in the third month, 98 percent in the fourth month, 99 percent in the fifth month, and 99 percent in the sixth month. Data availability by data type in late 2008 is summarized in the table below:

Availability of Monthly IP Data in Publication Window
(Percent of value added in 2008)

Type of data	Month of estimate					
	1st	2nd	3rd	4th	5th	6th
Physical product	30	44	54	56	57	57
Production-worker hours	42	42	42	42	42	42
IP data received	72	86	95	98	99	99
IP data estimated	28	14	5	2	1	1

The physical product group includes series based on either monthly or quarterly data. As can be seen in the first row 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 (30 percent out of a total of 57 percent). Of the 30 percent, about two-thirds (19 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 fourth estimate of industrial production. Specifically, quarterly data are available for the third estimate of the last month of a quarter, the fourth estimate of the second month of a quarter, and the fifth estimate of the first month of a quarter.

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 February 2009; for other series, the factors were estimated with data through at least September 2008. Series are pre-adjusted for the effects of holidays or business cycles 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 0.26 percent during the 1987–2008 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 1987–2008 period. In most cases (about 85 percent), the direction of the 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 87 detailed industries (69 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 (NAICS) definition of manufacturing *plus* those industries—newspaper, periodical, book, and directory publishing plus logging—that have traditionally been considered to be manufacturing. Also, special aggregates are available, such as high-technology industries and manufacturing excluding high-technology 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 25 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 *Quarterly Survey of Plant Capacity* (QSPC); these industries account for a bit less than 70 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 5 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/CapNotes.htm).

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 the annual capacity aggregate 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 Census Bureau's annual Survey of Plant Capacity (the predecessor to the QSPC) 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 QSPC.

Perspective. Over the 1972–2007 period, the average total industry utilization rate is 81.0 percent; for manufacturing, the average factory operating rate has been 79.7 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.

REFERENCES AND RELEASE DATES

References. The release for the annual revision that was published on March 27, 2009 is available on the Board's website (www.federalreserve.gov/releases/g17/revisions/Current/DefaultRev.htm). A more detailed version is provided in the *Federal Reserve Bulletin*, vol. 95 (August 2009), pp. A125–A145. The annual revision published in March 2008 is described in an article published in the *Federal Reserve Bulletin*, vol. 94 (August 2008), pp. A41–A60. A summary of the annual revision that incorporated back to 1972 production and capacity indexes reclassified according to the North American Industry Classification System is available in an article in the *Federal Reserve Bulletin*, vol. 89 (April 2003), pp. 151–176. 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/CapitalStockDocLatest.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, March 2006, May 2007, August 2008).

Release Schedule

At 9:15 a.m. on

2009: January 16, February 18, March 16, April 15, May 15, June 16, July 15, August 14, September 16, October 16, November 17, and December 15.

2010: January 15, February 17, March 15, April 15, May 14, June 16, July 15, August 17, September 15, October 18, November 16, and December 15.