

# FEDERAL RESERVE statistical release



G.17 (419)

For release at 9:15 a.m. (EDT)  
October 18, 2010

## INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production decreased 0.2 percent in September after having increased 0.2 percent in August. The indexes both for manufacturing and for manufacturing excluding motor vehicles and parts also moved down 0.2 percent in September. Production at mines moved up 0.7 percent, while the output of utilities fell 1.9 percent.

(over)

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

Industrial production	2007=100						Percent change						Sept. '09 to Sept. '10
	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>	
<b>Total index</b>	91.5	92.5	92.6	93.2	93.4	93.2	.5	1.1	.1	.7	.2	-.2	5.4
<i>Previous estimates</i>	91.4	92.4	92.5	93.1	93.2		.4	1.1	.1	.6	.2		
<b>Major market groups</b>													
<b>Final Products</b>	92.5	94.2	94.3	95.3	95.0	94.8	-.3	1.9	.1	1.1	-.3	-.2	5.2
Consumer goods	92.3	94.4	94.4	95.3	94.8	94.4	-1.2	2.2	.0	1.0	-.6	-.4	3.2
Business equipment	91.2	92.7	93.4	94.4	94.7	94.8	2.2	1.6	.8	1.0	.3	.1	10.1
<b>Nonindustrial supplies</b>	84.7	85.2	85.3	85.3	85.6	84.9	1.6	.6	.1	.0	.4	-.9	3.2
Construction	79.4	79.3	79.3	78.9	79.7	79.1	4.3	-.1	.0	-.6	1.1	-.8	5.2
Materials	92.9	93.5	93.6	94.1	94.6	94.6	.9	.6	.0	.6	.6	.0	6.4
<b>Major industry groups</b>													
<b>Manufacturing (see note below)</b>	89.3	90.2	90.0	90.6	90.7	90.6	.9	1.1	-.3	.6	.1	-.2	5.4
<i>Previous estimates</i>	89.2	90.1	89.8	90.5	90.6		.8	1.0	-.4	.7	.2		
Mining	100.8	100.0	99.8	100.7	102.3	103.0	1.9	-.8	-.2	.9	1.6	.7	7.3
Utilities	95.3	99.2	101.6	102.5	101.1	99.2	-3.8	4.1	2.5	.9	-1.4	-1.9	2.8
<b>Capacity utilization</b>													
	Percent of capacity												Capacity growth
	Average 1972-2009	1988-89 high	1990-91 low	1994-95 high	2008-09 low	2009 Sept.	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>	Sept. '09 to Sept. '10
<b>Total industry</b>	80.6	85.2	78.7	85.1	68.2	70.5	73.2	74.1	74.2	74.7	74.8	74.7	-.5
<i>Previous estimates</i>							73.2	74.0	74.1	74.6	74.7		
<b>Manufacturing (see note below)</b>	79.2	85.6	77.2	84.6	65.4	68.1	71.1	71.9	71.7	72.2	72.3	72.2	-.4
<i>Previous estimates</i>							71.1	71.8	71.6	72.1	72.2		
Mining	87.4	86.4	83.6	88.9	79.6	81.8	86.0	85.3	85.2	86.0	87.3	87.8	.0
Utilities	86.7	92.9	84.3	93.3	77.6	78.6	76.6	79.6	81.5	82.1	80.9	79.4	1.7
<b>Stage-of-process groups</b>													
<b>Crude</b>	86.5	87.8	84.2	90.0	78.3	81.1	85.4	84.6	84.5	85.2	86.2	86.9	-.8
<b>Primary and semifinished</b>	81.6	86.6	77.9	87.9	65.7	67.6	70.2	71.6	71.9	72.2	72.1	71.5	-.7
<b>Finished</b>	77.5	83.4	77.3	80.5	67.5	70.4	72.5	73.4	73.1	73.8	73.9	73.8	.6

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.

For the third quarter as a whole, total industrial production rose at an annual rate of 4.8 percent after having advanced about 7 percent in both the first and second quarters of this year. The index for manufacturing decelerated sharply in the third quarter: After having jumped at an annual rate of 9.1 percent in the second quarter, factory output gained 3.6 percent in the third quarter. At 93.2 percent of its 2007 average, total industrial production in September was 5.4 percent above its year-earlier level. The capacity utilization rate for total industry edged down to 74.7 percent, a rate 4.2 percentage points above the rate from a year earlier but 5.9 percentage points below its average from 1972 to 2009.

### Market Groups

The output of consumer goods declined 0.4 percent in September. The index for consumer durables decreased 0.9 percent. Within durables, the output of automotive products fell 1.0 percent, the index for appliances, furniture, and carpeting dropped 1.9 percent after a similarly sized decline in August, and the production of miscellaneous goods declined for a second consecutive month. The output of home electronics rose 0.6 percent. The production of nondurable consumer goods moved down 0.2 percent; a fall of 1.9 percent in the energy category, which primarily resulted from a decrease in the index for residential utilities, more than offset an increase in the non-energy category. Within non-energy nondurables, the indexes for foods and tobacco and for clothing moved up, while the indexes for chemical products and for paper products moved down. The output of consumer goods increased faster in the third quarter than in the second quarter, a pickup that reflected unusually strong summer sales by utilities and a jump in the output of consumer automotive products.

The output of business equipment edged up 0.1 percent in September and was 10.1 percent above its year-earlier level. The index for transit equipment advanced 1.8 percent and offset a decline in the production of information processing equipment; the output of industrial and other equipment was unchanged. For the third quarter, the output of business equipment rose at an annual rate of 9.8 percent. This increase was slower than in the second quarter due to substantial decelerations in the indexes for information processing equipment and for industrial and other equipment. In contrast, the output of transit equipment jumped at an annual rate of 33.4 percent in the third quarter after having fallen the previous two quarters.

The index for defense and space equipment declined 0.2 percent in September after a 0.5 percent decrease in August.

The production of construction supplies retreated 0.8 percent in September after having advanced 1.1 percent in August. The index for business supplies decreased 0.9 percent in September, with declines in both the energy and non-energy categories.

In September, the production of materials was unchanged from August. A decrease in the output of durable materials offset increases in the indexes for nondurable materials and for energy materials. The decrease in durable materials was its first decline since June 2009, and the indexes for all of its major categories moved down. For the third quarter as a whole, the output of materials rose 4.9 percent, somewhat less than the 7.5 percent advance recorded in the second quarter; relative to the second quarter, slower increases in durable materials more than offset faster gains for nondurable materials and for energy materials.

### Industry Groups

Production in manufacturing moved down 0.2 percent in September, and the factory operating rate edged down to 72.2 percent, a rate 7.0 percentage points below its 1972 to 2009 average. The output of durable goods declined 0.2 percent in September, with decreases in most major categories, including a 0.7 percent decrease in the output of machinery. Production for only two major components of durables advanced: The indexes for

motor vehicles and parts and for miscellaneous manufacturing each rose 0.5 percent.

The index for nondurable goods moved up 0.1 percent in September after having risen 0.9 percent in August. Food, beverage, and tobacco products posted the largest increase, and the indexes for apparel and leather, for paper, and for chemicals also rose. Categories that recorded declines included printing, petroleum and coal products, and plastics and rubber products. The index for other manufacturing (non-NAICS), which consists of publishing and logging, fell 1.7 percent.

Mining production moved up 0.7 percent in September, and the utilization rate rose to 87.8 percent, a rate 0.4 percentage point above its 1972 to 2009 average. The index for utilities fell 1.9 percent; the output of both electric and gas utilities declined for a second consecutive month. The operating rate for utilities fell 1.5 percentage points, to 79.4 percent.

Capacity utilization rates at industries grouped by stage of process were as follows: For the crude stage, the operating rate increased 0.7 percentage point, to 86.9 percent, a rate that was 0.4 percentage point above its 1972 to 2009 average; for the primary and semifinished stages, utilization declined 0.6 percentage point, to 71.5 percent, a rate 10.1 percentage points below its long-run average; and for the finished stage, utilization decreased 0.1 percentage point, to 73.8 percent, a rate 3.7 percentage points below its long-run average.

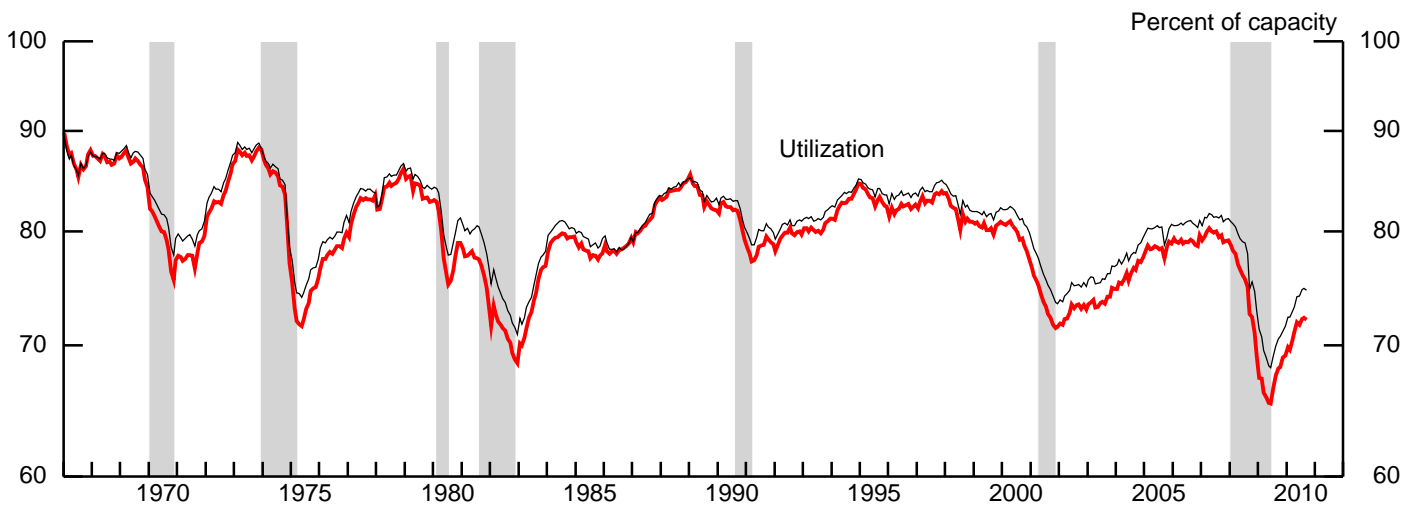
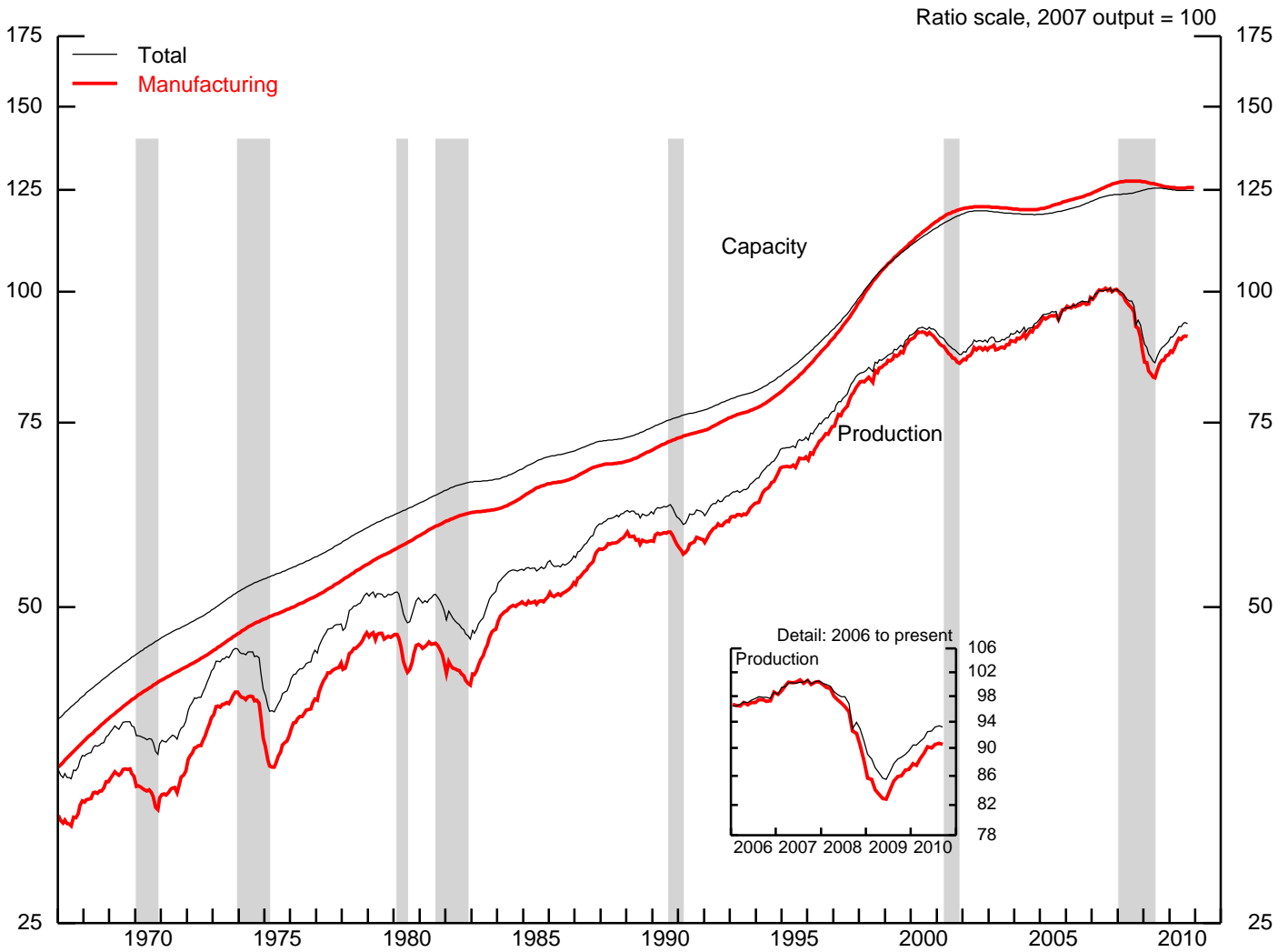
**Note:** With this release, seasonal factors for motor vehicle assemblies were revised for the period beginning in April 2010.

#### 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
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11. Historical Statistics: Total Industry
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14. Historical Statistics: Manufacturing Excluding Selected High-Technology Industries

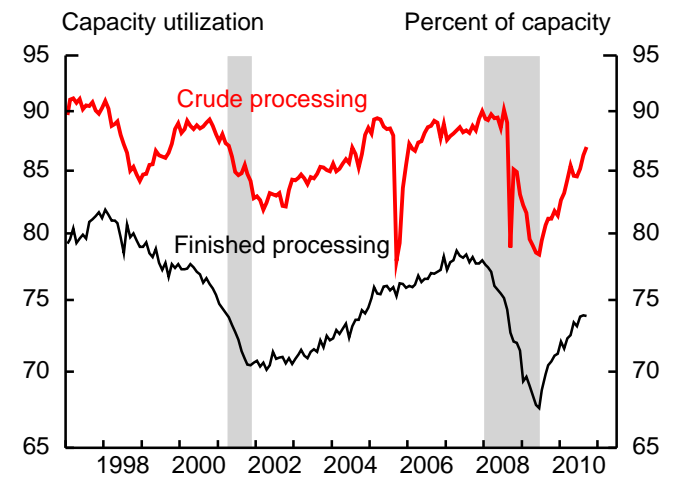
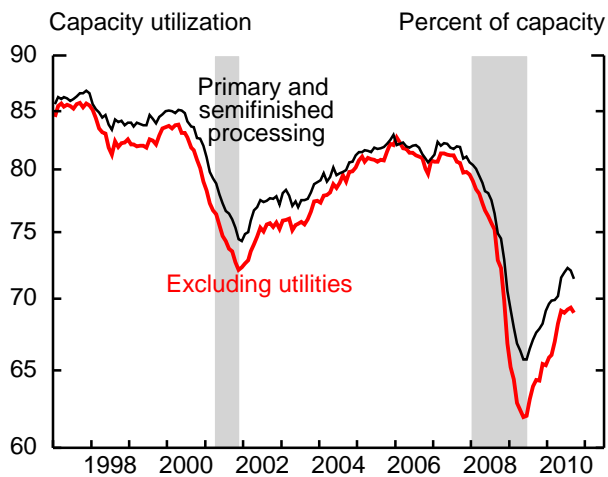
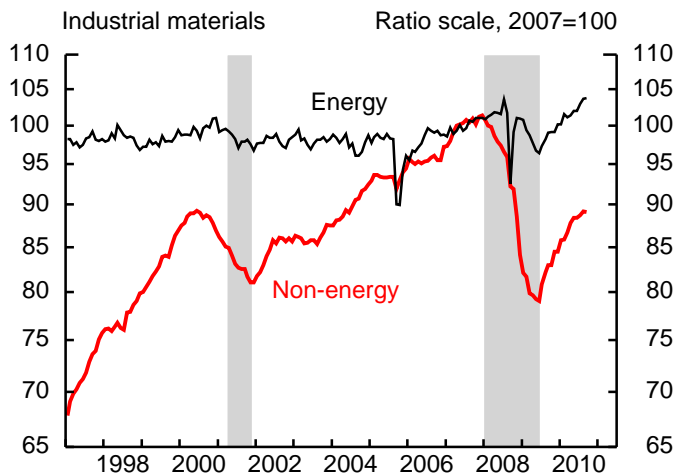
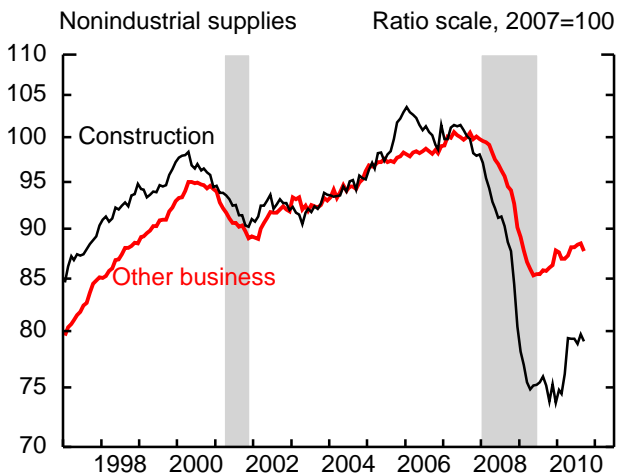
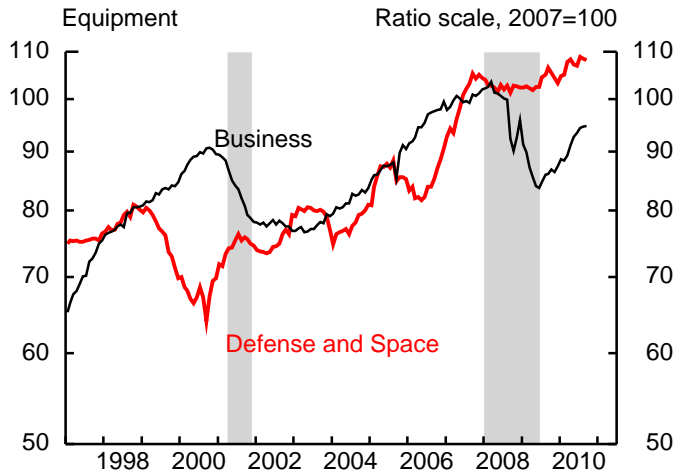
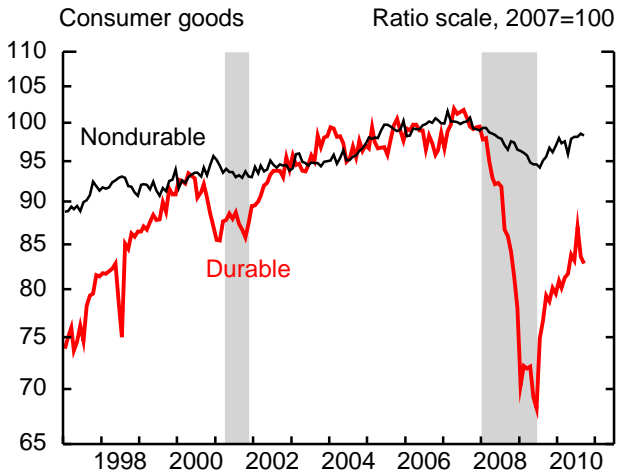
Further detail is available on the Board's website ([www.federalreserve.gov/releases/G17/](http://www.federalreserve.gov/releases/G17/)).

# 1. Industrial production, capacity, and utilization



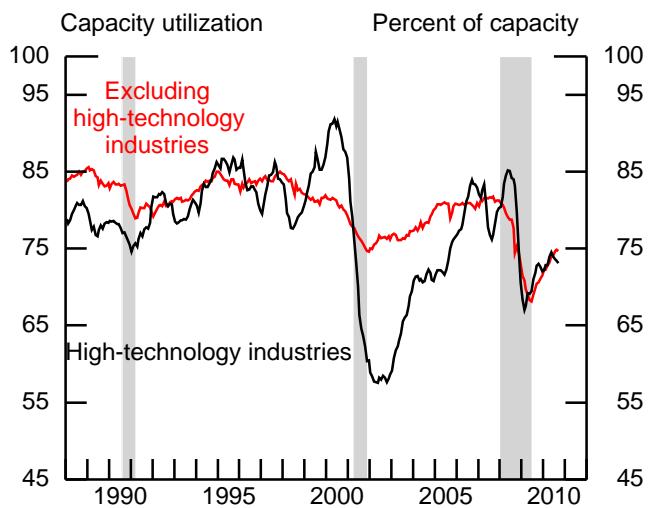
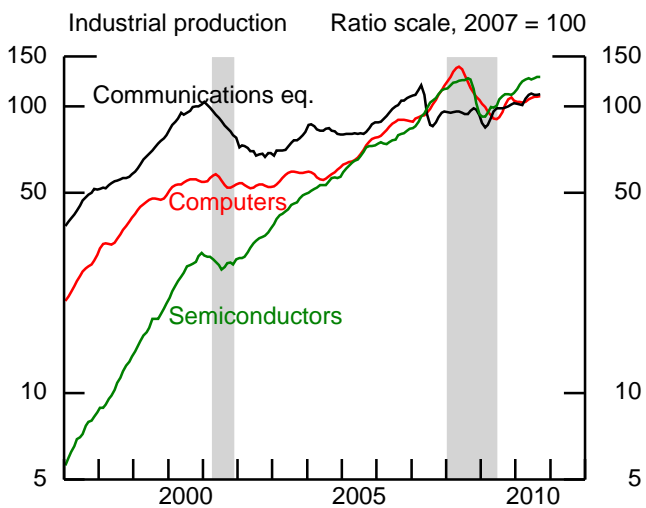
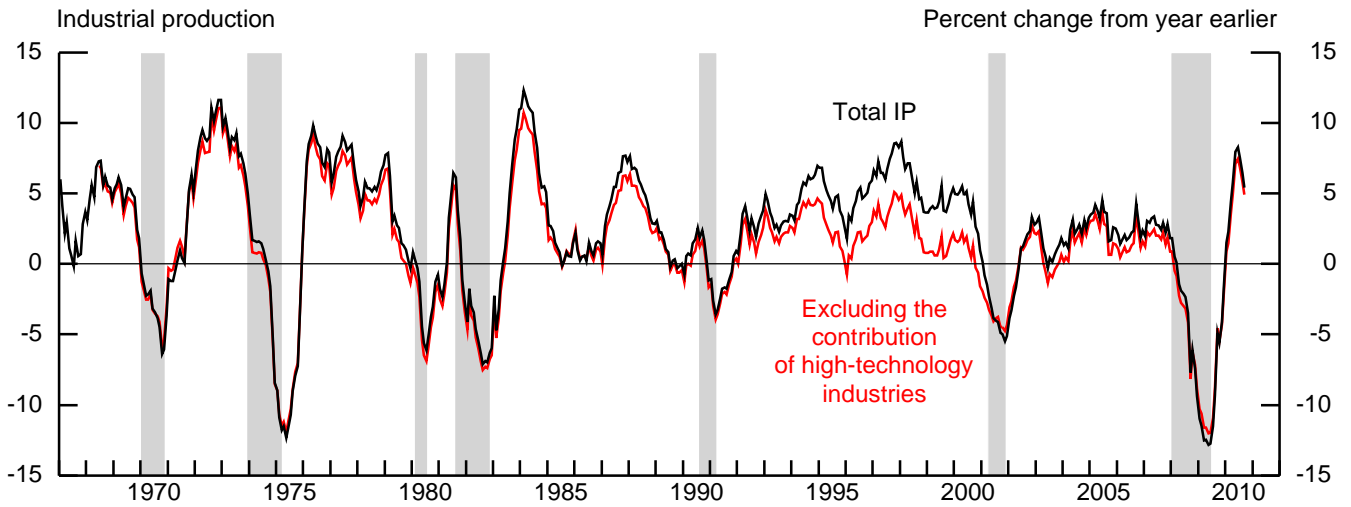
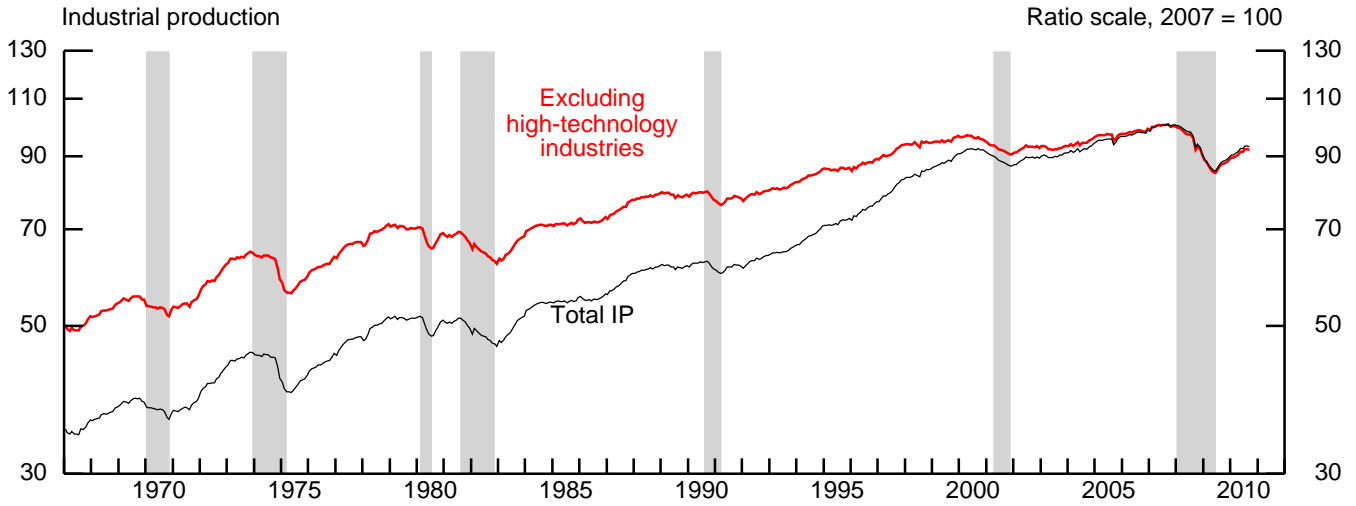
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

## 2. Industrial production and capacity utilization



Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

### 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	2009 proportion <sup>1</sup>	Fourth quarter to fourth quarter			Annual rate			Monthly rate						Sept. '09 to Sept. '10	
		2007	2008	2009	2010 Q1	Q2 <sup>r</sup>	Q3 <sup>p</sup>	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>		
<b>Total IP</b>	100.00	2.3	-7.6	-3.8	7.1	7.0	4.8	.5	1.1	.1	.7	.2	-.2	5.4	
<b>MARKET GROUPS</b>															
<b>Final products and nonindustrial supplies</b>	56.32	.9	-7.2	-4.2	5.7	6.6	4.7	.2	1.5	.1	.8	-.1	-.4	4.6	
<b>Consumer goods</b>	29.00	-.3	-6.1	-.9	4.7	1.2	5.1	-1.2	2.2	.0	1.0	-.6	-.4	3.2	
<b>Durable</b>	5.97	2.5	-18.3	-2.1	6.6	10.9	7.8	.5	2.7	-.8	4.6	-3.9	-.9	4.4	
Automotive products	2.72	7.2	-24.1	6.0	14.5	4.8	17.3	-1.5	4.3	-1.0	8.4	-6.5	-1.0	5.1	
Home electronics	.34	18.8	-3.4	2.4	-36.3	9.8	6.4	2.1	2.1	1.1	.6	-.9	.6	-3.0	
Appliances, furniture, carpeting	.96	-4.4	-18.8	-10.5	2.9	13.5	-9.4	2.3	-1.6	-.8	.5	-1.8	-1.9	.0	
Miscellaneous goods	1.95	-3.8	-11.1	-9.9	5.9	20.3	2.5	2.6	2.3	-.8	1.2	-1.0	-.4	6.6	
<b>Nondurable</b>	23.04	-1.2	-2.0	-.5	4.2	-1.3	4.3	-1.7	2.1	.2	.1	.4	-.2	2.8	
Non-energy	18.14	-2.4	-3.0	-.4	2.0	1.9	1.5	-.5	1.5	-.9	-.5	1.4	.2	2.8	
Foods and tobacco	9.55	-2.3	-3.6	.5	5.1	8.1	8.5	-.5	2.7	-.6	-.2	2.3	.8	7.7	
Clothing	.28	-24.3	-6.1	-13.6	29.9	.3	-1.1	.3	.4	-.7	-2.2	2.9	1.1	7.1	
Chemical products	5.90	-1.1	-1.7	.1	-.2	-6.2	-6.5	-.5	-.5	-.9	-1.0	.3	-.4	-2.8	
Paper products	1.84	-2.1	-5.2	-5.2	-8.4	-2.8	-6.7	-.6	1.7	-1.4	-.9	.1	-1.5	-5.1	
Energy	4.89	2.6	1.6	-.9	12.9	-12.3	14.7	-6.2	4.4	4.1	2.0	-3.0	-1.9	3.1	
<b>Business equipment</b>	9.76	2.8	-8.3	-6.4	9.0	17.6	9.8	2.2	1.6	.8	1.0	.3	.1	10.1	
Transit	1.82	1.4	-27.1	11.1	-10.9	-1.7	33.4	-1.9	1.0	.9	5.2	.9	1.8	3.2	
Information processing	2.92	4.6	.7	-.9	12.4	21.8	10.4	2.2	2.4	.4	1.5	.2	-.6	12.1	
Industrial and other	5.02	2.5	-6.4	-14.3	15.0	22.3	2.4	3.5	1.3	1.0	-.6	.2	.0	11.6	
<b>Defense and space equipment</b>	2.20	17.8	-1.9	1.8	5.8	6.5	3.7	.5	-1.0	-.3	1.8	-.5	-.2	1.6	
<b>Construction supplies</b>	4.49	-1.7	-14.2	-11.8	4.8	24.4	-.6	4.3	-.1	.0	-.6	1.1	-.8	5.2	
<b>Business supplies</b>	10.39	1.3	-7.6	-6.0	2.1	3.2	1.6	.4	.9	.1	.3	.2	-.9	2.3	
<b>Materials</b>	43.68	4.0	-8.2	-3.2	8.9	7.5	4.9	.9	.6	.0	.6	.6	.0	6.4	
<b>Non-energy</b>	26.75	5.0	-12.6	-4.8	10.6	10.2	3.7	1.3	.7	.0	.4	.5	-.1	7.4	
<b>Durable</b>	15.69	6.2	-12.1	-9.1	14.5	17.1	4.5	2.0	1.4	.1	.6	.1	-.3	9.7	
Consumer parts	2.07	-2.9	-23.6	-7.7	7.9	19.9	9.9	.5	4.0	.2	4.8	-5.4	-.2	9.1	
Equipment parts	6.11	15.9	-5.7	-8.1	17.3	15.3	6.8	1.5	.9	.4	.5	.9	-.1	9.9	
Other	7.51	2.5	-13.1	-10.4	14.3	17.8	1.3	2.8	1.0	-.2	-.4	1.2	-.5	9.8	
<b>Nondurable</b>	11.06	3.2	-13.5	2.1	5.2	.7	2.5	.4	-.4	.0	.0	1.0	.3	4.1	
Textile	.41	-9.2	-16.4	-2.2	5.2	13.2	12.0	1.6	2.0	-.4	3.0	-.3	-1.1	18.1	
Paper	2.19	-.7	-11.3	-5.6	1.5	4.7	.1	.5	-.5	.4	.1	-.3	.2	2.4	
Chemical	5.08	6.7	-18.0	9.5	7.1	-1.4	2.7	.7	-1.2	-.2	.3	.8	1.1	4.4	
<b>Energy</b>	16.93	2.1	-.6	-.9	6.1	3.3	6.8	.3	.6	.0	1.0	.7	.1	4.7	
<b>INDUSTRY GROUPS</b>															
<b>Manufacturing</b>	75.40	2.6	-10.0	-4.1	6.2	9.1	3.6	.9	1.1	-.3	.6	.1	-.2	5.4	
<b>Manufacturing (NAICS)</b>	<b>31-33</b>	71.66	2.8	-10.0	-3.7	7.1	9.6	4.0	1.0	1.0	-.2	.7	.2	-.1	5.9
<b>Durable manufacturing</b>	37.47	5.2	-11.3	-6.3	9.3	15.1	5.6	1.7	1.4	.1	1.3	-.5	-.2	7.6	
Wood products	321	.97	-4.5	-20.9	-10.7	1.9	21.2	-18.0	5.5	.7	-4.0	-2.0	-.6	-1.3	
Nonmetallic mineral products	327	1.87	-2.4	-15.9	-11.8	-2.2	20.6	5.1	5.1	-.8	.4	1.2	.1	.0	
Primary metal	331	1.97	10.9	-23.2	-3.1	33.7	18.3	-19.8	2.0	.0	.7	-5.8	.1	-1	
Fabricated metal products	332	5.77	3.3	-7.1	-11.1	7.1	18.1	15.3	1.8	1.7	1.2	1.4	1.5	-.4	
Machinery	333	4.81	3.0	-8.2	-19.1	20.8	28.8	4.4	4.1	2.4	1.3	-.2	-.1	-7	
Computer and electronic products	334	7.20	15.4	-2.6	1.7	14.6	20.5	8.1	1.9	1.9	.0	1.2	.4	-4	
Electrical equip., appliances, and components	335	1.96	3.2	-5.6	-10.4	11.4	12.9	1.7	2.9	-1.4	.5	-.2	1.4	-.7	
Motor vehicles and parts	3361-3	3.54	-2.7	-27.5	1.4	13.7	9.2	28.3	-1.6	5.6	-.9	9.6	-6.3	.5	
Aerospace and miscellaneous transportation equipment	3364-9	4.62	17.5	-13.2	2.6	-4.6	-4.0	2.4	-.5	-1.9	.3	1.3	-.2	-.4	
Furniture and related products	337	1.29	-1.4	-16.3	-15.2	-1.3	16.1	-3.0	1.0	.7	.2	-.1	-1.3	-.5	
Miscellaneous	339	3.47	-1.6	-.2	-2.9	-2.2	8.0	-.7	1.4	1.7	-1.8	1.1	-1.1	.5	
<b>Nondurable manufacturing</b>	34.20	.0	-8.5	-.6	4.8	3.7	2.2	.2	.6	-.5	.0	.9	.1	4.1	
Food, beverage, and tobacco products	311,2	11.38	-1.2	-3.3	.0	5.4	6.1	8.6	-.5	2.1	-.4	-.2	2.4	.7	
Textile and product mills	313,4	.73	-11.3	-15.1	-5.5	4.2	6.6	7.8	.8	1.7	-.9	2.3	-.4	-2	
Apparel and leather	315,6	.34	-23.1	-14.9	-13.9	25.7	-3.3	2.4	.2	-.3	-.1	-1.3	2.8	.5	
Paper	322	2.54	-.3	-13.2	-.3	6.8	3.0	-.2	-.6	.1	.5	-.4	-.1	.1	
Printing and support	323	1.81	.4	-9.2	-14.0	-7.4	6.2	-.7	1.4	1.9	-.8	-1.0	1.9	-1.3	
Petroleum and coal products	324	2.43	.7	-4.4	-1.5	-6.9	26.8	3.7	2.2	-.4	.4	2.3	-2.1	-.3	
Chemical	325	12.28	3.2	-10.4	3.9	5.4	-5.3	-2.8	-.2	-.7	-.8	-.3	.6	.1	
Plastics and rubber products	326	2.70	-.6	-15.0	-8.8	13.4	17.0	.5	2.8	.9	-1.4	1.1	.0	-.9	
<b>Other manufacturing (non-NAICS)</b>	<b>1133,5111</b>	3.74	-2.4	-9.1	-11.3	-10.1	-.3	-4.6	-.7	2.3	-1.5	-.2	-.2	-1.7	
<b>Mining</b>	<b>21</b>	12.96	.1	-.3	-4.5	7.7	11.0	7.3	1.9	-.8	-.2	.9	1.6	.7	
<b>Utilities</b>	<b>2211,2</b>	11.64	3.1	-.3	-1.4	11.7	-9.7	9.5	-3.8	4.1	2.5	.9	-1.4	-1.9	
Electric	2211	10.00	3.4	-1.4	-1.7	13.6	-6.2	7.8	-2.5	2.9	2.7	.8	-1.4	-2.0	
Natural gas	2212	1.64	1.6	4.9	.6	.5	-29.1	21.3	-12.2	12.6	1.5	1.3	-1.4	-.9	

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NOTE. Under the industry groups, the figures to the right of the series descriptions are 2002 North American Industry Classification System (NAICS) codes. The abbreviation pt denotes part of a NAICS code. Additional industry detail is available on the Board's web site ([www.federalreserve.gov/releases/G17](http://www.federalreserve.gov/releases/G17)). Under market groups, in the products category, miscellaneous consumer nondurables, oil and gas drilling, and manufactured homes are not shown separately; in the nondurable materials category, containers and miscellaneous nondurable materials are not shown separately.

1. The proportion data are the relative weights for the rates of change for each series in the computation of the change in total industrial production in the following year.

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

Percent change, seasonally adjusted

Item	2009 proportion	Fourth quarter to fourth quarter			Annual rate			Monthly rate						Sept. '09 to Sept. '10	
		2007	2008	2009	2010 Q1	Q2 <sup>r</sup>	Q3 <sup>p</sup>	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>		
<b>Total industry</b>	100.00	2.3	-7.6	-3.8	7.1	7.0	4.8	.5	1.1	.1	.7	.2	-.2	5.4	
<b>Energy</b>	25.33	2.2	.0	-2.0	8.9	.3	7.9	-9	1.2	.9	1.1	-.1	-.4	4.9	
Consumer products	4.89	2.6	1.6	-.9	12.9	-12.3	14.7	-6.2	4.4	4.1	2.0	-3.0	-1.9	3.1	
Commercial products	3.07	2.3	-.5	-.1	5.3	-1.5	4.3	-.4	-.1	2.0	.4	-.2	-1.4	2.0	
Oil and gas well drilling	213111	.44	-1.0	6.9	-42.3	131.4	51.3	2.9	5.1	.8	-4.7	1.1	3.3	1.4	54.8
Converted fuel	4.32	5.9	-5.1	-.5	12.6	-.6	4.3	-1.0	3.4	.4	1.4	-1.7	-1.8	4.2	
Primary energy	12.61	.9	.8	-1.1	3.6	4.8	7.5	.7	-.3	-.1	.8	1.4	.6	4.7	
<b>Non-energy</b>	74.67	2.3	-10.2	-4.4	6.5	9.4	3.7	1.0	1.1	-.2	.6	.3	-.1	5.6	
<b>Selected high-technology industries</b>	3.92	21.4	-5.2	4.0	13.8	21.3	6.1	2.4	1.6	.1	.4	.5	.3	12.5	
Computers and peripheral equipment	3341	.92	27.5	-4.9	-2.0	-9.5	8.3	10.4	.8	1.7	1.4	.6	.4	7.7	
Communications equipment	3342	1.00	-11.5	2.2	5.1	1.3	31.8	4.1	5.0	3.0	1.1	-.8	.0	11.5	
Semiconductors and related electronic components	334412-9	2.00	37.7	-8.2	6.5	33.1	22.3	5.4	1.9	.9	-.9	.9	.3	15.0	
<b>Excluding selected high-technology industries</b>	70.75	1.2	-10.5	-4.9	6.1	8.7	3.6	1.0	1.1	-.3	.6	.3	-.2	5.2	
<b>Motor vehicles and parts</b>	3361-3	3.54	-2.7	-27.5	1.4	13.7	9.2	28.3	-1.6	5.6	-.9	9.6	-6.3	.5	10.4
Motor vehicles	3361	1.48	-1.6	-31.5	5.2	16.0	7.4	53.8	-3.8	8.1	-1.6	17.0	-9.4	.2	12.1
Motor vehicle parts	3363	1.81	-3.6	-20.7	-2.9	9.3	6.2	7.7	-.1	2.5	-.8	3.8	-3.9	1.2	6.5
<b>Excluding motor vehicles and parts</b>	67.22	1.5	-9.3	-5.3	5.6	8.7	2.2	1.1	.8	-.2	.0	.7	-.2	4.9	
Consumer goods	21.54	-2.1	-5.3	-2.3	2.7	4.4	1.6	.0	1.4	-.8	-.2	.9	.1	3.3	
Business equipment	8.24	5.3	-8.3	-6.1	9.4	14.9	3.9	2.2	.9	.5	.2	.3	-.3	7.4	
Construction supplies	4.45	-1.8	-14.3	-12.0	4.8	24.3	-.6	4.3	-.2	.0	-.6	1.1	-.8	5.1	
Business supplies	7.08	.4	-10.2	-8.8	-.3	4.6	.3	.7	1.3	-.8	.2	.3	-.8	1.9	
Materials	23.70	3.2	-11.9	-5.7	8.9	9.1	3.1	1.3	.4	.2	.1	.8	-.2	6.6	
<b>Measures excluding selected high-technology industries</b>															
Total industry	96.08	1.4	-7.8	-4.1	6.8	6.4	4.7	.4	1.1	.1	.7	.2	-.2	5.1	
Manufacturing <sup>1</sup>	71.48	1.5	-10.3	-4.5	5.8	8.4	3.4	.8	1.1	-.3	.7	.1	-.2	5.0	
Durable	33.69	3.3	-12.1	-7.5	8.8	14.4	5.4	1.7	1.4	.1	1.4	-.6	-.3	7.0	
<b>Measures excluding motor vehicles and parts</b>															
Total industry	96.46	2.6	-6.6	-4.0	6.8	6.9	3.9	.6	1.0	.1	.3	.5	-.3	5.2	
Manufacturing <sup>1</sup>	71.86	2.9	-8.8	-4.4	5.8	9.1	2.3	1.1	.8	-.2	.1	.5	-.2	5.2	
Durable	34.07	6.4	-9.0	-7.1	8.8	15.9	3.0	2.1	.9	.2	.3	.2	-.4	7.2	
<b>Measures excluding selected high-technology industries and motor vehicles and parts</b>															
Total industry	92.54	1.7	-6.7	-4.4	6.5	6.3	3.8	.5	.9	.1	.3	.5	-.3	4.9	
Manufacturing <sup>1</sup>	67.95	1.8	-9.0	-4.9	5.3	8.4	2.1	1.0	.8	-.2	.1	.5	-.2	4.7	
<b>Stage-of-process components of non-energy materials, measures of the input to</b>															
Finished processors	10.78	6.8	-11.4	-7.3	11.6	14.0	6.3	1.1	1.3	.3	1.4	-.7	-.1	8.5	
Primary and semifinished processors	15.96	3.8	-13.5	-3.0	9.9	7.7	1.9	1.5	.2	-.2	-.3	1.3	.0	6.7	

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1. Refer to note on cover page.

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

Millions of units, seasonally adjusted annual rate

Item	2009 average	2009 Q4	2010 Q1	Q2	Q3	2010 Apr.	May	June	July	Aug.	Sept.
<b>Total</b>	5.71	7.23	7.47	7.57	8.20	7.21	7.83	7.67	8.69	7.90	8.00
Autos	2.20	2.76	2.79	2.88	2.72	2.75	3.05	2.83	2.76	2.74	2.66
Trucks	3.51	4.47	4.68	4.69	5.47	4.46	4.78	4.84	5.93	5.16	5.33
Light	3.38	4.32	4.55	4.56	5.32	4.34	4.65	4.70	5.78	5.00	5.18
Medium and heavy	.13	.15	.13	.13	.15	.12	.13	.14	.15	.15	.16
<b>Memo</b>											
Autos and light trucks	5.58	7.08	7.34	7.44	8.04	7.09	7.70	7.54	8.54	7.75	7.84

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



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

2007 = 100, seasonally adjusted

Item	2009 proportion	2010 Jan.	Feb.	Mar.	Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>
<b>Total IP</b>	100.00	90.5	90.5	91.0	91.5	92.5	92.6	93.2	93.4	93.2
<b>MARKET GROUPS</b>										
<b>Final products and nonindustrial supplies</b>	56.32	89.9	89.4	90.1	90.3	91.7	91.8	92.5	92.4	92.0
<b>Consumer goods</b>	29.00	93.7	93.0	93.4	92.3	94.4	94.4	95.3	94.8	94.4
<b>Durable</b>	5.97	80.9	80.2	81.3	81.6	83.8	83.2	87.0	83.6	82.8
Automotive products	2.72	83.1	81.7	82.7	81.4	84.9	84.1	91.1	85.1	84.3
Home electronics	.34	99.8	97.2	96.3	98.3	100.4	101.5	102.1	101.1	101.7
Appliances, furniture, carpeting	.96	70.9	71.6	73.7	75.4	74.2	73.6	74.0	72.6	71.2
Miscellaneous goods	1.95	79.7	79.5	80.4	82.6	84.5	83.9	84.8	84.0	83.6
<b>Nondurable</b>	23.04	98.0	97.3	97.5	95.9	97.9	98.1	98.2	98.5	98.3
Non-energy	18.14	96.3	95.5	96.2	95.8	97.2	96.4	95.9	97.2	97.4
Foods and tobacco	9.55	96.3	96.4	97.6	97.1	99.7	99.1	98.9	101.2	102.0
Clothing	.28	79.7	79.8	79.4	79.7	80.0	79.5	77.7	79.9	80.8
Chemical products	5.90	99.5	97.7	97.9	97.4	97.0	96.0	95.1	95.4	95.0
Paper products	1.84	87.5	86.1	85.8	85.3	86.7	85.5	84.7	84.8	83.5
Energy	4.89	104.2	103.8	102.1	95.8	100.1	104.2	106.3	103.1	101.1
<b>Business equipment</b>	9.76	88.6	88.4	89.3	91.2	92.7	93.4	94.4	94.7	94.8
Transit	1.82	81.5	79.7	81.2	79.7	80.5	81.2	85.4	86.2	87.8
Information processing	2.92	103.3	103.9	105.3	107.6	110.1	110.6	112.2	112.5	111.8
Industrial and other	5.02	83.5	83.5	84.0	87.0	88.1	88.9	88.4	88.6	88.6
<b>Defense and space equipment</b>	2.20	104.7	105.1	107.8	108.3	107.3	107.0	108.9	108.4	108.2
<b>Construction supplies</b>	4.49	74.8	74.4	76.1	79.4	79.3	79.3	78.9	79.7	79.1
<b>Business supplies</b>	10.39	87.6	86.9	87.0	87.3	88.1	88.1	88.4	88.5	87.7
<b>Materials</b>	43.68	91.2	91.7	92.1	92.9	93.5	93.6	94.1	94.6	94.6
<b>Non-energy</b>	26.75	85.7	85.8	86.6	87.8	88.4	88.4	88.7	89.1	89.1
<b>Durable</b>	15.69	83.2	83.4	84.6	86.3	87.5	87.6	88.1	88.2	87.9
Consumer parts	2.07	68.5	68.8	70.1	70.4	73.3	73.4	76.9	72.7	72.6
Equipment parts	6.11	93.9	94.6	96.1	97.6	98.5	98.9	99.4	100.3	100.2
Other	7.51	80.5	80.3	81.3	83.6	84.4	84.2	83.9	84.8	84.4
<b>Nondurable</b>	11.06	89.6	89.6	89.7	90.0	89.7	89.6	89.6	90.5	90.8
Textile	.41	78.3	79.2	79.1	80.4	82.0	81.7	84.2	84.0	83.0
Paper	2.19	83.9	83.8	84.9	85.3	84.9	85.2	85.3	85.0	85.2
Chemical	5.08	91.9	91.4	91.5	92.1	91.0	90.8	91.1	91.8	92.8
<b>Energy</b>	16.93	100.2	101.6	101.1	101.4	102.0	102.0	103.0	103.7	103.8
<b>INDUSTRY GROUPS</b>										
<b>Manufacturing</b>	75.40	87.8	87.5	88.5	89.3	90.2	90.0	90.6	90.7	90.6
<b>Manufacturing (NAICS)</b>	<b>31-33</b>	71.66	88.3	88.1	89.1	90.0	90.9	90.7	91.4	91.5
<b>Durable manufacturing</b>	37.47	85.7	85.5	86.7	88.2	89.4	89.5	90.7	90.2	90.0
Wood products	321	.97	69.2	67.2	68.6	72.3	72.8	69.9	68.5	68.0
Nonmetallic mineral products	327	1.87	72.9	70.8	72.0	75.7	75.1	75.4	76.3	76.3
Primary metal	331	1.97	81.8	82.5	84.5	86.3	86.3	86.9	81.8	81.8
Fabricated metal products	332	5.77	83.3	83.3	84.3	85.9	87.3	88.4	89.6	90.9
Machinery	333	4.81	78.2	78.4	78.7	81.9	83.9	84.9	84.7	84.0
Computer and electronic products	334	7.20	107.0	108.5	110.3	112.4	114.5	114.5	115.9	115.9
Electrical equip., appliances, and components	335	1.96	86.3	85.7	87.2	89.8	88.5	88.9	88.8	90.1
Motor vehicles and parts	3361-3	3.54	73.5	71.7	73.2	72.0	76.0	75.3	82.5	77.3
Aerospace and miscellaneous transportation equipment	3364-9	4.62	92.2	91.9	92.9	92.5	90.7	91.0	92.2	92.0
Furniture and related products	337	1.29	69.5	70.0	72.1	72.8	73.3	73.5	73.4	72.5
Miscellaneous	339	3.47	97.2	96.0	96.6	97.9	99.6	97.8	98.9	97.8
<b>Nondurable manufacturing</b>	34.20	91.3	91.2	91.9	92.1	92.7	92.2	92.2	93.1	93.2
Food, beverage, and tobacco products	311,2	11.38	96.6	96.7	97.7	97.2	99.3	98.9	98.7	101.1
Textile and product mills	313,4	.73	76.9	77.1	77.0	77.6	78.9	78.2	80.0	79.6
Apparel and leather	315,6	.34	70.7	70.2	69.6	69.8	69.6	69.5	68.6	70.5
Paper	322	2.54	87.2	88.3	89.3	88.7	88.8	89.2	88.9	88.8
Printing and support	323	1.81	77.1	76.0	75.6	76.6	78.1	77.4	76.6	77.0
Petroleum and coal products	324	2.43	88.5	91.6	95.6	97.7	97.3	97.7	99.9	97.8
Chemical	325	12.28	95.4	94.2	94.2	94.1	93.4	92.6	92.3	92.8
Plastics and rubber products	326	2.70	78.6	79.1	80.1	82.3	83.1	81.9	82.8	82.1
<b>Other manufacturing (non-NAICS)</b>	<b>1133,5111</b>	3.74	78.1	76.4	76.8	76.3	78.1	76.9	76.7	75.2
<b>Mining</b>	<b>21</b>	12.96	96.5	97.5	98.9	100.8	100.0	99.8	100.7	102.3
<b>Utilities</b>	<b>2211,2</b>	11.64	102.1	102.6	99.0	95.3	99.2	101.6	102.5	101.1
Electric	2211	10.00	101.3	102.1	98.9	96.4	99.2	101.8	102.6	101.2
Natural gas	2212	1.64	106.1	105.0	99.2	87.1	98.1	99.6	100.9	99.5

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NOTE. Refer to notes on table 1.

**Table 5**  
**INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES**  
2007 = 100, seasonally adjusted

Item	2009 proportion	2010 Jan.	Feb.	Mar.	Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>	
<b>Total industry</b>	100.00	90.5	90.5	91.0	91.5	92.5	92.6	93.2	93.4	93.2	
<b>Energy</b>	25.33	100.3	101.3	100.7	99.7	101.0	101.9	103.0	102.9	102.5	
Consumer products	4.89	104.2	103.8	102.1	95.8	100.1	104.2	106.3	103.1	101.1	
Commercial products	3.07	101.6	101.7	100.8	100.4	100.3	102.3	102.7	102.5	101.0	
Oil and gas well drilling	213111	.44	69.8	74.9	79.8	83.9	84.6	80.5	81.4	84.1	85.2
Converted fuel	4.32	98.9	100.1	97.3	96.3	99.6	100.0	101.4	99.7	97.9	
Primary energy	12.61	100.3	101.8	102.2	102.9	102.6	102.5	103.3	104.8	105.5	
<b>Non-energy</b>	74.67	87.2	86.9	87.8	88.7	89.7	89.5	90.0	90.2	90.1	
<b>Selected high-technology industries</b>	3.92	109.1	111.2	112.4	115.1	117.0	117.1	117.6	118.2	118.6	
Computers and peripheral equipment	3341	.92	103.7	104.1	103.2	104.1	105.8	107.3	108.0	108.8	
Communications equipment	3342	1.00	102.3	101.8	101.5	106.6	109.8	111.0	110.1	110.5	
Semiconductors and related electronic components	334412-9	2.00	115.0	119.4	122.3	124.6	125.8	124.7	125.9	126.9	127.3
<b>Excluding selected high-technology industries</b>	70.75	86.0	85.6	86.4	87.3	88.2	88.0	88.5	88.7	88.6	
<b>Motor vehicles and parts</b>	3361-3	3.54	73.5	71.7	73.2	72.0	76.0	75.3	82.5	77.3	77.7
Motor vehicles	3361	1.48	73.3	69.1	72.2	69.5	75.1	73.9	86.4	78.3	78.5
Motor vehicle parts	3363	1.81	75.6	75.2	75.6	75.6	77.5	76.9	79.8	76.7	77.7
<b>Excluding motor vehicles and parts</b>	67.22	87.0	86.7	87.5	88.5	89.2	89.0	89.0	89.6	89.4	
Consumer goods	21.54	92.3	91.8	92.6	92.6	93.9	93.2	93.0	93.9	94.0	
Business equipment	8.24	89.5	89.5	90.3	92.2	93.1	93.5	93.7	94.0	93.7	
Construction supplies	4.45	74.5	74.1	75.8	79.1	78.9	79.0	78.5	79.4	78.7	
Business supplies	7.08	82.0	80.9	81.2	81.8	82.9	82.2	82.4	82.6	82.0	
Materials	23.70	84.9	84.8	85.5	86.6	87.0	87.2	87.2	87.9	87.7	
<b>Measures excluding selected high-technology industries</b>											
Total industry	96.08	89.7	89.6	90.1	90.5	91.5	91.6	92.2	92.4	92.2	
Manufacturing <sup>1</sup>	71.48	86.6	86.2	87.1	87.9	88.8	88.6	89.1	89.2	89.1	
Durable	33.69	83.1	82.6	83.9	85.3	86.4	86.5	87.7	87.1	86.8	
<b>Measures excluding motor vehicles and parts</b>											
Total industry	96.46	91.4	91.5	91.9	92.5	93.4	93.5	93.8	94.2	94.0	
Manufacturing <sup>1</sup>	71.86	88.8	88.6	89.6	90.5	91.3	91.1	91.2	91.7	91.5	
Durable	34.07	87.6	87.5	88.7	90.6	91.5	91.6	91.9	92.1	91.8	
<b>Measures excluding selected high-technology industries and motor vehicles and parts</b>											
Total industry	92.54	90.6	90.6	91.0	91.5	92.4	92.5	92.8	93.2	93.0	
Manufacturing <sup>1</sup>	67.95	87.6	87.3	88.2	89.1	89.8	89.6	89.7	90.2	90.0	
<b>Stage-of-process components of non-energy materials, measures of the input to</b>											
Finished processors	10.78	85.1	85.5	86.8	87.8	88.9	89.2	90.5	89.8	89.7	
Primary and semifinished processors	15.96	86.2	86.0	86.5	87.8	87.9	87.8	87.5	88.6	88.6	

<sup>r</sup> Revised. <sup>p</sup> 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.
<b>One month earlier</b>												
2008	42.6	37.5	49.4	37.8	45.5	47.1	44.2	39.7	29.8	40.1	27.6	21.5
2009	34.0	42.3	36.2	43.6	42.3	44.9	64.7	61.5	59.6	54.2	64.4	50.6
2010	64.4	51.0	64.1	62.2	61.5	51.3	57.4	52.1				
<b>Three months earlier</b>												
2008	49.0	39.1	36.2	34.0	39.1	33.7	36.5	34.3	25.6	25.6	22.1	19.2
2009	17.3	21.8	31.1	36.2	36.2	41.0	51.3	64.4	66.3	62.5	67.0	57.7
2010	66.7	58.3	64.7	62.2	71.5	64.1	60.3	58.0				
<b>Six months earlier</b>												
2008	47.4	42.0	39.7	37.5	35.3	31.7	35.6	34.9	22.4	23.7	24.4	13.5
2009	15.7	16.7	22.4	19.6	22.4	33.0	39.4	45.8	55.4	58.3	67.0	67.3
2010	68.6	66.3	67.3	72.1	72.4	70.2	64.7	65.1				

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	2009 proportion	1972-2009 ave.	1994-95 high	2008-09 low	2010 Q1	2010 Q2 <sup>r</sup>	2010 Q3 <sup>p</sup>	2010 Apr. <sup>r</sup>	2010 May <sup>r</sup>	2010 June <sup>r</sup>	2010 July <sup>r</sup>	2010 Aug. <sup>r</sup>	2010 Sept. <sup>p</sup>
<b>Total industry</b>	100.00	80.6	85.1	68.2	72.5	73.8	74.7	73.2	74.1	74.2	74.7	74.8	74.7
<b>Manufacturing<sup>1</sup></b>	79.41	79.2	84.6	65.4	70.0	71.6	72.2	71.1	71.9	71.7	72.2	72.3	72.2
<b>Manufacturing (NAICS) 31-33</b>	75.63	79.0	84.8	65.2	70.0	71.7	72.4	71.3	72.0	71.9	72.4	72.5	72.4
<b>Durable manufacturing</b>	41.96	77.5	83.7	61.0	67.1	69.4	70.2	68.8	69.7	69.7	70.6	70.1	69.9
Wood products 321	1.22	78.5	87.2	53.4	58.8	62.8	60.9	63.0	63.8	61.7	60.8	60.8	61.0
Nonmetallic mineral products 327	2.48	77.0	82.6	52.0	53.6	56.5	57.5	56.6	56.3	56.6	57.4	57.5	57.6
Primary metal 331	2.43	79.7	94.1	46.8	67.4	70.1	66.0	70.0	70.0	70.4	66.1	66.1	65.8
Fabricated metal products 332	6.13	77.4	85.7	65.1	69.3	72.6	75.5	71.4	72.7	73.7	74.8	76.0	75.8
Machinery 333	5.34	78.3	87.2	61.1	66.8	71.5	72.6	70.0	71.8	72.8	72.7	72.8	72.3
Computer and electronic products 334	7.56	78.2	84.7	68.0	71.7	73.7	73.7	73.2	74.1	73.6	74.0	73.9	73.1
Electrical equip., appliances, and components 335	1.93	83.0	93.0	70.4	74.4	76.9	77.3	77.4	76.4	76.8	76.7	77.8	77.3
Motor vehicles and parts 3361-3	5.59	75.8	87.6	35.8	57.6	59.4	63.4	57.3	60.6	60.2	66.0	61.9	62.3
Aerospace and miscellaneous transportation equipment 3364-9	4.34	72.9	68.8	66.3	71.5	70.4	70.4	71.4	69.9	69.9	70.7	70.4	70.1
Furniture and related products 337	1.40	78.0	82.6	64.6	66.3	69.7	70.0	69.0	69.8	70.2	70.4	69.8	69.7
Miscellaneous 339	3.56	76.1	80.7	68.4	69.4	70.2	69.5	70.0	71.0	69.5	70.1	69.1	69.2
<b>Nondurable manufacturing</b>	33.67	81.3	86.1	70.1	73.7	74.6	75.2	74.4	74.9	74.6	74.6	75.4	75.5
Food, beverage, and tobacco products 311,2	10.72	81.4	85.8	73.6	76.9	77.9	79.4	77.0	78.6	78.2	78.0	79.8	80.3
Textile and product mills 313,4	.87	81.0	92.5	57.3	64.9	66.8	68.8	66.0	67.4	67.1	68.8	68.8	68.9
Apparel and leather 315,6	.36	78.6	87.3	65.8	74.7	75.5	77.5	75.2	75.5	75.9	75.4	78.1	79.0
Paper 322	2.46	87.2	92.6	69.7	76.9	78.0	78.3	77.6	77.9	78.4	78.2	78.3	78.5
Printing and support 323	2.01	82.8	85.7	63.4	63.4	65.0	65.4	64.2	65.6	65.2	64.7	66.1	65.4
Petroleum and coal products 324	1.91	86.1	91.0	74.8	79.4	84.5	85.6	84.5	84.2	84.7	86.8	85.1	85.0
Chemical 325	12.12	78.1	81.9	67.5	74.5	73.7	73.4	74.2	73.7	73.2	73.0	73.5	73.6
Plastics and rubber products 326	3.22	82.6	92.7	57.3	63.3	65.9	66.0	65.9	66.5	65.5	66.2	66.2	65.6
<b>Other manufacturing (non-NAICS) 1133,5111</b>	3.79	83.8	83.2	68.0	68.4	68.4	67.5	67.7	69.3	68.2	68.0	67.9	66.6
<b>Mining 21</b>	10.24	87.4	88.9	79.6	83.2	85.5	87.0	86.0	85.3	85.2	86.0	87.3	87.8
<b>Utilities 2211,2</b>	10.34	86.7	93.3	77.6	81.6	79.2	80.8	76.6	79.6	81.5	82.1	80.9	79.4
<b>Selected high-technology industries</b>	4.13	78.3	86.8	67.0	72.6	74.1	73.4	74.0	74.5	73.9	73.6	73.4	73.1
Computers and peripheral equipment 3341	.94	78.0	87.0	67.7	77.3	77.3	77.4	76.7	77.4	77.9	77.8	77.4	77.1
Communications equipment 3342	.93	76.4	83.6	73.4	78.0	81.5	80.6	80.2	82.0	82.3	81.1	80.5	80.3
Semiconductors and related electronic components 334412-9	2.26	80.5	92.4	61.8	68.8	70.2	69.4	70.7	70.7	69.4	69.5	69.6	69.2
<b>Measures excluding selected high-technology industries</b>	95.87	80.8	85.0	68.1	72.5	73.8	74.7	73.2	74.0	74.1	74.7	74.8	74.7
Total industry	75.28	79.3	84.5	65.2	69.8	71.4	72.1	70.9	71.7	71.5	72.0	72.1	72.0
<b>STAGE-OF-PROCESS GROUPS</b>													
Crude	13.87	86.5	90.0	78.3	83.3	84.8	86.1	85.4	84.6	84.5	85.2	86.2	86.9
Primary and semifinished	46.13	81.6	87.9	65.7	69.8	71.2	71.9	70.2	71.6	71.9	72.2	72.1	71.5
Finished	40.00	77.5	80.5	67.5	72.0	73.0	73.8	72.5	73.4	73.1	73.8	73.9	73.8

<sup>r</sup> Revised. <sup>p</sup> 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	1995-2010	2007	2008	2009	2010	2009 Q4	2010 Q1	Q2	Q3	2010 Sept.
<b>Total industry</b>	3.1	1.9	2.3	2.6	1.7	.8	.5	-.3	-.5	-.7	-.6	-.2	.0
Manufacturing <sup>1</sup>	3.3	2.2	2.5	2.9	2.4	.5	-1.2	-.2	-1.2	-.8	-.3	.0	.0
Mining	.7	.0	-.8	-.1	.9	1.5	3.0	.0	.6	-.2	-.4	.0	.0
Utilities	4.2	2.1	1.8	2.2	.6	2.2	3.1	1.5	2.8	2.2	1.5	1.1	.1
<b>Selected high-technology industries</b>	19.5	17.3	15.8	22.0	27.2	.3	7.7	11.4	13.5	13.3	11.8	10.5	.8
Manufacturing <sup>1</sup> ex. selected high-technology industries	2.6	1.3	1.6	1.2	1.0	.5	-1.7	-.8	-1.9	-1.4	-.9	-.5	.0
<b>STAGE-OF-PROCESS GROUPS</b>													
Crude	1.6	.4	-.5	.2	.6	1.5	2.6	-.8	.1	-.8	-1.1	-.8	.0
Primary and semifinished	3.0	1.4	2.5	3.0	3.0	.6	-.7	-.6	-.9	-.8	-.6	-.5	.0
Finished	3.9	3.3	2.7	2.7	1.3	.8	-.7	.9	-.5	.1	.8	1.2	.1

1. Refer to note on cover page.

**Table 9**  
**GROSS VALUE OF FINAL PRODUCTS AND NONINDUSTRIAL SUPPLIES**  
Billions of 2005 dollars at annual rate, seasonally adjusted

Item	2005	2009	2010 Q1	Q2 <sup>r</sup>	Q3 <sup>p</sup>	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>
<b>Final products and nonindustrial supplies</b>	3,336.9	3,056.8	3,149.9	3,208.3	3,255.2	3,175.2	3,220.4	3,229.2	3,272.6	3,253.5	3,239.5
<b>Final products</b>	2,477.7	2,324.8	2,410.1	2,453.4	2,500.9	2,420.5	2,466.0	2,473.7	2,518.2	2,496.1	2,488.4
Consumer goods	1,853.6	1,724.0	1,791.3	1,810.6	1,841.2	1,784.6	1,821.6	1,825.6	1,859.9	1,836.5	1,827.1
Durable	513.7	380.1	424.9	434.5	443.7	427.1	440.8	435.6	459.8	438.1	433.2
Automotive products	306.7	221.8	266.1	269.4	279.5	262.3	274.9	270.9	294.0	274.1	270.4
Other durable goods	207.0	158.2	159.2	165.5	164.8	165.1	166.4	165.1	166.6	164.5	163.2
Nondurable	1,339.8	1,334.0	1,357.1	1,367.2	1,388.6	1,348.6	1,372.2	1,380.7	1,392.7	1,389.0	1,384.1
Equipment, total	624.1	599.9	617.8	642.5	659.8	635.8	644.0	647.8	657.8	659.8	661.9
Business and defense	600.7	585.8	601.0	623.9	641.5	617.0	624.9	629.6	639.7	641.4	643.3
Business	520.8	487.6	500.9	522.7	539.3	514.7	524.3	529.1	537.1	539.5	541.4
Defense and space	79.9	96.4	98.3	99.5	100.7	100.5	99.1	99.0	101.1	100.5	100.5
<b>Nonindustrial supplies</b>	859.2	734.0	743.0	757.9	758.0	757.3	757.7	758.8	758.4	760.9	754.8
Construction supplies	270.1	205.8	207.3	217.2	216.3	217.8	216.9	217.0	215.2	217.5	216.2
Business supplies	589.1	528.5	536.0	540.8	541.9	539.6	541.0	542.0	543.4	543.6	538.8
Commercial energy products	210.9	211.0	215.3	216.7	217.0	216.8	215.0	218.2	218.8	217.5	214.6

<sup>r</sup> Revised. <sup>p</sup> Preliminary.

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

Item	2009 gross value <sup>1</sup>	Fourth quarter to fourth quarter			Annual rate			Monthly rate						Sept. '09 to Sept. '10
		2007	2008	2009	2010 Q1	Q2 <sup>r</sup>	Q3 <sup>p</sup>	2010 Apr. <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>p</sup>	
Finished	1795.3	1.5	-8.9	-2.0	7.7	8.2	7.3	.3	1.6	-.2	1.5	-.2	.1	6.5
Semifinished	1497.9	2.2	-9.7	-7.3	6.9	7.8	6.5	.7	1.3	.9	1.1	-.4	-.8	5.5
Primary	1249.9	4.0	-8.3	-2.2	6.8	6.1	.6	-.3	1.5	-.1	.6	-1.0	-.5	3.8
Crude	604.2	3.0	-9.1	2.3	7.9	3.8	3.2	1.0	-1.4	.1	.3	1.0	.9	5.0

<sup>r</sup> Revised. <sup>p</sup> Preliminary.

1. Billions of 2005 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
<b>IP (percent change)<sup>1</sup></b>																	
1988	.0	.4	.3	.5	-.1	.2	.1	.5	-.4	.5	.2	.4	3.5	3.5	1.9	2.9	5.2
1989	.3	-.4	.3	.0	-.7	.0	-.9	.9	-.2	-.1	.3	.6	1.6	-1.6	-2.5	1.8	.9
1990	-.5	.9	.5	-.1	.2	.3	-.1	.2	.2	-.8	-1.2	-.7	3.0	2.7	1.5	-6.1	1.0
1991	-.4	-.6	-.5	.2	1.0	1.0	.0	.1	.9	-.2	-.1	-.3	-7.4	2.5	5.6	.9	-1.5
1992	-.6	.8	.8	.7	.3	.0	.9	-.5	.2	.7	.4	.0	-.4	7.1	2.8	4.0	2.8
1993	.5	.3	.0	.3	-.4	.2	.3	.0	.4	.8	.4	.5	3.5	1.1	2.0	6.2	3.3
1994	.4	.0	1.1	.5	.6	.7	.2	.6	.2	.8	.6	1.1	5.0	7.4	5.1	8.2	5.3
1995	.3	.0	.2	-.1	.2	.3	-.4	1.4	.4	-.2	.2	.4	5.2	1.0	3.7	3.2	4.8
1996	-.6	1.6	-.2	.8	.7	.9	-.1	.7	.6	.0	.8	.6	3.1	8.1	5.4	5.6	4.4
1997	.1	1.2	.8	.0	.7	.5	.6	1.3	.9	.7	.9	.3	7.8	6.4	9.6	10.1	7.2
1998	.5	.1	.1	.4	.7	-.6	-.4	2.1	-.3	.7	-.1	.3	4.5	3.0	3.0	5.4	5.9
1999	.5	.4	.2	.2	.8	-.2	.6	.4	-.3	1.3	.5	.8	4.1	3.9	3.9	7.4	4.3
2000	.1	.4	.4	.6	.2	.1	-.2	-.2	.5	-.4	.0	-.4	4.7	4.7	-.5	-1.1	4.0
2001	-.7	-.6	-.3	-.2	-.7	-.6	-.4	-.3	-.3	-.5	-.5	.0	-5.6	-5.0	-5.6	-4.6	-3.3
2002	.6	.0	.8	.4	.5	.9	-.3	.2	.1	-.3	.5	-.5	2.8	6.5	2.3	-.3	.2
2003	.7	.4	-.1	-.8	.0	.0	.4	-.1	.6	.0	.8	-.1	2.9	-3.0	2.2	3.6	1.3
2004	.2	.6	-.5	.5	.7	-.9	.7	.2	-.1	.9	.2	.7	2.6	1.8	1.8	5.6	2.3
2005	.5	.7	.0	.0	.2	.3	-.1	.2	-2.0	1.0	1.1	.6	5.9	2.0	-1.5	2.7	3.2
2006	.0	.1	.2	.4	-.1	.4	.3	.3	-.1	.0	-.2	1.0	3.7	2.6	2.7	.9	2.2
2007	-.4	1.1	.1	.7	.0	-.1	.2	.0	.4	-.7	.4	.1	4.3	4.5	1.0	-.7	2.7
2008	-.3	-.2	-.3	-.8	-.5	-.4	.0	-1.2	-4.0	1.0	-1.0	-2.0	-1.6	-5.9	-9.7	-13.0	-3.3
2009	-2.1	-.8	-1.5	-.8	-.9	-.2	1.4	1.2	.7	.3	.5	.5	-17.6	-10.3	8.3	7.0	-9.3
2010	1.0	.0	.6	.5	1.1	.1	.7	.2	-.2				7.1	7.0	4.8		
<b>IP (2007=100)</b>																	
2008	100.1	99.9	99.6	98.8	98.3	98.0	98.0	96.8	93.0	93.9	92.9	91.0	99.9	98.4	95.9	92.6	96.7
2009	89.1	88.5	87.2	86.5	85.7	85.5	86.7	87.8	88.4	88.6	89.1	89.6	88.2	85.9	87.6	89.1	87.7
2010	90.5	90.5	91.0	91.5	92.5	92.6	93.2	93.4	93.2				90.6	92.2	93.3		
<b>Capacity (percent of 2007 output)</b>																	
2008	123.7	123.8	123.8	123.9	123.9	124.0	124.1	124.2	124.3	124.5	124.7	124.8	123.8	123.9	124.2	124.7	124.1
2009	125.0	125.1	125.2	125.3	125.4	125.4	125.4	125.4	125.4	125.3	125.2	125.2	125.1	125.4	125.4	125.2	125.3
2010	125.1	125.0	125.0	124.9	124.8	124.8	124.8	124.8	124.8				125.0	124.8	124.8		
<b>Utilization (percent)</b>																	
1988	83.4	83.6	83.8	84.2	84.1	84.3	84.4	84.7	84.4	84.8	84.8	85.1	83.6	84.2	84.5	84.9	84.3
1989	85.2	84.7	84.8	84.7	84.0	83.8	82.9	83.5	83.1	82.8	82.9	83.2	84.9	84.2	83.1	83.0	83.8
1990	82.6	83.2	83.4	83.1	83.1	83.1	82.9	82.9	83.0	82.2	81.1	80.4	83.0	83.1	82.9	81.2	82.6
1991	79.9	79.3	78.7	78.8	79.5	80.2	80.1	80.1	80.7	80.4	80.3	79.9	79.3	79.5	80.3	80.2	79.8
1992	79.3	79.7	80.3	80.7	80.8	80.6	81.1	80.5	80.5	80.9	81.1	81.0	79.8	80.7	80.7	81.0	80.5
1993	81.2	81.4	81.2	81.4	81.0	81.1	81.2	81.1	81.4	81.9	82.1	82.3	81.3	81.1	81.2	82.1	81.4
1994	82.5	82.3	83.0	83.2	83.4	83.7	83.6	83.8	83.8	84.2	84.4	85.1	82.6	83.5	83.7	84.6	83.6
1995	85.0	84.7	84.6	84.2	84.0	84.0	83.3	84.2	84.2	83.6	83.5	83.5	84.8	84.1	83.9	83.5	84.1
1996	82.6	83.6	83.1	83.4	83.5	83.9	83.4	83.6	83.7	83.3	83.6	83.7	83.1	83.6	83.6	83.5	83.4
1997	83.4	84.0	84.2	83.8	83.9	83.8	83.8	84.5	84.7	84.7	85.0	84.7	83.9	83.9	84.3	84.8	84.2
1998	84.5	84.1	83.6	83.4	83.4	82.5	81.7	83.0	82.3	82.5	82.0	81.9	84.1	83.1	82.3	82.1	82.9
1999	81.9	81.9	81.8	81.6	81.9	81.4	81.6	81.7	81.1	81.9	82.0	82.3	81.9	81.6	81.5	82.0	81.8
2000	82.1	82.1	82.1	82.4	82.2	82.0	81.5	81.1	81.2	80.7	80.4	79.9	82.1	82.2	81.3	80.3	81.5
2001	79.1	78.4	77.9	77.5	76.8	76.1	75.6	75.1	74.7	74.2	73.6	73.5	78.5	76.8	75.1	73.8	76.0
2002	73.8	73.7	74.1	74.4	74.7	75.3	75.0	75.1	75.2	75.0	75.3	75.0	73.9	74.8	75.1	75.1	74.7
2003	75.6	75.9	75.8	75.2	75.3	75.4	75.7	75.7	76.1	76.2	76.8	76.8	75.7	75.3	75.8	76.6	75.9
2004	77.0	77.4	77.0	77.4	78.0	77.3	77.8	78.0	78.0	78.7	78.9	79.4	77.1	77.6	78.0	79.0	77.9
2005	79.8	80.3	80.2	80.2	80.4	80.5	80.4	80.4	78.7	79.5	80.3	80.6	80.1	80.4	79.8	80.1	80.1
2006	80.6	80.5	80.6	80.8	80.6	80.9	81.0	81.0	80.8	80.6	80.3	81.0	80.6	80.8	80.9	80.7	80.7
2007	80.6	81.3	81.3	81.7	81.6	81.3	81.4	81.3	81.5	80.9	81.2	81.2	81.1	81.5	81.4	81.1	81.3
2008	80.9	80.7	80.5	79.8	79.4	79.0	79.0	77.9	74.8	75.4	74.5	72.9	80.7	79.4	77.2	74.3	77.9
2009	71.3	70.7	69.6	69.0	68.3	68.2	69.1	70.0	70.5	70.7	71.1	71.6	70.5	68.5	69.9	71.1	70.0
2010	72.3	72.4	72.8	73.2	74.1	74.2	74.7	74.8	74.7				72.5	73.8	74.7		

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

**Table 12**  
**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing<sup>1</sup>**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>IP (percent change)<sup>2</sup></b>																	
1988	-.2	.2	.3	.8	-.1	.1	.1	.1	.3	.6	.3	.4	2.6	4.5	1.2	4.5	5.3
1989	.8	-.9	-.1	.1	-.9	.1	-1.1	.9	-.2	-.2	.2	.1	1.9	-3.0	-3.0	.6	.8
1990	-.1	1.4	.4	-.3	.1	.3	-.2	.3	.0	-.8	-1.2	-.8	4.5	2.6	.9	-6.8	.8
1991	-.8	-.6	-.7	.3	.7	1.1	-.2	.2	1.1	-.2	-.2	-.1	-8.8	2.0	7.3	1.7	-2.0
1992	-.6	.9	1.0	.5	.6	.3	.9	-.4	.0	.6	.4	-.2	.6	8.1	3.9	2.8	3.6
1993	1.0	.2	-.2	.6	-.1	-.1	.3	-.1	.6	.9	.4	.5	4.4	1.6	1.2	7.0	3.5
1994	.2	.1	1.3	.8	.7	.3	.4	.8	.3	1.0	.8	1.2	4.8	9.5	6.0	9.9	5.9
1995	.3	-.1	.2	-.2	.0	.4	-.6	1.2	.9	-.1	.0	.4	5.6	.4	3.0	4.1	5.2
1996	-.7	1.6	-.3	1.0	.7	1.1	.3	.6	.7	-.1	.8	.9	2.4	9.1	7.9	5.8	4.8
1997	.0	1.4	1.2	-.2	.9	.7	.4	1.6	.9	.6	1.1	.4	9.3	7.7	10.7	10.9	8.4
1998	.8	.1	-.1	.5	.6	-.7	-.5	2.6	-.3	1.0	.2	.5	6.1	2.5	3.3	7.6	6.7
1999	.3	.7	.0	.4	.9	-.4	.5	.7	-.3	1.5	.6	.7	4.6	4.4	3.6	9.0	5.0
2000	-.2	.3	-.7	.6	-.2	.2	.0	-.6	.5	-.4	-.3	-.7	5.2	4.4	-.7	-2.7	4.2
2001	-.6	-.6	-.3	-.2	-.8	-.7	-.3	-.7	-.2	-.7	-.3	.3	-6.5	-5.2	-6.1	-4.3	-4.0
2002	.5	.0	.7	.1	.7	1.1	-.5	.4	.1	-.5	.5	-.5	3.4	5.9	3.1	-.8	.3
2003	.6	.2	.3	-.9	.1	.4	.1	-.3	.8	.0	1.0	-.2	2.4	-2.0	1.9	4.1	1.3
2004	.0	.7	-.2	.5	.7	-.9	.8	.7	-.2	1.0	-.1	.7	2.3	3.0	3.5	5.3	2.8
2005	.7	.8	-.3	.2	.4	.1	-.1	.3	-1.0	1.5	.8	.0	6.6	2.2	-.3	5.6	4.0
2006	-.7	-.2	-.1	.6	-.3	.3	.1	.4	.1	-.3	.0	1.5	3.1	1.3	1.9	1.6	2.5
2007	-.4	.6	.8	.7	-.1	.1	.4	-.5	.5	-.7	.3	.2	5.2	5.4	.7	-1.0	2.9
2008	-.5	-.5	-.2	-1.2	-.5	-.6	-.5	-.9	-3.2	-.4	-1.9	-2.6	-2.7	-8.1	-10.4	-18.0	-4.5
2009	-2.7	-.2	-1.7	-.6	-.8	-.1	1.7	1.3	.7	.1	1.0	.1	-21.0	-9.3	10.4	7.1	-11.1
2010	.9	-.3	1.1	.9	1.1	-.3	.6	.1	-.2				6.2	9.1	3.6		
<b>IP (2007=100)</b>																	
2008	100.0	99.5	99.2	98.0	97.5	96.9	96.4	95.6	92.5	92.2	90.4	88.1	99.5	97.5	94.8	90.2	95.5
2009	85.7	85.5	84.1	83.5	82.9	82.7	84.1	85.3	85.9	86.0	86.8	86.9	85.1	83.0	85.1	86.6	85.0
2010	87.8	87.5	88.5	89.3	90.2	90.0	90.6	90.7	90.6				87.9	89.8	90.6		
<b>Capacity (percent of 2007 output)</b>																	
2008	127.0	127.2	127.3	127.4	127.4	127.4	127.5	127.5	127.5	127.4	127.4	127.3	127.2	127.4	127.5	127.4	127.3
2009	127.2	127.1	127.0	126.8	126.7	126.5	126.4	126.2	126.1	126.0	125.9	125.8	127.1	126.7	126.2	125.9	126.5
2010	125.7	125.6	125.6	125.5	125.5	125.5	125.5	125.5	125.5				125.6	125.5	125.5		
<b>Utilization (percent)</b>																	
1988	83.0	83.1	83.3	84.0	83.9	84.0	84.0	84.0	84.2	84.6	84.8	85.0	83.2	83.9	84.1	84.8	84.0
1989	85.6	84.6	84.4	84.4	83.5	83.4	82.3	82.9	82.5	82.2	82.1	82.0	84.9	83.8	82.6	82.1	83.3
1990	81.7	82.7	82.8	82.4	82.3	82.3	82.0	82.1	81.9	81.1	80.0	79.2	82.4	82.4	82.0	80.1	81.7
1991	78.5	77.9	77.2	77.3	77.8	78.6	78.7	78.8	79.5	79.3	79.0	78.8	77.9	77.9	79.0	79.0	78.5
1992	78.2	78.8	79.4	79.6	79.9	79.9	80.4	79.8	79.6	79.9	80.0	79.7	78.8	79.8	79.9	79.9	79.6
1993	80.3	80.3	80.0	80.3	80.2	79.9	80.0	79.8	80.2	80.8	81.0	81.2	80.2	80.1	80.0	81.0	80.3
1994	81.2	81.1	82.0	82.4	82.7	82.7	82.8	83.2	83.1	83.7	84.0	84.6	81.4	82.6	83.0	84.1	82.8
1995	84.6	84.2	84.0	83.6	83.2	83.2	82.4	83.0	83.3	82.8	82.4	82.4	84.3	83.3	82.9	82.5	83.3
1996	81.4	82.3	81.6	82.0	82.1	82.6	82.4	82.5	82.6	82.1	82.3	82.6	81.8	82.3	82.5	82.3	82.2
1997	82.2	82.8	83.4	82.7	82.9	82.9	82.8	83.6	83.7	83.6	83.9	83.6	82.8	82.9	83.3	83.7	83.2
1998	83.7	83.2	82.5	82.3	82.2	81.0	80.1	81.7	80.9	81.2	80.9	80.9	83.1	81.8	80.9	81.0	81.7
1999	80.7	80.9	80.5	80.4	80.8	80.1	80.2	80.3	79.7	80.6	80.7	80.9	80.7	80.4	80.1	80.7	80.5
2000	80.7	80.6	80.8	81.0	80.5	80.3	80.0	79.2	79.3	78.7	78.2	77.4	80.7	80.6	79.5	78.1	79.7
2001	76.6	76.0	75.5	75.1	74.4	73.7	73.2	72.6	72.3	71.7	71.4	71.5	76.0	74.4	72.7	71.6	73.7
2002	71.8	71.7	72.2	72.2	72.7	73.5	73.1	73.4	73.4	73.1	73.4	73.0	71.9	72.8	73.3	73.2	72.8
2003	73.5	73.6	73.8	73.2	73.2	73.5	73.7	73.5	74.1	74.1	74.9	74.8	73.6	73.3	73.7	74.6	73.8
2004	74.8	75.3	75.2	75.6	76.2	75.5	76.2	76.7	76.5	77.3	77.2	77.6	75.1	75.8	76.5	77.4	76.2
2005	78.1	78.7	78.4	78.4	78.6	78.5	78.4	78.4	77.5	78.6	79.0	78.9	78.4	78.5	78.1	78.8	78.5
2006	79.4	79.1	78.9	79.3	78.9	79.0	79.0	79.2	79.1	78.7	78.6	79.7	79.1	79.1	79.1	79.0	79.1
2007	79.2	79.5	79.9	80.3	80.0	79.9	80.0	79.5	79.7	79.0	79.1	79.2	79.5	80.1	79.7	79.1	79.6
2008	78.7	78.2	78.0	77.0	76.5	76.0	75.6	75.0	72.6	72.4	71.0	69.2	78.3	76.5	74.4	70.9	75.0
2009	67.4	67.3	66.2	65.9	65.4	65.4	66.6	67.6	68.1	68.2	69.0	69.1	67.0	65.6	67.4	68.8	67.2
2010	69.8	69.7	70.4	71.1	71.9	71.7	72.2	72.3	72.2				70.0	71.6	72.2		

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 Industries<sup>1</sup>**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>IP (percent change)<sup>2</sup></b>																	
1988	.0	.4	.2	.4	-.1	.2	.1	.5	-.4	.5	.2	.4	3.0	2.7	1.4	2.7	4.4
1989	.3	-.4	.3	.0	-.7	.0	-1.1	.9	-.3	-.2	.2	.6	1.9	-1.8	-3.4	1.0	.6
1990	-.7	.9	.4	-.2	.1	.3	-.2	.2	.2	-.8	-1.3	-.8	2.3	2.2	1.1	-6.7	.3
1991	-.4	-.8	-.6	.2	1.0	1.0	.0	.1	.9	-.2	-.2	-.5	-8.0	2.1	5.4	.5	-2.0
1992	-.8	.7	.8	.6	.2	-.2	.8	-.6	.1	.6	.3	.0	-1.9	6.1	1.7	2.9	1.9
1993	.5	.3	-.1	.3	-.4	.2	.3	-.1	.3	.7	.3	.5	3.1	.4	1.4	5.2	2.5
1994	.4	.0	-.9	.3	.4	.6	.0	.4	.0	.6	.4	.9	4.3	5.3	3.2	5.6	4.0
1995	.2	-.2	-.1	-.3	.0	.1	-.5	1.2	.1	-.5	.1	.2	3.0	-1.4	1.5	.5	2.4
1996	-.9	1.3	-.4	.7	.5	.7	-.5	.4	.4	-.3	.8	.5	-.2	5.9	2.1	3.2	1.7
1997	-.1	.9	.5	-.3	.3	.2	.3	1.0	.7	.6	.7	.1	5.1	2.3	6.0	7.8	4.2
1998	.2	.0	.0	.2	.6	-.9	-.8	2.0	-.6	.5	-.3	.0	1.9	.9	-.2	2.3	3.1
1999	.2	.1	-.1	-.1	.6	-.5	.3	.4	-.5	1.2	.2	.5	.7	.4	1.0	5.4	1.1
2000	-.3	.0	.1	.4	-.1	-.1	-.5	-.4	.4	-.5	-.2	-.5	.5	1.5	-3.0	-2.6	1.0
2001	-.7	-.5	-.3	-.1	-.6	-.5	-.3	-.3	-.3	-.5	-.4	-.1	-6.1	-4.2	-4.4	-4.7	-3.9
2002	.7	.0	.8	.4	.5	.8	-.4	.1	.0	-.3	.4	-.7	3.0	6.2	1.5	-1.0	.3
2003	.7	.2	-.3	-.9	-.1	-.1	.3	-.1	.6	-.1	.7	-.1	1.5	-4.5	1.1	2.8	.2
2004	.1	.5	-.6	.5	.7	-1.0	.7	.1	-.1	1.0	.2	.7	1.8	1.9	1.3	5.3	1.7
2005	.4	.6	-.1	.0	.2	.3	-.2	.0	-2.2	1.0	1.1	.6	5.1	1.2	-2.8	1.6	2.5
2006	.0	.0	.2	.4	-.2	.4	.2	.2	-.2	-.1	-.2	1.0	3.3	2.0	1.8	.2	1.4
2007	-.4	1.1	.0	.6	.1	-.1	.2	-.1	.3	-.9	.2	.0	3.7	3.7	.8	-2.3	1.9
2008	-.4	-.3	-.4	-.9	-.5	-.3	.0	-1.2	-4.1	1.2	-.8	-1.9	-2.7	-6.8	-9.6	-11.7	-4.0
2009	-2.0	-.7	-1.6	-.9	-1.0	-.3	1.3	1.2	.7	.2	.5	.5	-16.8	-11.2	7.4	6.5	-9.2
2010	1.0	-.1	.6	.4	1.1	.1	.7	.2	-.2				6.8	6.4	4.7		
<b>IP (2007=100)</b>																	
2008	99.6	99.2	98.8	97.9	97.4	97.1	97.1	96.0	92.1	93.2	92.5	90.7	99.2	97.5	95.0	92.1	96.0
2009	88.9	88.2	86.9	86.0	85.2	85.0	86.1	87.1	87.7	87.9	88.3	88.8	88.0	85.4	86.9	88.3	87.2
2010	89.7	89.6	90.1	90.5	91.5	91.6	92.2	92.4	92.2				89.8	91.2	92.3		
<b>Capacity (percent of 2007 output)</b>																	
2008	123.0	123.0	123.0	123.1	123.2	123.2	123.4	123.5	123.7	123.9	124.1	124.2	123.0	123.2	123.5	124.1	123.4
2009	124.4	124.5	124.6	124.7	124.7	124.7	124.7	124.6	124.5	124.4	124.3	124.2	124.5	124.7	124.6	124.3	124.5
2010	124.0	123.9	123.8	123.7	123.6	123.5	123.5	123.4	123.4				123.9	123.6	123.4		
<b>Utilization (percent)</b>																	
1988	83.6	84.0	84.1	84.5	84.4	84.5	84.6	85.0	84.6	85.0	85.1	85.4	83.9	84.4	84.7	85.2	84.6
1989	85.6	85.1	85.3	85.1	84.4	84.3	83.2	83.8	83.4	83.1	83.2	83.5	85.3	84.6	83.5	83.3	84.2
1990	82.8	83.5	83.7	83.4	83.3	83.4	83.2	83.3	83.3	82.5	81.4	80.6	83.3	83.4	83.3	81.5	82.9
1991	80.2	79.5	78.9	79.0	79.7	80.4	80.3	80.2	80.9	80.6	80.4	79.9	79.5	79.7	80.4	80.3	80.0
1992	79.1	79.6	80.2	80.6	80.7	80.5	81.0	80.5	80.5	81.0	81.1	81.1	79.6	80.6	80.7	81.1	80.5
1993	81.4	81.5	81.4	81.5	81.1	81.2	81.4	81.2	81.4	81.9	82.1	82.4	81.4	81.3	81.3	82.1	81.6
1994	82.6	82.5	83.1	83.2	83.4	83.8	83.7	83.9	83.8	84.2	84.4	85.0	82.7	83.5	83.8	84.5	83.6
1995	85.0	84.7	84.4	84.0	83.9	83.8	83.2	84.0	84.0	83.4	83.3	83.3	84.7	83.9	83.7	83.4	83.9
1996	82.4	83.4	82.9	83.4	83.6	84.0	83.5	83.6	83.8	83.4	83.8	84.0	82.9	83.7	83.6	83.7	83.5
1997	83.7	84.2	84.4	83.9	83.9	83.8	83.7	84.3	84.6	84.8	85.0	84.8	84.1	83.9	84.2	84.9	84.3
1998	84.6	84.3	84.0	83.8	84.0	82.9	82.0	83.4	82.6	82.8	82.3	82.0	84.3	83.6	82.7	82.4	83.2
1999	82.0	81.9	81.6	81.3	81.6	81.0	81.1	81.3	80.7	81.5	81.6	81.9	81.8	81.3	81.0	81.7	81.5
2000	81.5	81.4	81.4	81.6	81.4	81.3	80.7	80.3	80.6	80.1	79.8	79.3	81.4	81.4	80.5	79.7	80.8
2001	78.7	78.2	77.8	77.7	77.1	76.6	76.3	76.0	75.6	75.1	74.7	74.6	78.2	77.1	76.0	74.8	76.5
2002	75.0	74.9	75.5	75.7	76.1	76.7	76.4	76.4	76.5	76.3	76.6	76.2	75.1	76.2	76.4	76.4	76.0
2003	76.7	76.9	76.8	76.1	76.1	76.1	76.3	76.3	76.7	76.7	77.3	77.2	76.8	76.1	76.5	77.1	76.6
2004	77.3	77.8	77.4	77.8	78.4	77.7	78.3	78.4	78.4	79.2	79.4	80.0	77.5	78.0	78.3	79.5	78.3
2005	80.3	80.8	80.7	80.7	80.8	81.0	80.8	80.8	79.0	79.7	80.5	80.9	80.6	80.8	80.2	80.3	80.5
2006	80.8	80.7	80.8	80.9	80.7	80.8	80.9	80.9	80.7	80.5	80.2	80.9	80.7	80.8	80.8	80.5	80.7
2007	80.5	81.3	81.2	81.6	81.6	81.5	81.6	81.5	81.8	81.0	81.3	81.3	81.0	81.6	81.7	81.2	81.4
2008	80.9	80.7	80.3	79.6	79.1	78.8	78.7	77.7	74.4	75.2	74.5	73.0	80.6	79.1	76.9	74.3	77.7
2009	71.4	70.9	69.7	69.0	68.3	68.1	69.0	69.9	70.4	70.6	71.1	71.5	70.7	68.5	69.8	71.1	70.0
2010	72.3	72.3	72.8	73.2	74.0	74.1	74.7	74.8	74.7				72.5	73.8	74.7		

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: Manufacturing<sup>1</sup> Excluding Selected High-Technology Industries<sup>2</sup>**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>IP (percent change)<sup>3</sup></b>																	
1988	-.2	.2	.2	.8	-.2	.1	.0	.1	.3	.5	.3	.4	1.9	3.5	.4	4.3	4.4
1989	.8	-1.0	-.1	.1	-.9	.1	-1.3	.9	-.2	-.3	.1	.1	2.2	-3.3	-4.1	-.5	.4
1990	-.2	1.5	.3	-.4	.1	.2	-.2	.3	.0	-.9	-1.3	-.8	3.8	1.9	.4	-7.5	.0
1991	-.8	-.7	-.8	.3	.7	1.1	.3	.2	1.1	-.2	-.3	-.3	-9.6	1.4	7.2	1.1	-2.6
1992	-.9	.9	.9	.4	.5	.1	.8	-.5	-.1	.5	.3	-.2	-1.2	6.9	2.6	1.4	2.6
1993	1.1	.1	-.3	.5	-.1	-.2	.3	-.2	.5	.8	.3	.5	3.9	.7	.4	5.9	2.5
1994	.1	.1	1.2	.5	.5	.2	.2	.6	.1	.7	.5	.9	4.0	7.0	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	-1.1	1.3	-.5	1.0	.5	.8	-.1	.3	.5	-.4	.7	.7	-1.6	6.7	4.1	3.0	1.5
1997	-.2	1.0	.9	-.7	.5	.4	.1	1.3	.6	.5	.8	.1	6.2	2.8	6.6	8.2	4.9
1998	.5	-.1	-.3	.3	.4	-1.1	-.9	2.5	-.7	.7	-.1	.2	3.2	-.1	-.5	4.2	3.5
1999	-.1	.4	-.4	.0	.8	-.7	.0	.6	-.5	1.4	.4	.3	.7	.3	.2	6.7	1.4
2000	-.3	-.2	.3	.4	-.6	.0	-.4	-.8	.4	-.5	-.6	-.9	.2	.6	-3.7	-4.7	-.7
2001	-.6	-.5	-.3	-.1	-.7	-.5	-.1	-.7	-.2	-.7	-.2	.2	-7.2	-4.2	-4.8	-4.4	-4.8
2002	.6	-.1	.8	.1	.7	1.0	-.5	.3	.0	-.5	.4	-.7	3.7	5.5	2.2	-1.6	.4
2003	.5	-.1	.1	-1.1	.0	.3	-.1	-.3	.8	-.1	.9	-.3	.7	-3.7	.5	3.1	.0
2004	-.2	.7	-.2	.5	.7	-.9	.9	.6	-.3	1.1	.0	.6	1.3	3.2	3.0	4.9	2.0
2005	.6	.7	-.4	.1	.4	.0	-.2	.1	-1.3	1.5	.7	-.1	5.6	1.2	-1.9	4.3	3.1
2006	-.7	-.3	-.1	-.5	-.5	.2	.0	.3	-.1	-.4	.0	1.6	2.6	.4	.6	.7	1.5
2007	-.5	.5	.6	.5	-.1	.2	.3	-.6	.3	-.9	.1	.1	4.5	4.4	.4	-3.2	2.0
2008	-.6	-.7	-.4	-1.4	-.6	-.6	-.5	-.9	-3.3	-.1	-1.6	-2.4	-4.2	-9.4	-10.5	-16.6	-5.5
2009	-2.7	-.1	-1.9	-.8	-.9	-.2	1.6	1.3	.6	.0	1.0	.1	-20.1	-10.6	9.3	6.4	-11.0
2010	.9	-.4	1.1	.8	1.1	-.3	.7	.1	-.2				5.8	8.4	3.4		
<b>IP (2007=100)</b>																	
2008	99.2	98.6	98.2	96.8	96.2	95.7	95.2	94.4	91.3	91.2	89.7	87.5	98.7	96.2	93.6	89.5	94.5
2009	85.2	85.1	83.5	82.8	82.1	81.9	83.2	84.3	84.8	84.8	85.7	85.8	84.6	82.2	84.1	85.4	84.1
2010	86.6	86.2	87.1	87.9	88.8	88.6	89.1	89.2	89.1				86.6	88.4	89.2		
<b>Capacity (percent of 2007 output)</b>																	
2008	126.3	126.3	126.4	126.5	126.6	126.7	126.7	126.8	126.8	126.7	126.7	126.6	126.3	126.6	126.7	126.7	126.6
2009	126.5	126.4	126.2	126.0	125.8	125.6	125.4	125.2	125.0	124.8	124.6	124.4	126.4	125.8	125.2	124.6	125.5
2010	124.3	124.1	124.0	123.9	123.9	123.8	123.7	123.7	123.7				124.1	123.9	123.7		
<b>Utilization (percent)</b>																	
1988	83.4	83.5	83.7	84.3	84.2	84.2	84.2	84.3	84.5	84.9	85.1	85.4	83.5	84.2	84.3	85.1	84.3
1989	86.0	85.1	84.9	84.9	84.0	83.9	82.7	83.2	82.9	82.5	82.4	82.3	85.3	84.3	82.9	82.4	83.7
1990	82.0	83.0	83.1	82.7	82.6	82.7	82.4	82.4	82.3	81.4	80.3	79.5	82.7	82.7	82.4	80.4	82.0
1991	78.8	78.1	77.4	77.5	77.9	78.7	78.8	78.8	79.6	79.4	79.0	78.7	78.1	78.0	79.1	79.1	78.6
1992	77.9	78.5	79.2	79.4	79.7	79.7	80.2	79.7	79.6	79.9	80.0	79.7	78.6	79.6	79.9	79.9	79.5
1993	80.5	80.5	80.1	80.5	80.3	80.0	80.1	79.9	80.2	80.8	80.9	81.2	80.4	80.2	80.1	81.0	80.4
1994	81.2	81.2	82.1	82.4	82.7	82.7	82.8	83.1	83.1	83.6	83.9	84.5	81.5	82.6	83.0	84.0	82.8
1995	84.5	84.1	83.8	83.3	83.0	83.0	82.1	82.7	83.0	82.5	82.2	82.1	84.1	83.1	82.6	82.3	83.0
1996	81.0	81.9	81.3	81.9	82.1	82.6	82.4	82.5	82.7	82.1	82.5	82.9	81.4	82.2	82.5	82.5	82.2
1997	82.5	83.1	83.5	82.7	82.8	82.8	82.5	83.3	83.5	83.5	83.9	83.6	83.0	82.7	83.1	83.7	83.1
1998	83.7	83.3	82.7	82.6	82.6	81.4	80.4	82.0	81.1	81.4	81.1	81.0	83.2	82.2	81.2	81.1	81.9
1999	80.7	80.8	80.2	79.9	80.3	79.6	79.4	79.7	79.1	80.1	80.2	80.3	80.5	79.9	79.4	80.2	80.0
2000	79.9	79.7	79.8	79.9	79.4	79.3	78.9	78.1	78.4	77.8	77.3	76.5	79.8	79.5	78.4	77.2	78.7
2001	75.9	75.5	75.2	75.1	74.5	74.0	73.9	73.4	73.2	72.6	72.5	72.6	75.5	74.5	73.5	72.6	74.0
2002	73.1	73.0	73.6	73.6	74.1	74.9	74.5	74.7	74.8	74.4	74.7	74.3	73.2	74.2	74.7	74.5	74.1
2003	74.7	74.7	74.8	74.1	74.1	74.3	74.3	74.1	74.7	74.6	75.4	75.2	74.7	74.1	74.3	75.0	74.6
2004	75.1	75.7	75.5	76.0	76.6	75.9	76.6	77.1	76.8	77.7	77.6	78.1	75.4	76.1	76.8	77.8	76.5
2005	78.6	79.2	78.8	78.8	79.1	79.0	78.8	78.8	77.7	78.7	79.2	79.0	78.9	79.0	78.4	79.0	78.8
2006	79.5	79.2	79.0	79.3	78.8	78.9	78.8	78.9	78.8	78.4	78.3	79.5	79.2	79.0	78.9	78.7	79.0
2007	79.0	79.4	79.8	80.1	80.0	80.0	80.2	79.7	79.9	79.1	79.1	79.1	79.4	80.0	79.9	79.1	79.6
2008	78.6	78.0	77.6	76.5	76.0	75.5	75.1	74.4	72.0	71.9	70.8	69.1	78.1	76.0	73.9	70.6	74.6
2009	67.3	67.3	66.1	65.7	65.2	65.2	66.3	67.3	67.9	68.0	68.8	69.0	66.9	65.4	67.2	68.6	67.0
2010	69.7	69.4	70.3	70.9	71.7	71.5	72.0	72.1	72.0				69.8	71.4	72.1		

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](http://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 2007. 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](http://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 4 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by 4/10 percentage point ( $0.04 \times 10\% = 0.4\%$ ). 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](http://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 70 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 84 percent for estimates in the second month that the estimate is published, 93 percent in the third month, 97 percent in the fourth month, 98 percent in the fifth month, and 99 percent in the sixth month. Data availability by data type in late 2009 is summarized in the table below:

**Availability of Monthly IP Data in Publication Window**  
(Percent of value added in 2009)

Type of data	Month of estimate					
	1st	2nd	3rd	4th	5th	6th
Physical product	25	39	48	52	53	53
Production-worker hours	45	45	45	45	45	45
IP data received	70	84	93	97	98	98
IP data estimated	30	16	7	3	2	2

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 (25 percent out of a total of 53 percent). Of the 25 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 January 2010; for other series, the factors were estimated with data through at least January 2010. 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 1987–2009 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 1987–2009 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 89 detailed industries (71 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](http://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 1972–2009 period, the average total industry utilization rate is 80.6 percent; for manufacturing, the average factory operating rate has been 79.2 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.

## REFERENCES AND RELEASE DATES

**References.** The release for the annual revision that was published on June 25, 2010 is available on the Board's website ([www.federalreserve.gov/releases/g17/revisions/Current/DefaultRev.htm](http://www.federalreserve.gov/releases/g17/revisions/Current/DefaultRev.htm)). The annual revision published in March 2009 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](http://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

**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.

**2011:** January 14, February 16, March 17, April 15, May 17, June 15, July 15, August 16, September 15, October 17, November 16, and December 15.