# **FEDERAL RESERVE statistical release**



G.17 (419)

For release at 9:15 a.m. (EST) November 16, 2016

Percent change

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production was unchanged in October after decreasing 0.2 percent in September. Although the level of industrial production in September was the same as the previous estimate, revisions to the index for utilities raised the rate of change in total industrial production in August and lowered it in September. In October,

(over)

**Industrial Production and Capacity Utilization: Summary** 

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	2016						2016						Oct. '15 to
Industrial production	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>p</sup>	May	June <sup>r</sup>	July	Aug.r	Sept. <sup>r</sup>	Oct. <sup>p</sup>	Oct. '16
Total index	103.7	104.2	104.6	104.5	104.2	104.3	1	.5	.4	1	2	.0	9
Previous estimates	103.7	104.2	104.7	104.3	104.2	104.5	2	.5	.5	5	2	.0	9
1 revious estimates	103.7	104.2	104.7	104.2	104.2		2	.5	.5	5	.1		
Major market groups													
Final Products	100.4	101.0	101.1	101.1	101.0	100.9	3	.6	.1	1	.0	1	.0
Consumer goods	103.2	103.9	104.0	104.0	103.9	103.7	4	.7	.1	.0	1	2	.4
Business equipment	102.1	102.7	102.9	102.6	102.4	102.6	1	.6	.2	4	1	.2	2
Nonindustrial supplies	105.1	105.0	105.7	104.9	105.3	105.3	3	1	.6	7	.4	.0	7
Construction	109.2	108.4	109.3	108.0	108.5	109.2	7	8	.8	-1.2	.5	.6	4
Materials	105.8	106.5	107.0	107.0	106.3	106.6	.1	.7	.5	.0	6	.2	-1.7
Major industry groups													
Manufacturing (see note below)	102.8	103.0	103.4	102.8	103.0	103.2	2	.3	.3	5	.2	.2	2
Previous estimates	102.8	103.0	103.5	102.9	103.1		2	.2	.4	5	.2		
Mining	103.8	103.7	104.4	104.4	104.0	106.1	.8	1	.7	.0	4	2.1	-7.0
Utilities	101.8	104.8	105.1	108.1	104.9	102.2	5	2.9	.3	2.8	-3.0	-2.6	1
													Capacity
					Perce	nt of cap	acity						growth
	Average	1988-	1990-	1994-									
~	1972-	89	. 91	. 95	2009	2015	2016						Oct. '15 to
Capacity utilization	2015	high	low	high	low	Oct.	May	June <sup>r</sup>	July	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>p</sup>	Oct. '16
Total industry	80.0	85.3	78.8	85.0	66.7	76.3	75.1	75.4	75.7	75.6	75.4	75.3	.3
Total industry Previous estimates	80.0	85.5	/8.8	85.0	00.7	/0.3	75.1	75.4 75.4	75.7 75.8	75.0 75.3	75.4 75.4	13.3	
Previous estimates							/5.1	75.4	/3.8	13.3	75.4		
Manufacturing (see note below)	78.5	85.6	77.3	84.6	63.8	75.6	74.8	75.0	75.2	74.7	74.8	74.9	.7
Previous estimates	76.5	85.0	11.3	04.0	05.6	75.0	74.8	75.0	75.2	74.7	74.8 74.9	74.9	.,
Mining	87.3	86.2	83.8	88.6	79.0	80.1	74.0	74.3	75.2	75.3	75.2	77.0	-3.2
Utilities	85.8	93.2	84.7	93.2	78.2	78.5	77.8	80.0	80.2	82.4	79.9	77.8	-3.2
Othlities	05.0	93.2	04.7	93.2	70.2	76.5	//.0	80.0	80.2	02.4	19.9	//.0	. /
Stage-of-process groups													
Crude	86.3	87.6	84.5	90.1	77.0	79.5	75.0	75.2	76.0	76.0	75.8	76.8	-2.4
Primary and semifinished	80.6	86.5	78.1	87.8	63.8	76.4	75.0	75.6	75.9	76.0	75.5	75.1	.9
Finished	77.0	83.4	77.3	80.6	66.6	75.2	75.1	75.2	75.3	74.9	75.0	75.1	.7
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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.

manufacturing output increased 0.2 percent, and mining posted a gain of 2.1 percent for its largest increase since March 2014. The index for utilities dropped 2.6 percent, as warmer-than-normal temperatures reduced the demand for heating. At 104.3 percent of its 2012 average, total industrial production in October was 0.9 percent lower than its year-earlier level. Capacity utilization for the industrial sector edged down 0.1 percentage point in October to 75.3 percent, a rate that is 4.7 percentage points below its long-run (1972–2015) average.

### Market Groups

The output of consumer goods decreased 0.2 percent in October. The production of consumer durables advanced 0.5 percent, with nearly all of its major components recording increases. Automotive products posted a gain for the fifth consecutive month, and the index was about  $7\frac{1}{2}$  percent above its year-earlier level. The index for consumer non-energy nondurables was unchanged from its September level, with a gain for chemical products offset by losses for other components; the output of consumer energy products fell 3.0 percent. Business equipment registered a rise of 0.2 percent as a result of an increase for information processing equipment; the indexes for transit equipment and for industrial and other equipment edged down. The output of defense and space equipment decreased 0.3 percent. Construction supplies recorded an increase of 0.6 percent, while business supplies recorded a loss of 0.4 percent. The production of materials moved up 0.2 percent, as a broadly based gain in durable materials outweighed a decline for energy materials; the index for nondurable materials was unchanged.

### **Industry Groups**

Manufacturing output increased 0.2 percent in October but was 0.2 percent below its level of a year earlier. In October, the production of durables rose 0.4 percent, the production of nondurables remained unchanged, and the production of other manufacturing (publishing and logging) fell 0.6 percent. Most durable goods industries posted increases; the only declines were registered by aerospace and miscellaneous transportation equipment and by miscellaneous manufacturing. No major nondurable goods industry recorded a sharp swing in output: Chemicals posted the largest gain, 0.4 percent, while paper registered the largest decrease, 0.8 percent.

The index for mining advanced 2.1 percent in October. Declines in the extraction of crude oil and natural gas were outweighed by gains for most other mining industries, particularly coal mining.

Capacity utilization for manufacturing edged up 0.1 percentage point in October to 74.9 percent, a rate that is 3.6 percentage points below its long-run average. The operating rate for durables rose to 76.2 percent, the rate for nondurables remained unchanged at 74.3 percent, and the rate for other manufacturing (publishing and logging) fell to 61.7 percent. Utilization for mining jumped 1.8 percentage points to 77.0 percent; even so, it remains more than 10 percentage points below its long-run average. The rate for utilities fell 2.1 percentage points to 77.8 percent.

#### **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
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- 8. Industrial Capacity
- 9. Gross Value of Final 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

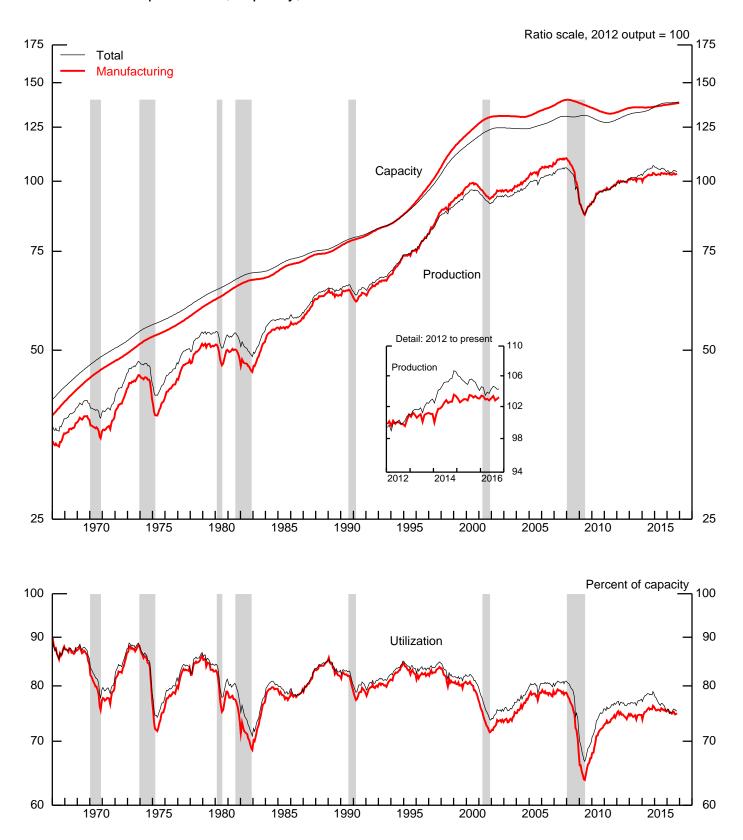
Further detail is available on the Board's website (www.federalreserve.gov/releases/G17/).

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

The Federal Reserve Board plans to issue its annual revision to the index of industrial production (IP) and the related measures of capacity utilization around the end of the first quarter of 2017. New annual benchmark data for 2015 for manufacturing will be incorporated, as will other annual data, including information on the mining of metallic and nonmetallic minerals (except fuels). The updated IP indexes will include revisions to the monthly indicator (either product data or input data) and to seasonal factors for each industry. In addition, the estimation methods for some series may be changed. Any modifications to the methods for estimating the output of an industry will affect the index from 1972 to the present.

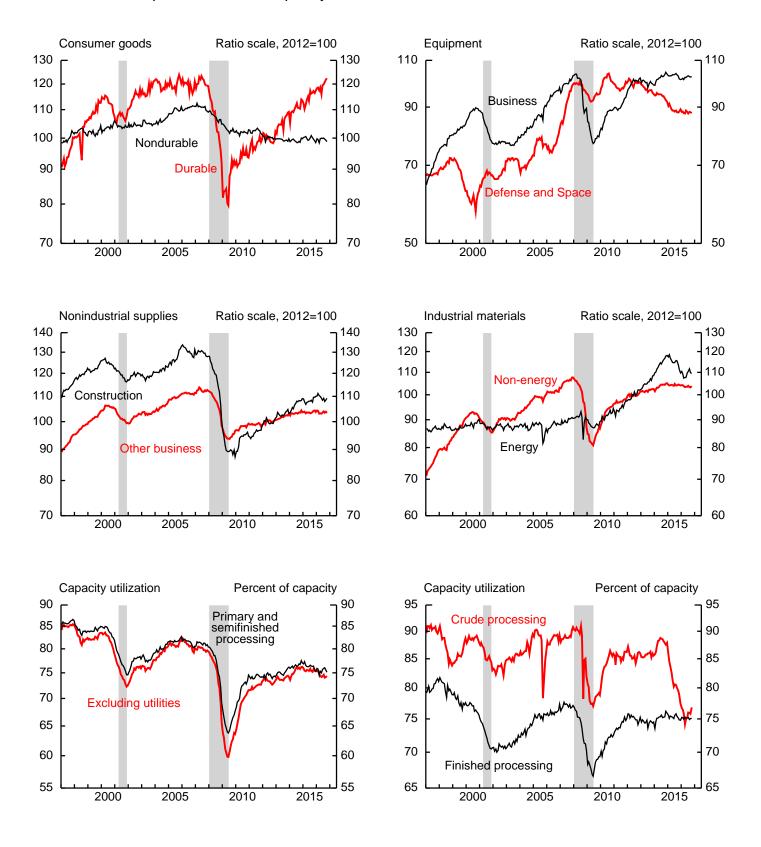
Capacity and capacity utilization will be revised to incorporate data through the fourth quarter of 2016 from the U.S. Census Bureau's Quarterly Survey of Plant Capacity along with new data on capacity from the U.S. Geological Survey, the U.S. Department of Energy, and other organizations.

# 1. Industrial production, capacity, and utilization



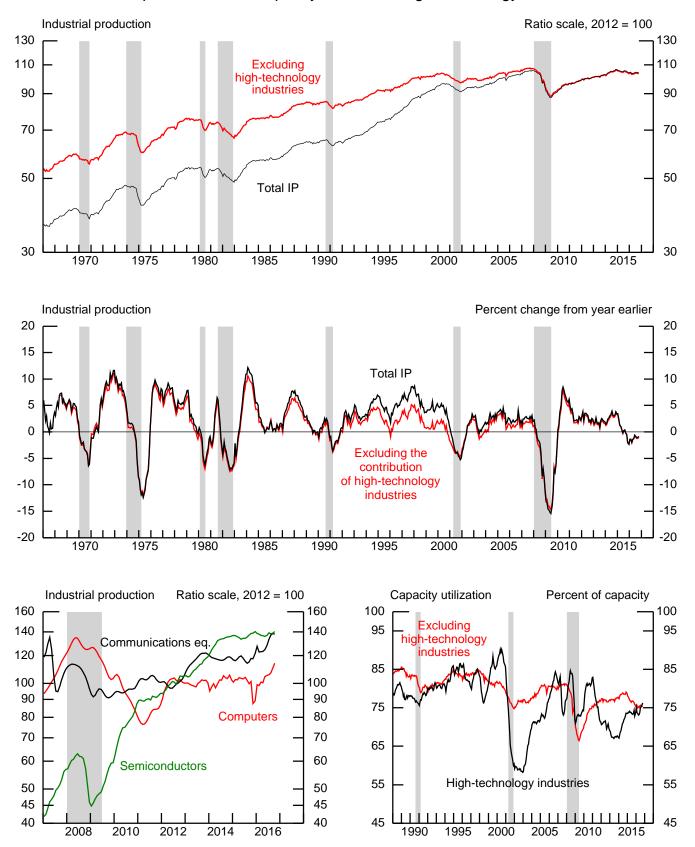
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

## 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 3344), 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

				th quart ırth quai			nnual rat	e			Month	nly rate			Oct. '15
Item		2015 proportion <sup>1</sup>	2013	2014	2015	2016 Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	2016 May <sup>r</sup>	June <sup>r</sup>	July	Aug.r	Sept.r	Oct.p	to Oct. '16
Total IP		100.00	2.0	3.5	-1.6	-1.7	8	2.0	1	.5	.4	1	2	.0	9
MARKET GROUPS															
Final products and nonindustrial supplies	S	55.52	.8	1.8	-1.0	.0	.4	1.1	3	.4	.2	2	.1	1	2
Consumer goods		27.08	1.5	.9	.6	1.6	1.9	1.5	4	.7	.1	.0	1	2	.4
Durable		6.36	8.8	3.6	3.8	4.0	2	9.8	-2.3	3.1	.2	.8	.9	.5	4.4
Automotive products		3.18	15.1	5.3	6.6	9.3	-1.8	17.8	-4.3	5.7	.1	2.2 -2.3	1.1 -2.3	.7	7.6
Home electronics Appliances, furniture, carpeting		.17 .90	3.9	.2 2.6	5 3.1	5.8 .9	-9.6 3	7.8 6	-1.6 .1	1.0 1.7	4.1 5	-2.3	-2.3 .5	1.7	-2.9
Miscellaneous goods		2.11	3.2	2.0	.5	-2.7	3.1	2.8	2	.0	5	-1.0	.9	1	2.0
Nondurable		20.72	4	.1	4	.8	2.7	-1.0	.2	1	.1	1	3	5	8
Non-energy		17.34	-2.0	1.0	1	1.7	8	-3.8	.0	6	.0	9	.2	.0	9
Foods and tobacco		9.60	1.0	4	.4	3.4	-1.5	9	2	4	.6	7	.1	3	.0
Clothing		.26	-4.1	-1.3	-4.6	-13.7	-13.0	5.3	7	.6	.6	3	2.0	5	-5.1
Chemical products		5.71	-8.0	5.0	.4	1.4	1.0	-9.9	.2	-1.1	-1.2	-1.3	.1	.7	-1.9
Paper products		1.26	-1.3	-2.8	-4.5	-11.9	-2.4	9	.4	5	.0	1	.1	5	-5.0
Energy		3.38	5.2	-2.8	-2.6	-4.1	24.6	15.9	.9	3.1	.5	3.0	-3.4	-3.0	.1
		44.00			4.0		2.2								
Business equipment Transit		11.32 3.09	-2.0	4.6	-1.9 4	-1.6 -2.3	3.3	1.3 -2.8	1 9	.6 1.0	.2 -1.6	4	1 2	.2 2	2 -3.3
Information processing		2.45	5	1.9	1.1	6.7	3.2	7.2	1.1	3	-1.0	1.9	.0	1.1	6.5
Industrial and other		5.78	-4.5	3.0	-3.9	-4.6	7.2	1.0	3	.8	1.2	-2.0	1	1	-1.4
Defense and space equipment		2.37	-4.1	-3.2	-4.7	-1.8	.3	8	1.3	6	7	.8	2	3	2
		<i>5</i> 10	2.5	4.	1.0	2.7	4.5	2.2	_	^	_	1.2	_		
Construction supplies Business supplies		5.12 9.19	3.6 2.3	4.4 1.1	1.2	2.7 8	-4.6 -2.5	-2.3 2.0	7 1	8 .3	.8 .5	-1.2 4	.5 .3	.6 4	4 9
Materials		44.48	3.3	5.2	-2.3	-3.8	-2.3	3.1	.1	.7	.5	.0	6	.2	-1.7
Non-energy		28.59	1.7	2.2	5	-1.0	-2.2	.3	.1	.1	.4	5	1	.4	7
Durable		17.81	3.2	3.6	-1.3	-2.7	6	.9	1	.5	.5	5	5	.7	9
Consumer parts		3.32	3.8	4.6	3.4	2.3	5.1	17.3	-2.1	4.9	2.6	-1.3	6	.6	4.3
Equipment parts		5.91	3.7	5.7	-1.4	-7.3	-1.8	1.1	.2	.1	.9	3	-1.4	.9	-2.4
Other		8.58	2.7	2.0	-3.0	-1.3	-2.0	-5.4	.5	-1.0	7	3	.1	.6	-1.9
Nondurable		10.78	5	.1	.9	1.9	-4.8	6	.4	6	.3	5	.6	.0	4
Textile		.44	8.1	-1.2	4	4	-6.7	4.4	3	.8	1.1	-1.3	1.3	1.6	1.5
Paper		2.08	9	5	-2.6	-1.6	-6.0	-1.8	.3	1	4	9	1.3	9	-3.6
Chemical		5.09	-2.3	.0	2.8	3.5	-7.9	-4.2	.2	-1.5	.2	6	.3	.3	-1.3
Energy		15.89	5.5	9.2	-5.1	-9.0	-2.4	9.0	.1	1.9	.7	1.1	-1.6	3	-3.5
INDUSTRY GROUPS		70.47		2.0	0	2		_	_	2	2	-	2	2	
Manufacturing (NAICS)	21 22	78.47	.8	2.0	.0	.2	-1.1	.5	2 2	.3	.3	5	.2	.2	2
Manufacturing (NAICS)	31–33	76.02	.9		.1	.6	-1.0	.6		.3		5	.2	.2	.0
Durable manufacturing	321	41.77 1.28	2.5	3.3	7	1 1.2	.6	2.7 -4.2	4	.9 .9	.4 -1.0	3	1	.4 1.0	.6
Wood products Nonmetallic mineral products	321	2.20	4.9	4.9	1 4.4	3.6	-4.4 -5.2	-5.8	8 9	.9 1	-1.0	8 -1.0	.6	.3	4 7
Primary metals	331	2.41	4.9	-1.8	-7.0	-1.0	3.8	-11.6	1.4	5	-2.5	-1.0	-1.6	1.6	-3.1
Fabricated metal products	332	6.10	3.5	1.1	-3.2	-1.5	-3.6	1.0	1	3	.5	4	.7	.6	1
Machinery	333	6.32	-5.0	3.9	-5.0	-11.7	10.2	6.6	8	2.3	1.9	-1.6	-1.4	.1	-2.5
Computer and electronic products	334	5.88	2.9	5.6	1.4	3.2	.4	6.6	.6	.0	.7	1.0	.0	1.2	4.4
Electrical equip., appliances,	334	3.00	2.7	5.0	1.7	5.2		5.0		.0	.,	1.0	.0	1.2	7.7
and components	335	1.96	4	.8	2.4	.3	-5.8	1.0	.9	1.0	1	9	2	.0	-1.8
Motor vehicles and parts	3361–3	5.86	10.1	6.4	5.1	6.8	-2.0	14.9	-4.5	5.6	.7	.9	.3	.9	5.0
Aerospace and miscellaneous		2.00						,		2.0	.,	.,		.,	
transportation equipment	3364-9	5.35	.9	4.6	-1.5	-1.9	.8	-2.3	1.3	6	4	.2	9	4	-1.5
Furniture and related products	337	1.24	8	3.9	3.1	-2.9	-5.4	-5.1	5	4	5	5	3	.7	-3.4
Miscellaneous	339	3.18	3.8	.3	-1.5	8.8	6.5	2.3	1.0	9	1.6	-2.2	2.3	-1.4	4.2
N 1 11 2 2 1		24.25					2.0			_			_	_	_
Nondurable manufacturing	211.2	34.25	9	1.1	1.1	1.4	-2.9	-1.9	.1	5	.2	8	.5	.0	7
Food, beverage, and tobacco products	311,2	11.40	1.2	1	.7	3.3	-1.2	2	.0	4	.5	6	.2	2	.4
Textile and product mills	313,4	.74	6.5	.1	5	4.0	-5.0	1.8	.7	1	.9	-1.4	1.2	.3	.8
Apparel and leather	315,6	.27	-3.7	-1.4	-4.3	-12.9	-13.1	5.4	8	.7	.7	3	2.1	5	-5.0
Paper Printing and support	322	2.67	-1.4	.7	-3.2	-1.1	-3.0	8	1.0	.0	7	4	1.2	8	-1.9
Printing and support	323	1.59	2.4	6	2.7	-2.2 -1.4	-10.2	-1.8 -1.4	-1.5 -1.0	.9	4 - 7	8	1.4	.3 3	-2.5 -2.5
Petroleum and coal products Chemicals	324 325	1.85 12.23	1.7	-2.4 2.3	6.5 1.4	-1.4 2.7	-3.8 -3.2	-1.4 -5.2	-1.0 .4	1.3 -1.2	7 2	7 9	.9 .4	3 .4	-2.5 -1.0
Plastics and rubber products	325	3.50	-4.6	5.7	1.4	-2.9	-3.2 -2.5	-5.2 1.9	2	-1.2 6	1.6	-1.5	1.1	.4	-1.0
Other manufacturing (non-NAICS)	1133,5111	2.46	.2	-5.3	-4.2	-10.0	-4.7	-4.0	4	8	.2	8	3	6	-6.4
	21	10.76	5.0	12.4	-Q 2	_15 /	_1/ Q	2.1	Q	_ 1	7	Λ	_ 1	2.1	_7 ∩
Mining Utilities	21 2211,2	10.76 10.76	5.9 4.4	12.4	-8.3 -4.1	-15.4 -2.1	-14.8 15.1	3.1 12.4	.8 5	1 2.9	.7	2.8	4 -3.0	2.1	-7.0 1
Mining															

r Revised. p Preliminary.

NOTE. Under the industry groups, the figures to the right of the series descriptions are 2012 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 website (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

<sup>1.</sup> 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
Fourth quarter to

ercent change, seasonarry adjusted			Fou	ırth quart	ter to										
		2015		urth quai			nnual rat	e	2015		Month	hly rate			Oct. '15
Item		2015 proportion	2013	2014	2015	2016 Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	2016 May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.p	to Oct. '16
Total industry		100.00	2.0	3.5	-1.6	-1.7	8	2.0	1	.5	.4	1	2	.0	9
Energy		21.52	5.1	6.7	-6.1	-8.7	1.3	10.4	.2	2.1	.6	1.6	-1.9	9	-3.1
Consumer products		3.38	5.2	-2.8	-2.6	-4.1	24.6	15.9	.9	3.1	.5	3.0	-3.4	-3.0	.1
Commercial products		1.86	3.7	.7	1	-1.1	4.6	9.5	.5	1.8	3	3.0	-2.4	-2.6	-1.0
Oil and gas well drilling	213111	.39	-1.5	7.1	-59.5	-65.5	-62.6	27.4	-7.9	.3	4.9	3.2	5.1	9.0	-31.5
Converted fuel		5.13	.9	.5	-2.0	-9.5	17.9	25.9	1.1	6.7	.9	1.9	-3.0	-1.9	1.4
Primary energy		10.76	6.9	12.0	-6.1	-8.7	-12.2	2	5	9	.6	.6	7	.7	-6.2
Non-energy		78.48	.8	2.3	2	.2	-1.3	.1	2	.1	.3	5	.2	.3	2
Selected high-technology industries		2.66	11.5	8.8	.1	5.6	.4	16.1	.7	1.2	2.1	.5	1.0	1.0	6.7
Computers and peripheral equipment	3341	.36	.3	2.2	-10.6	32.9	16.6	18.5	4.1	.7	.6	1.3	3.0	3.3	12.8
Communications equipment	3342	.64	18.0	-2.6	.4	19.9	2.9	40.3	1.2	2.8	4.2	2.7	1.2	4	17.4
Semiconductors and related electronic components	3344	1.66	12.2	15.5	2.5	-4.0	-3.8	6.7	3	.6	1.6	7	.5	1.1	1.4
Excluding selected high-technology															
industries		75.82	.4	2.0	2	.0	-1.3	5	2	.1	.2	6	.2	.2	5
Motor vehicles and parts	3361-3	5.86	10.1	6.4	5.1	6.8	-2.0	14.9	-4.5	5.6	.7	.9	.3	.9	5.0
Motor vehicles	3361	2.74	13.8	3.4	3.2	8.7	-6.8	12.4	-7.0	8.1	-1.6	2.4	.7	1.2	3.7
Motor vehicle parts	3363	2.64	5.4	8.9	6.6	6.9	4.8	19.8	-2.4	4.3	3.6	-1.2	7	.7	6.9
Excluding motor vehicles and parts		69.96	3	1.7	6	5	-1.3	-1.7	.1	3	.2	7	.1	.2	9
Consumer goods		20.87	-1.2	1.2	.2	1.1	7	-2.8	.0	5	.1	9	.3	.0	7
Business equipment		9.65	-3.1	4.9	-1.9	-3.0	5.4	1.0	.3	.4	.4	6	4	.0	3
Construction supplies		5.10	3.5	4.5	1.2	2.6	-4.7	-2.4	7	8	.8	-1.2	.5	.7	4
Business supplies Materials		6.89 25.09	.9 .9	.1 1.3	.3 -1.1	8 -1.5	-4.4 -2.7	9 -1.8	2 .4	2 4	.6 .0	-1.4 4	1.0 1	.1 .4	-1.3 -1.5
Measures excluding selected															
high-technology industries		07.64	1.0	2.2	1.5	1.0		1.6			2		_		
Total industry		97.34	1.8	3.3	-1.7	-1.9	8	1.6	2	.5	.3	1	3	.0	-1.1
Manufacturing <sup>1</sup> Durable		75.81 39.29	.4 1.8	1.8 2.9	.0 8	.0 5	-1.2 .6	.0 1.7	2 5	.2 .9	.3 .3	6 4	.2 1	.2 .3	4 .2
Measures excluding motor vehicles															
and parts		04.14	1.6	2.2	2.0	2.2	7	1.2		2	2	2	2	0	1.2
Total industry  Manufacturing <sup>1</sup>		94.14	1.6	3.3	-2.0	-2.2	7	1.2 7	.2	.2	.3	2 7	3	.0	-1.2
Durable Durable		72.61 36.09	.2 1.4	1.7 2.8	4 -1.6	3 -1.2	-1.0 1.0	<i>1</i> .7	.2	2 .2	.3 .4	<i>1</i> 5	.2 1	.1 .3	6 1
Measures excluding selected high-technology industries															
and motor vehicles and parts															
Total industry		91.47	1.4	3.2	-2.1	-2.4	8	.7	.1	.2	.3	-,2	3	.0	-1.5
Manufacturing <sup>1</sup>		69.95	2	1.4	4	5	-1.1	-1.3	.1	2	.2	7	.1	.1	9
Stage-of-process components of non-energy materials, measures of the input to															_
Finished processors		11.75	3.0	4.0	2	-3.4	8	5.3	5	1.5	1.2	7	6	.5	5
Primary and semifinished processors		16.84	.9	1.1	6	.7	-3.2	-3.0	.4	9	1	3	.2	.4	8

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

willions of units, seasonally adjusted aimual rate											
	2015	2015	2016			2016					
Item	average	Q4	Q1	Q2	Q3	May	June	July	Aug.	Sept.	Oct.
Total	12.11	12.03	12.11	12.00	12.13	11.36	12.48	11.95	12.24	12.21	12.34
Autos	4.16	3.95	3.96	3.94	3.91	3.71	4.18	3.86	3.95	3.91	3.75
Trucks	7.94	8.08	8.15	8.07	8.22	7.65	8.30	8.09	8.29	8.29	8.59
Light	7.62	7.77	7.83	7.79	8.00	7.37	8.05	7.86	8.07	8.06	8.36
Medium and heavy	.32	.31	.32	.28	.23	.29	.25	.23	.22	.23	.24
Memo Autos and light trucks	11.78	11.72	11.79	11.72	11.91	11.08	12.22	11.72	12.02	11.97	12.11

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

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1. Refer to note on cover page.

Table 4 INDUSTRIAL PRODUCTION INDEXES: MARKET AND INDUSTRY GROUP SUMMARY 2012 = 100, seasonally adjusted

012 = 100, seasonally adjusted											
Item		2015 proportion	2016 Feb.	Mar.	Apr.	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept. <sup>r</sup>	Oct. <sup>p</sup>
Total IP		100.00	104.4	103.4	103.8	103.7	104.2	104.6	104.5	104.2	104.3
Market Groups											
Final products and nonindustrial supplies		55.52	102.1	101.1	101.9	101.6	102.0	102.3	102.1	102.1	102.0
Consumer goods		27.08	103.4	102.2	103.6	103.2	103.9	104.0	104.0	103.9	103.7
Durable		6.36	118.6	117.4	118.6	115.9	119.5	119.8	120.8	121.8	122.4
Automotive products		3.18	133.0	130.7	132.5	126.7	134.0	134.1	137.0	138.5	139.5
Home electronics		.17	105.8	107.7	104.5	102.8	103.9	108.2	105.7	103.3	105.0
Appliances, furniture, carpeting		.90	108.7	107.8	108.1	108.2	110.1	109.6	107.9	108.4	109.3
Miscellaneous goods		2.11	105.1	104.8	106.1	106.0	105.9	106.5	106.4	107.4	107.2
Nondurable		20.72	99.5	98.3	99.7	99.9	99.8	99.9	99.6	99.2	98.8
Non-energy		17.34	98.0	97.9	98.1	98.1	97.5	97.5	96.6	96.8	96.8
Foods and tobacco		9.60	102.4	101.7	102.2	102.0	101.6	102.2	101.5	101.5	101.3
Clothing		.26	83.8	83.4	80.5	79.9	80.4	80.9	80.7	82.3	81.9
Chemical products		5.71	93.0	93.8	94.0	94.1	93.1	92.0	90.9	91.0	91.6
Paper products Energy		1.26 3.38	86.4 103.6	86.1 96.4	85.6 105.1	85.9 106.0	85.5 109.2	85.5 109.8	85.4 113.1	85.5 109.3	85.0 106.0
Business equipment		11.32 3.09	101.8	101.2 116.4	102.2 116.7	102.1	102.7 116.8	102.9 114.9	102.6	102.4 115.7	102.6 115.5
Transit Information processing		2.45	118.2 104.7	105.2	105.1	115.6 106.2	106.0	106.2	115.9 108.3	108.3	109.5
Industrial and other		5.78	93.9	93.4	95.1	94.9	95.6	96.8	94.8	94.7	94.6
Defense and space equipment		2.37	88.2	87.6	87.5	88.6	88.1	87.5	88.2	88.0	87.7
• • •											
Construction supplies		5.12	111.2	110.3	110.0	109.2	108.4	109.3	108.0	108.5	109.2
Business supplies		9.19	104.2	103.0	103.1	103.1	103.4	103.9	103.4	103.7	103.3
Materials		44.48	106.8	105.9	105.7	105.8	106.5	107.0	107.0	106.3	106.6
Non-energy		28.59	104.1	103.7	103.4	103.4	103.5	103.9	103.4	103.2	103.7
Durable		17.81	106.0	105.0	105.3	105.1	105.6	106.1	105.6	105.0	105.8
Consumer parts		3.32	115.3	114.2	115.8	113.4	118.9	122.1	120.5	119.7	120.5
Equipment parts		5.91	106.1	105.0	105.3	105.5	105.6	106.5	106.1	104.7	105.6
Other		8.58	102.6	101.8	101.5	102.0	101.0	100.3	100.0	100.1	100.7
Nondurable		10.78	101.4	101.9	100.5	100.9	100.2	100.5	100.0	100.6	100.6
Textile Paper		.44 2.08	103.8 95.9	104.4 95.2	103.1 94.1	102.7 94.4	103.6 94.4	104.7 94.0	103.4 93.2	104.7 94.4	106.4 93.6
Chemical		5.09	102.1	103.4	101.2	101.4	99.8	100.1	99.4	99.7	100.0
Energy		15.89	109.2	107.2	107.6	107.6	109.7	110.5	111.7	109.9	109.5
INDUSTRY CROWNS											
INDUSTRY GROUPS Manufacturing		78.47	103.3	102.9	103.0	102.8	103.0	103.4	102.8	103.0	103.2
Manufacturing (NAICS)	31-33	76.02	104.0	103.6	103.7	103.5	103.8	104.1	103.5	103.7	104.0
Durable manufacturing		41.77	106.1	105.4	106.0	105.5	106.5	106.9	106.6	106.5	106.9
Wood products	321	1.28	110.7	109.8	110.0	109.1	110.1	109.0	108.1	108.7	109.8
Nonmetallic mineral products	327	2.20	117.7	117.1	116.3	115.2	115.1	114.4	113.3	113.8	114.1
Primary metals	331	2.41	95.2	95.4	94.9	96.3	95.8	93.4	93.2	91.7	93.1
Fabricated metal products	332	6.10	101.2	99.8	100.1	100.0	99.7	100.2	99.8	100.5	101.1
Machinery	333	6.32	89.9	88.9	91.7	90.9	93.0	94.8	93.3	92.0	92.1
Computer and electronic products	334	5.88	113.1	113.3	113.0	113.6	113.6	114.4	115.6	115.6	117.0
Electrical equip., appliances,	225	1.06	104.5	101.0	101.0	101.0	102.0	102.9	101.0	101.0	101.7
and components  Motor vehicles and parts	335 3361–3	1.96 5.86	104.5 127.7	101.9 126.2	101.0 127.7	101.9 122.0	102.9 128.8	102.8 129.8	101.9 130.9	101.8 131.3	101.7 132.4
Aerospace and miscellaneous	3301-3	3.80	12/./	120.2	127.7	122.0	120.0	129.0	130.9	131.3	132.4
transportation equipment	3364–9	5.35	106.4	105.5	105.5	106.8	106.1	105.7	105.9	104.9	104.5
Furniture and related products	337	1.24	105.4	105.6	105.1	100.6	104.2	103.7	103.9	102.9	103.6
Miscellaneous	339	3.18	105.1	105.6	106.3	107.3	106.4	108.0	105.7	108.1	106.5
Nondurable manufacturing		34.25	101.6	101.7	101.1	101.3	100.7	100.9	100.1	100.6	100.7
Food, beverage, and tobacco products	311,2	11.40	101.6	101.7	101.1	101.3	100.7	100.9	100.1	100.6	100.7
Textile and product mills	313,4	.74	105.2	102.0	103.0	105.0	102.0	105.2	102.6	102.7	102.0
Apparel and leather	315,6	.27	84.6	84.1	81.2	80.5	81.1	81.6	81.4	83.0	82.7
Paper	322	2.67	96.4	96.1	95.0	96.0	96.0	95.3	94.9	96.1	95.3
Printing and support	323	1.59	103.2	101.5	100.7	99.2	100.1	99.6	98.8	100.2	100.6
Petroleum and coal products	324	1.85	105.7	108.0	105.7	104.7	106.0	105.3	104.5	105.4	105.1
Chemicals	325	12.23	98.6	99.6	98.4	98.9	97.7	97.5	96.6	97.0	97.4
Plastics and rubber products	326	3.50	107.8	106.6	107.0	106.7	106.1	107.8	106.2	107.3	107.4
Other manufacturing (non-NAICS)	1133,5111	2.46	85.4	84.0	84.1	83.8	83.2	83.3	82.7	82.4	82.0
8 \ /											106.1
	21	10.76	108.6	106.3	102.9	103.8	103.7	104.4	104.4	104.0	106.1
Mining Utilities	2211,2	10.76	100.4	96.3	102.3	101.8	104.8	105.1	108.1	104.9	102.2
Mining											

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 Table 5

 INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

 2012 = 100, seasonally adjusted

012 = 100, scasonary adjusted											
Item		2015 proportion	2016 Feb.	Mar.	Apr.	May <sup>r</sup>	June <sup>r</sup>	July	Aug.r	Sept.r	Oct.p
					•					•	
Total industry		100.00	104.4	103.4	103.8	103.7	104.2	104.6	104.5	104.2	104.3
Energy		21.52	105.5	102.6	104.3	104.5	106.7	107.4	109.1	107.0	106.1
Consumer products		3.38	103.6	96.4	105.1	106.0	109.2	109.8	113.1	109.3	106.0
Commercial products		1.86	105.1	103.0	104.9	105.5	107.4	107.1	110.3	107.7	104.8
Oil and gas well drilling	213111	.39	29.9	27.4	25.5	23.5	23.6	24.7	25.5	26.8	29.3
Converted fuel		5.13	97.6	94.5	98.8	99.8	106.5	107.5	109.5	106.2	104.2
Primary energy		10.76	113.1	111.8	109.7	109.2	108.2	108.8	109.5	108.7	109.5
Non-energy		78.48	103.4	102.9	103.0	102.8	102.9	103.2	102.7	102.9	103.1
Selected high-technology industries		2.66	127.4	127.3	127.0	127.8	129.3	132.1	132.7	134.0	135.4
Computers and peripheral equipment	3341	.36	98.5	100.8	100.4	104.5	105.2	105.9	107.2	110.5	114.1
Communications equipment	3342	.64	122.7	123.1	123.2	124.6	128.1	133.5	137.0	138.7	138.1
Semiconductors and related											
electronic components	3344	1.66	137.9	137.0	136.5	136.2	136.9	139.2	138.2	138.9	140.4
Excluding selected high-technology											
industries		75.82	102.5	102.0	102.1	101.9	102.0	102.2	101.6	101.8	102.0
ilidustries		73.82	102.3	102.0	102.1	101.9	102.0	102.2	101.0	101.6	102.0
Motor vehicles and parts	3361-3	5.86	127.7	126.2	127.7	122.0	128.8	129.8	130.9	131.3	132.4
Motor vehicles	3361	2.74	126.6	124.2	125.7	116.9	126.3	124.3	127.3	128.2	129.8
Motor vehicle parts	3363	2.64	127.4	127.2	128.6	125.6	130.9	135.7	134.1	133.2	134.1
Excluding motor vehicles and parts		69.96	100.8	100.3	100.3	100.5	100.1	100.3	99.6	99.7	99.9
Consumer goods		20.87	99.4	99.1	99.4	99.4	98.9	99.1	98.1	98.4	98.4
Business equipment		9.65	100.5	100.1	101.2	101.5	101.9	102.3	101.7	101.3	101.3
Construction supplies		5.10	111.2	110.2	110.0	109.2	108.3	109.2	107.9	108.4	109.1
Business supplies		6.89	101.3	100.3	99.9	99.7	99.5	100.1	98.7	99.7	99.8
Materials		25.09	101.2	100.8	100.3	100.6	100.2	100.2	99.8	99.7	100.1
Measures excluding selected high-technology											
industries											
Total industry		97.34	103.8	102.8	103.2	103.1	103.6	103.9	103.7	103.5	103.5
Manufacturing <sup>1</sup>		75.81	102.5	102.0	102.1	101.9	102.1	102.4	101.8	101.9	102.1
Durable		39.29	104.6	103.8	104.4	103.9	104.8	105.2	104.7	104.6	105.0
Measures excluding motor vehicles and parts											
Total industry		94.14	103.3	102.3	102.6	102.8	103.0	103.3	103.1	102.9	102.8
Manufacturing <sup>1</sup>		72.61	101.7	101.4	101.3	101.5	101.3	101.6	100.9	101.1	101.3
Durable		36.09	103.2	102.5	103.0	103.2	103.4	103.8	103.2	103.1	103.4
Measures excluding selected high-technology											
industries and motor vehicles and parts											
industries and motor vehicles and parts Total industry		91.47	102.6	101.6	102.0	102.1	102.3	102.5	102.3	102.0	102.0
		91.47 69.95	102.6 100.7	101.6 100.4	102.0 100.4	102.1 100.5	102.3 100.3	102.5 100.5	102.3 99.8	102.0 99.9	102.0 100.0
Total industry Manufacturing <sup>1</sup>											
Total industry Manufacturing  Stage-of-process components of non-energy											
Total industry Manufacturing  Stage-of-process components of non-energy materials, measures of the input to		69.95	100.7	100.4	100.4	100.5	100.3	100.5	99.8	99.9	100.0
Total industry Manufacturing  Stage-of-process components of non-energy											

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Table 6 DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One month earlier												
2014	42.5	65.9	66.9	51.5	59.5	56.5	58.2	46.8	62.9	51.5	61.9	49.8
2015	42.8	44.1	54.5	49.5	50.8	47.5	57.9	50.5	41.1	56.2	48.8	51.5
2016	52.5	51.0	45.0	47.0	53.7	51.5	54.8	48.3	57.0			
Three months earlier												
2014	45.8	57.2	61.9	67.9	62.2	58.2	61.5	59.2	57.9	55.9	65.9	59.5
2015	54.8	41.1	43.1	49.2	53.2	47.8	54.2	56.5	51.5	54.2	48.5	50.2
2016	50.8	52.3	46.2	41.6	43.6	51.8	57.2	49.5	54.5			
Six months earlier												
2014	51.2	53.5	61.5	60.5	59.9	61.5	67.6	64.5	57.5	61.9	66.2	60.9
2015	56.2	51.5	53.8	52.8	45.2	45.5	51.5	55.9	55.9	54.8	50.8	54.8
2016	48.2	48.2	46.2	41.8	49.3	49.2	55.2	48.8	57.9			

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.

<sup>1.</sup> Refer to note on cover page.

Table 7
CAPACITY UTILIZATION
Percent of capacity, seasonally adjusted

Item		2015	1972- 2015	1994- 95	2009	2016			2016					
		proportion	ave.	high	low	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct.
Total industry		100.00	80.0	85.0	66.7	75.4	75.2	75.5	75.1	75.4	75.7	75.6	75.4	75.3
Manufacturing <sup>1</sup>		78.58	78.5	84.6	63.8	75.3	74.9	74.9	74.8	75.0	75.2	74.7	74.8	74.9
Manufacturing (NAICS)	31–33	75.80	78.4	84.7	63.5	75.7	75.4	75.3	75.2	75.4	75.6	75.2	75.3	75.
Durable manufacturing		41.24	76.9	83.7	58.2	75.9	75.8	76.2	75.5	76.1	76.4	76.1	76.0	76.
Wood products	321	1.41	76.4	86.6	48.6	67.5	66.0	64.6	65.6	66.0	65.0	64.3	64.4	64
Nonmetallic mineral products	327	2.52	74.0	82.5	45.0	66.7	65.7	64.5	65.5	65.4	64.9	64.2	64.5	64
Primary metals	331	2.64	78.8	94.1	49.1	70.2	71.0	69.0	71.4	71.2	69.5	69.3	68.3	69
Fabricated metal products	332	5.71	77.6	84.9	62.1	79.2	78.6	78.9	78.7	78.4	78.9	78.6	79.2	79
Machinery	333	6.42	77.7	87.1	58.5	69.8	71.5	72.6	70.7	72.3	73.7	72.5	71.5	71
Computer and electronic products	334	6.10	77.6	84.5	69.8	73.1	72.4	72.7	72.5	72.2	72.5	72.9	72.7	73
Electrical equip., appliances,	225	4.55	02.6	00.5	65.0	0.4.0	00.5	00.6	00.5	04.2	0.4.2	02.4	00.0	0.0
and components	335	1.77	82.6	92.7	67.0	84.9	83.5	83.6	83.5	84.3	84.2	83.4	83.2	83
Motor vehicles and parts	3361–3	5.53	74.9	87.8	33.8	82.1	81.5	84.2	78.8	83.1	83.7	84.4	84.6	85
Aerospace and miscellaneous	2264.0	4.05	740	70.1	70.4	01.6	02.0	01.6	00.5	02.0	01.7	01.0	01.0	00
transportation equipment	3364–9	4.85	74.0	70.1	72.4	81.6	82.0	81.6	82.5	82.0	81.7	81.9	81.2	80
Furniture and related products	337	1.21	76.5	82.6	56.1	77.4	76.5	75.7	76.4	76.2	75.9	75.6	75.5	76
Miscellaneous	339	3.09	76.4	80.9	68.8	78.6	79.8	80.2	80.3	79.6	80.8	79.0	80.8	79
Nondurable manufacturing		34.55	80.3	86.0	69.3	75.4	74.7	74.3	74.9	74.5	74.6	73.9	74.3	74
Food, beverage, and tobacco products	311,2	11.25	80.8	85.3	75.1	76.3	75.7	75.3	75.8	75.4	75.6	75.1	75.1	74
Textile and product mills	313,4	.78	79.3	91.9	53.6	72.4	71.5	71.9	71.7	71.6	72.2	71.3	72.2	72
Apparel and leather	315,6	.31	76.8	87.1	56.9	61.9	60.5	62.2	60.2	60.9	61.6	61.7	63.3	63
Paper	322	2.42	86.6	92.7	72.9	82.2	81.8	81.9	82.1	82.2	81.7	81.5	82.5	82
Printing and support	323	1.84	79.7	84.9	58.9	65.3	63.8	63.7	63.2	63.9	63.6	63.2	64.2	64
Petroleum and coal products	324	2.02	85.4	91.0	76.0	79.5	78.5	78.2	77.9	78.9	78.3	77.8	78.4	78
Chemicals	325	12.65	77.1	82.1	66.1	73.8	73.4	72.6	73.8	73.0	72.9	72.3	72.6	73
Plastics and rubber products	326	3.29	82.0	93.3	58.4	78.7	77.5	77.1	77.6	76.9	77.9	76.5	77.0	76
Other manufacturing (non-NAICS)	1133,5111	2.79	81.0	83.2	67.3	64.2	63.4	62.5	63.5	62.9	63.0	62.4	62.2	61
Mining	21	11.19	87.3	88.6	79.0	76.1	73.9	75.2	74.1	74.3	75.1	75.3	75.2	77
Utilities	2211,2	10.22	85.8	93.2	78.2	76.1	78.7	80.9	77.8	80.0	80.2	82.4	79.9	77
Selected high-technology industries		2.82	77.5	86.5	71.0	74.1	73.4	75.4	73.3	73.9	75.2	75.3	75.8	76
Computers and peripheral equipment	3341	.40	77.6	88.0	83.0	73.6	78.3	83.7	79.1	80.3	81.5	83.2	86.5	90
Communications equipment	3342	.72	76.6	84.3	77.5	70.1	70.3	76.4	69.9	71.8	74.8	76.8	77.7	77
Semiconductors and related														
electronic components	3344	1.70	78.9	91.8	62.4	76.0	73.9	73.4	73.7	73.5	74.2	73.1	72.9	73
Measures excluding selected high-technology industries														
Total industry		97.18	80.1	84.9	66.4	75.4	75.3	75.5	75.1	75.5	75.7	75.6	75.3	75
Manufacturing <sup>1</sup>		75.76	78.5	84.5	63.3	75.3	75.0	74.9	74.9	75.0	75.2	74.7	74.8	74
Contract of progress														
STAGE-OF-PROCESS GROUPS		15.20	06.2	00.1	77.0	76.4	740	75.0	75.0	75.0	76.0	76.0	75 0	7/
Crude		15.30	86.3	90.1	77.0	76.4	74.8	75.9	75.0	75.2	76.0	76.0	75.8	76
Primary and semifinished Finished		44.60 40.10	80.6 77.0	87.8 80.6	63.8 66.6	75.4 75.2	75.3 75.2	75.8 75.1	75.0 75.1	75.6 75.2	75.9 75.3	76.0 74.9	75.5 75.0	75 75
i illisticu		40.10	//.0	00.0	0.00	13.4	13.4	13.1	13.1	13.4	13.3	14.9	13.0	13

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1. Refer to note on cover page.

Table 8 INDUSTRIAL CAPACITY

Percent	chanc	40

													Monthly
	1	Average aı	nnual rate		Fourth	quarter to	o fourth o	uarter		Annua	l rate		rate
Item	1972-	1980-	1989-	1995-					2016				2016
	79	88	94	2016	2013	2014	2015	2016	Q1	Q2	Q3	Q4	Oct.
Total industry	3.0	1.9	2.3	2.2	1.0	1.8	2.0	.4	.3	.1	.3	.7	.1
Manufacturing <sup>1</sup>	3.2	2.2	2.6	2.1	.4	.2	.8	.7	.7	.7	.8	.8	.1
Mining Utilities	.7 4.4	.1 2.2	6 1.8	1.2 1.7	6.7	8.3	5.6 .7	-3.4 .8	-2.2 .6	-3.9 .7	-4.2 .8	-3.3 .8	3 .1
Selected high-technology industries	18.6	16.8	15.7	18.4	15.4	.2	4	4.0	3.4	4.1	4.4	4.3	.3
Manufacturing <sup>1</sup> ex. selected high-technology industries	2.6	1.3	1.6	.8	1	.2	.9	.6	.6	.5	.6	.7	.1
STAGE-OF-PROCESS GROUPS Crude	1.5	.4	5	1.2	4.9	6.5	4.8	-2.5	-1.8	-3.0	-3.0	-2.1	2
Primary and semifinished	3.0	1.3	2.5	2.3	.7	.1	.6	1.0	.8	.9	1.1	1.1	.1
Finished	3.9	3.3	2.8	1.9	2	.5	1.2	.7	.8	.6	.6	.6	.1

<sup>1.</sup> Refer to note on cover page.

Table 9
GROSS VALUE OF FINAL PRODUCTS AND NONINDUSTRIAL SUPPLIES
Billions of 2009 dollars at annual rate, seasonally adjusted

			2016			2016					
Item	2009	2015	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.
Final products and nonindustrial											
supplies	3,234.7	3,633.2	3,631.9	3,636.5	3,663.7	3,616.9	3,656.3	3,659.7	3,665.5	3,665.9	3,656.
Final products	2,407.9	2,701.2	2,693.8	2,703.4	2,727.3	2,685.4	2,722.2	2,721.2	2,731.0	2,729.8	2,722.
Consumer goods	1,790.5	1,939.2	1,950.6	1,960.2	1,985.0	1,945.1	1,977.2	1,978.1	1,989.7	1,987.3	1,978.
Durable	351.6	500.2	517.8	517.1	532.4	504.1	526.9	526.2	533.2	537.8	540.
Automotive products	197.7	334.0	350.4	349.2	364.0	336.2	358.7	357.1	365.6	369.1	370.
Other durable goods	153.9	166.7	168.1	168.6	169.5	168.3	169.2	170.0	168.7	169.8	170.
Nondurable	1,438.9	1,454.2	1,448.9	1,459.3	1,468.9	1,457.1	1,466.5	1,468.2	1,472.8	1,465.7	1,454.0
Equipment, total	617.4	769.0	750.2	750.5	750.1	747.4	752.5	750.8	749.3	750.4	751.
Business and defense	600.0	756.1	742.5	745.0	744.4	742.0	747.3	745.6	743.6	744.0	744.
Business	483.3	646.5	634.4	636.7	636.5	633.1	639.0	638.1	635.3	636.0	637.
Defense and space	116.8	110.3	108.8	108.9	108.6	109.6	109.0	108.3	109.0	108.7	108.
Nonindustrial supplies	826.8	933.1	939.6	934.1	937.2	932.8	934.8	939.5	935.1	936.9	934.
Construction supplies	232.1	278.5	283.5	281.9	280.2	281.4	280.6	282.7	278.5	279.4	281.
Business supplies	594.7	654.8	656.0	652.1	657.3	651.3	654.4	656.8	657.2	657.9	653.
Commercial energy products	218.5	232.1	231.7	233.3	238.7	232.5	236.5	236.0	242.5	237.7	231.

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

Percent change, seasonally adjusted

				Fourth quarter to										
		fo	urth quar	ter	l A	Annual r	ate			Mont	hly rate			Oct. '15
Item	2015				2016			2016						to
	gross value1	2013	2014	2015	Q1	$Q2^{r}$	Q3 <sup>r</sup>	May <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.p	Oct. '16
Finished	2,122.1	.0	2.2	9	2.0	2	2.1	8	1.1	.0	1	.4	.2	.9
Semifinished	1,919.0	3.1	3.8	.1	-1.6	.7	6.7	4	1.2	1.2	.1	8	1	.1
Primary	1,487.9	3.5	-1.8	4	4	4.1	1.5	.3	1.0	6	.6	6	9	8
Crude	768.1	2.8	5.7	-3.4	-9.3	-8.6	1.5	.7	1	.5	6	.4	.6	-4.2

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<sup>1.</sup> Billions of 2009 dollars.

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

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent																	
change) <sup>1</sup>																	
1994	.4	.0	1.0	.5	.5	.6	.2	.6	.4	.9	.6	1.0	5.0	7.4	5.2	8.5	5.2
1995	.2	1	.1	.0	.3	.3	4	1.3	.4	1	.2	.4	4.2	1.4	3.7	3.6	4.7
1996	7	1.6	1	.9	.8	.8	2	.6	.7	1	.9	.6	2.8	8.8	5.1	5.6	4.5
1997	.1	1.2	.7	.1	.6	.5	.7	1.1	.9	.8	.9	.3	7.8	6.1	9.6	10.4	7.2
1998	.5	.1	.1	.3	.6	6	4	2.0	2	.8	1	.4	4.5	2.6	2.9	5.9	5.8
1999 2000	.5	.5	.2	.3 .7	.7 .2	2 .1	.6 1	.4 3	4 .4	1.3	.5 .0	.8 3	4.5 4.1	4.0 5.1	3.7 4	7.3 8	4.4
2001	7	6	2	2	7	6	6	2	3	3 4	5	3	-5.3	-4.9	-5.6	-4.2	-3.1
2002	.6	.0	.8	.4	.4	1.0	2	.0	.1	3	.5	5	2.9	6.4	2.4	2	.3
2003	.6	.3	2	7	.0	.2	.4	2	.6	.1	.8	1	2.2	-2.8	2.5	4.1	1.2
2004	.2	.6	5	.4	.8	8	.8	.1	.1	.9	.2	.7	2.7	2.3	2.3	5.7	2.6
2005	.5	.7	2	.1	.2	.4	3	.2	-1.9	1.3	1.0	.6	5.7	2.0	-2.0	3.8	3.3
2006	.1	.1	.2	.4	1	.4	.0	.3	2	.0	1	1.1	3.9	2.4	1.4	1.0	2.2
2007	5	1.0	.2	.7	.0	.0	.0	.2	.3	5	.5	.0	3.7	4.9	.9	.7	2.5
2008	3	3	2	7	5	2	5	-1.5	-4.3	.9	-1.2	-2.9	-1.7	-5.5	-12.2	-16.0	-3.6
2009	-2.4	6	-1.6	9	-1.0	4	1.0	1.1	.8	.3	.4	.3	-20.5	-11.3	5.8	6.4	-11.5
2010 2011	1.1 1	.3 4	.7 .9	.4 4	1.6 .2	.2 .2	.4 .5	.4 .5	.3 .0	3 .7	.1 1	.8 .4	7.8 2.0	8.6 .9	5.9 4.1	1.5 3.5	5.5 2.9
2012	.7	.3	7	.9	.2	.0	.3	5	.1	.3	1	.3	3.6	2.5	.3	2.6	2.9
2013	1	.5	.1	.0	.0	.2	6	.7	.5	1	.3	.2	2.7	1.2	.9	3.2	1.9
2014	5	.8	.8	.1	.4	.4	.1	.0	.4	.1	1.0	2	2.2	5.5	2.5	3.7	2.9
2015	5	1	3	2	2	2	.6	.1	3	1	6	4	-1.9	-2.7	1.5	-3.3	.3
2016	.5	1	9	.4	1	.5	.4	1	2	.0			-1.7	8	2.0		
IP (2012=100)																	
2014	102.5	103.3	104.1	104.2	104.7	105.1	105.2	105.2	105.6	105.6	106.7	106.5	103.3	104.7	105.3	106.3	104.9
2015	106.0	105.9	105.5	105.3	105.0	104.9	105.5	105.6	105.3	105.2	104.5	104.0	105.8	105.1	105.5	104.6	105.2
2016	104.5	104.4	103.4	103.8	103.7	104.2	104.6	104.5	104.2	104.3			104.1	103.9	104.4		
Capacity																	
(percent of																	
2012 output)	122.0	122.1	122.2	122.4	122 (	122.0	1210	1212	1216	1210	127.2	127 (	122.1	122 (	1212	125.2	1211
2014 2015	133.0 135.9	133.1 136.2	133.2 136.5	133.4 136.8	133.6 137.1	133.8 137.3	134.0 137.5	134.3 137.7	134.6 137.8	134.9 137.9	135.2 138.0	135.6 138.0	133.1 136.2	133.6 137.1	134.3 137.7	135.2 138.0	134.1
2016	138.1	138.1	138.1	138.1	138.1	138.2	137.3	138.2	138.3	138.4	130.0	130.0	138.1	138.1	138.2	136.0	137.2
Utilization																	
(percent)																	
1994	82.4	82.2	82.9	83.1	83.3	83.6	83.5	83.7	83.7	84.2	84.4	85.0	82.5	83.3	83.6	84.5	83.5
1995	84.9	84.5	84.3	84.0	83.9	83.9	83.3	84.0	84.0	83.6	83.4	83.4	84.5	83.9	83.8	83.5	83.9
1996	82.5	83.4	82.9	83.3	83.5	83.8	83.3	83.4	83.6	83.1	83.4	83.5	82.9	83.6	83.4	83.4	83.3
1997	83.2	83.8	84.0	83.6	83.7	83.6	83.8	84.2	84.4	84.6	84.8	84.5	83.7	83.6	84.1	84.6	84.0
1998	84.4	83.9	83.4	83.2	83.2	82.2	81.4	82.6	82.0	82.3	81.8	81.8	83.9	82.8	82.0	82.0	82.7
1999	81.8	81.9	81.6	81.5	81.8	81.4	81.6	81.6	81.0	81.8	81.9	82.2	81.8	81.6	81.4	82.0	81.7
2000	81.9	81.9	81.9	82.3	82.1	81.9	81.6	81.0	81.1	80.6	80.4	79.9	81.9	82.1	81.2	80.3	81.4
2001	79.1	78.4 73.9	77.9 74.4	77.5	76.8 74.9	76.1	75.5	75.2	74.8	74.3	73.8	73.7	78.5 74.1	76.8 75.0	75.2	73.9	76.1
2002 2003	74.0 75.7	76.0	75.9	74.7 75.3	75.4	75.6 75.5	75.4 75.8	75.4 75.7	75.5 76.2	75.2 76.3	75.6 76.9	75.3 76.9	75.9	75.4	75.4 75.9	75.4 76.7	75.0 76.0
2004	77.1	77.5	77.0	77.5	79.2	77.6	70.2	70.2	79.2	70.0	70.1	70.7	77.2	77.0	70.2	70.2	70.1
2004 2005	77.1 80.0	77.5 80.4	77.2 80.2	77.5 80.2	78.2 80.3	77.6 80.5	78.2 80.1	78.2 80.2	78.3 78.5	79.0 79.4	79.1 80.1	79.7 80.5	77.3 80.2	77.8 80.3	78.2 79.6	79.3 80.0	78.1 80.0
2005	80.5	80.4	80.5	80.7	80.5	80.6	80.5	80.6	80.3	80.1	79.9	80.5	80.5	80.6	80.5	80.2	80.4
2007	80.0	80.6	80.6	81.0	80.9	80.7	80.6	80.7	80.9	80.5	80.9	80.9	80.4	80.9	80.7	80.8	80.7
2008	80.7	80.5	80.4	79.8	79.5	79.4	78.9	77.7	74.3	74.9	74.0	71.7	80.5	79.5	77.0	73.5	77.7
2009	70.0	69.5	68.3	67.7	67.0	66.7	67.4	68.2	68.8	69.1	69.5	69.8	69.2	67.1	68.1	69.5	68.5
2010	70.8	71.2	71.8	72.2	73.5	73.8	74.3	74.7	75.0	74.9	75.0	75.7	71.2	73.2	74.6	75.2	73.6
2011	75.7	75.4	76.0	75.7	75.8	75.9	76.2	76.5	76.4	76.8	76.5	76.7	75.7	75.8	76.4	76.6	76.1
2012	77.1	77.1	76.4	76.9	76.9	76.8	76.8	76.3	76.3	76.3	76.6	76.7	76.9	76.9	76.5	76.6	76.7
2013	76.6	76.9	76.9	76.8	76.7	76.8	76.4	76.9	77.2	77.1	77.4	77.5	76.8	76.8	76.8	77.3	76.9
	77.0	77.6	78.1	78.1	78.4	78.6	78.5	78.3	78.4	78.3	78.9	78.6	77.6	78.4	78.4	78.6	78.2
	77.0																
2014 2015 2016	78.0 75.7	77.7 75.6	77.3 74.9	76.9 75.2	76.6 75.1	76.4	76.7 75.7	76.7	76.4	76.3	75.7	75.4	77.7 75.4	76.6 75.2	76.6 75.5	75.8	76.7

<sup>1.</sup> 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</b> (percent change) <sup>2</sup>																	
1994	.2	.1	1.3	.8	.7	.3	.4	.8	.5	1.0	.8	1.1	4.8	9.4	6.1	10.2	5.8
1995	.2	2	.2	1	.1	.5	6	1.1	.9	.0	.1	.4	4.4	.8	3.0	4.5	5.1
1996	8	1.6	2	1.1	.8	1.0	.2	.5	.8	2	.9	.9	2.0	10.0	7.5	5.8	4.9
.997	.1	1.4	1.1	2	.8	.7	.7	1.3	.9	.9	1.1	.4	9.3	7.3	10.6	11.4	8.4
998	.8	.1	1	.5	.5	8	4	2.4	2	1.0	.2	.6	6.0	2.1	3.3	8.1	6.6
999	.3	.8	1 .6	.4 .7	.9 1	3 .2	.4	.6 7	4 .4	1.5	.6 3	.7 6	5.2 4.4	4.6 4.9	3.3	8.6 -2.3	5.1
2001	6	6	3	2	7	7	4	5	2	6	3	.3	-6.0	-5.2	-5.9	-3.9	-3.7
2002	.5	.0	.8	.2	.5	1.1	4	.2	.1	4	.4	5	3.6	5.9	3.1	4	.4
.003	.5	.1	.1	8	.1	.5	.2	4	.8	.1	1.0	2	1.7	-1.9	2.2	4.6	1.3
004	1	.7	2	.4	.8	7	.9	.5	.0	1.0	1	.7	2.4	3.4	4.0	5.4	3.1
2005 2006	.8 .8	.8 3	5 1	.3 .6	.4 5	.2	4 3	.4 .6	-1.0 .1	1.5	.8	.1 1.5	6.4 3.8	2.3	8 .8	6.3	4.0
2007	5	3	.8	.7	J 1	.3	3	3	.4	4	.5	.1	4.2	5.8	.7	.4	2.7
.008	4	6	3	-1.1	5	5	-1.2	-1.2	-3.4	6	-2.3	-3.4	-2.9	-7.8	-13.5	-21.5	-4.8
009		2	-1.9		-1.1	4	1.4	1.1	.8	.2	.9	2	-24.3	-11.5	7.4	6.9	-13.8
2010	-3.0 1.1	2 1	1.2	8 .9	1.5	4	.6	.2	.8	.2	.0	2 .4	6.7	10.8	5.0	1.5	5.8
011	.2	.1	.5	6	.1	.1	.6	.3	.3	.6	4	.6	2.9	5	4.0	3.4	2.9
012	1.0	.4	6	.7	4	.2	1	2	.0	3	.7	.7	5.3	.8	8	1.7	2.6
013	3	.5	3	3	.2	.2	-1.0	.9	.1	.1	1	.0	2.8	6	4	1.6	.9
014	-1.1	1.1	.7	.1	.2	.4	.4	4	.1	.0	.9	2	8	4.7	2.2	2.0	1.3
015 016	4 .4	4 1	.2 4	.2	.0 2	2 .3	.7	1 5	2 .2	.2	3	.0	-1.6 .2	.6 -1.1	1.7	7	.8
	.4	1	4	.1	2	.3	.3	3	.2	.2			.2	-1.1	.3		
P (2012=100)	100.0	101.0	101.7	101.8	102.0	102.4	102.8	102.4	102.6	102.6	103.5	103.3	100.9	102.1	102.6	103.1	102.2
	103.0	102.5	102.7	102.9	103.0	102.4	102.5	103.4	102.0	103.4	103.3	103.0	100.5	102.1	103.3	103.1	102.2
015											10011		102.7				100.0
	103.4	103.3	102.9	103.0	102.8	103.0	103.4	102.8	103.0	103.2			103.2	102.9	103.0		
Capacity percent of 012 output)	103.4	103.3	102.9	103.0	102.8	103.0 135.5	103.4 135.5	102.8 135.5	135.6	135.7	135.7	135.8	135.4	135.4	135.5	135.7	135.5
Capacity percent of 2012 output) 2014 2015	103.4	103.3	102.9	103.0	102.8	103.0	103.4	102.8			135.7 136.9	135.8 137.0				135.7 136.9	135.5 136.4
2015 2016 Capacity (percent of 2012 output) 2014 2015 2016 Utilization (percent)	103.4 135.5 135.9	103.3 135.4 136.0	102.9 135.4 136.1	103.0 135.4 136.2	102.8 135.4 136.3	103.0 135.5 136.4	103.4 135.5 136.5	102.8 135.5 136.6	135.6 136.7	135.7 136.8			135.4 136.0	135.4 136.3	135.5 136.6		
Capacity percent of 2012 output) 2014 2015 2016  Utilization percent) 994	103.4 135.5 135.9 137.0	103.3 135.4 136.0 137.1	102.9 135.4 136.1 137.2	103.0 135.4 136.2 137.3	102.8 135.4 136.3 137.3	103.0 135.5 136.4 137.4	103.4 135.5 136.5 137.5	102.8 135.5 136.6 137.6	135.6 136.7 137.7	135.7 136.8 137.8	136.9 84.0	137.0 84.6	135.4 136.0 137.1	135.4 136.3 137.3	135.5 136.6 137.6	136.9 84.1	136.4
2016  Capacity percent of 2012 output) 2014 2015 2016  Utilization percent) 1994	135.5 135.9 137.0 81.2 84.4	103.3 135.4 136.0 137.1 81.1 83.9	102.9 135.4 136.1 137.2 81.9 83.8	135.4 136.2 137.3 82.4 83.4	135.4 136.3 137.3 82.7 83.1	103.0 135.5 136.4 137.4 82.6 83.2	103.4 135.5 136.5 137.5 82.7 82.3	135.5 136.6 137.6 83.0 82.8	135.6 136.7 137.7 83.1 83.2	135.7 136.8 137.8	84.0 82.4	84.6 82.3	135.4 136.0 137.1 81.4 84.0	135.4 136.3 137.3 82.5 83.2	135.5 136.6 137.6 83.0 82.8	84.1 82.5	82.7 83.1
Capacity percent of 1012 output) 1014 1015 1016  Utilization percent) 994 995 996	103.4 135.5 135.9 137.0 81.2 84.4 81.3	103.3 135.4 136.0 137.1 81.1 83.9 82.1	102.9 135.4 136.1 137.2 81.9 83.8 81.5	103.0 135.4 136.2 137.3 82.4 83.4 82.0	102.8 135.4 136.3 137.3 82.7 83.1 82.2	103.0 135.5 136.4 137.4 82.6 83.2 82.6	103.4 135.5 136.5 137.5 82.7 82.3 82.3	102.8 135.5 136.6 137.6 83.0 82.8 82.3	135.6 136.7 137.7 83.1 83.2 82.5	135.7 136.8 137.8 83.7 82.7 81.9	84.0 82.4 82.2	84.6 82.3 82.4	135.4 136.0 137.1 81.4 84.0 81.6	135.4 136.3 137.3 82.5 83.2 82.2	135.5 136.6 137.6 83.0 82.8 82.4	84.1 82.5 82.2	82.7 83.1 82.1
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5	135.4 136.3 137.3 82.7 83.1 82.2 82.6	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7	135.5 136.6 137.6 83.0 82.8 82.3 83.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4	135.7 136.8 137.8 83.7 82.7 81.9 83.5	84.0 82.4 82.2 83.8	84.6 82.3 82.4 83.5	135.4 136.0 137.1 81.4 84.0 81.6 82.6	135.4 136.3 137.3 82.5 83.2 82.2 82.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1	84.1 82.5 82.2 83.6	82.7 83.1 82.1 83.0
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998	135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3	135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9	135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7	135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0	84.0 82.4 82.2 83.8 80.7	84.6 82.3 82.4 83.5 80.7	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9	135.4 136.3 137.3 82.5 83.2 82.2 82.2 82.6 81.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6	84.1 82.5 82.2 83.6 80.8	82.7 83.1 82.1 83.0 81.5
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998	135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6	135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8	135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4	135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7	135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7	135.5 136.5 137.5 82.7 82.3 82.7 79.9 80.1	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0	84.0 82.4 82.2 83.8 80.7 80.6	84.6 82.3 82.4 83.5 80.7	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6	84.1 82.5 82.2 83.6 80.8	82.7 83.1 82.1 83.0 81.5
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6	135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4	135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6	135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4	135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2	135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7	84.0 82.4 82.2 83.8 80.7 80.6 78.2	84.6 82.3 82.4 83.5 80.7 80.8 77.5	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5	84.1 82.5 82.2 83.6 80.8 80.6 78.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6
Capacity percent of 1012 output) 1014 1015 1016  Utilization percent) 994 995 996 997 998 999 1000 1001	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7	82.7 83.1 82.1 83.0 81.5 80.4 79.6
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998  999 000 001 002	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6	135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4	135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6	135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4	135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2	135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7	84.0 82.4 82.2 83.8 80.7 80.6 78.2	84.6 82.3 82.4 83.5 80.7 80.8 77.5	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5	84.1 82.5 82.2 83.6 80.8 80.6 78.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1
Capacity percent of 1012 output) 1014 1015 1016  Utilization percent) 994 995 996 997 998 999 1000 1001 1002 1003	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 73.7	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 74.0
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 002 003 004 005	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9 78.4	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.6	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 76.9 78.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 002 003 004 005 006	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9 78.4 79.2	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.9	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 78.7	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.6 78.5	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5 78.7	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3	102.8 135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 76.9 78.2 78.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 78.7	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.4
016  Capacity Descrept of 012 output) 014 015 016  Utilization Descrept) 994 995 996 997 998 999 000 001 002 003 004 005 006 007	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9 78.4	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4	135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.6	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 76.9 78.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 001 002 003  004 005 006 007 008	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 78.7 79.0 77.6	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.6 78.5 79.1 76.6	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 73.7 75.9 78.5 78.7 79.2 76.2	103.4 135.5 136.5 137.5 82.7 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 76.9 78.2 78.7 78.6 74.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 78.0 78.7 70.3	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 79.0 78.7 68.0	135.4 136.0 137.1 81.4 84.0 81.6 82.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 78.7 79.2 76.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.9 76.8 77.9 78.5 78.8	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 78.4 78.6 70.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8 74.7
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 002 003 004 005 006 007 008	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4 66.1	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9 66.1	135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 77.6	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9 64.5	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.5 79.1 76.6 63.9	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 73.7 75.9 78.5 78.7 79.2 76.2	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 74.7 78.6 74.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 78.0 78.7 70.3	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 79.0 78.7 68.0	135.4 136.0 137.1 81.4 84.0 81.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7 78.0	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 78.7 79.2 76.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9 78.5 78.8 74.1	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 70.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 74.0 76.4 78.6 78.8 74.7
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 002 003 004 005 006 007 008	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 78.7 79.0 77.6	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.6 78.5 79.1 76.6	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 73.7 75.9 78.5 78.7 79.2 76.2	103.4 135.5 136.5 137.5 82.7 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 76.9 78.2 78.7 78.6 74.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 78.0 78.7 70.3	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 79.0 78.7 68.0	135.4 136.0 137.1 81.4 84.0 81.6 82.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 78.7 79.2 76.6	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.9 76.8 77.9 78.5 78.8	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 78.4 78.6 70.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8 74.7
016  Capacity percent of 012 output) 014 015 016  Utilization percent) 994 995 996 997 998 999 000 001 002 003  004 005 006 007 008  009 010 0011 012	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4 66.1 68.0 73.0 75.1	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9 66.1 68.1 73.1 75.3	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 78.7 79.0 77.6 64.9 69.0 73.6 74.7	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 75.8 76.9 64.5 69.8 73.2 75.1	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 76.4 78.5 79.1 76.6 63.9 70.9 73.3 74.7	103.0 135.5 136.4 137.4 82.6 83.2 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5 78.7 79.2 76.2 63.8 71.0 73.4 74.7	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4 64.7 71.6 73.8 74.5	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 74.7 65.6 71.8 74.0 74.2	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2 66.2 72.0 74.2	135.7 136.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9 66.5 72.2 74.5	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 70.3 67.2 72.3 74.1 74.3	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 68.0 67.2 72.7 74.5	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7 78.0	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 73.0 73.5 76.0 78.5 78.7 79.2 76.6 64.0 70.6 73.3 74.8	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9 78.5 78.8 74.1	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 70.1 67.0 72.4 74.4	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8 74.7
2016 Capacity percent of 2012 output) 2014 2015 2016 Utilization percent) 994 995 996 997 998 999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4 66.1 68.0 73.0	103.3 135.4 136.0 137.1 81.1 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9 66.1 68.1 73.1	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.7 79.0 77.6 64.9 69.0 73.6	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9 64.5 69.8 73.2	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.4 78.5 79.1 76.6 63.9 70.9 73.3	103.0 135.5 136.4 137.4 82.6 83.2 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5 78.7 79.2 76.2 63.8 71.0 73.4	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4 64.7 71.6 73.8	102.8 135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 74.7 78.6 74.7	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2 66.2 72.0 74.2	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9 66.5 72.2 74.5	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 78.0 78.7 70.3	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 68.0 67.2 72.7 74.5	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7 78.0	135.4 136.3 137.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 78.7 79.2 76.6 64.0 70.6 73.3	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9 78.5 78.8 74.1	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 78.4 78.6 70.1	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8 74.7 65.6 70.8 73.7 74.6
2016 Capacity percent of 2012 output) 2014 2015 2016  Utilization percent) 994 995 996 997 998 999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 79.2 78.4 79.2 78.4 79.2 78.4 79.2 78.4 78.4 79.2 78.4 78.4 78.5 78.6 78.7 78	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.6 77.9 66.1 68.1 73.1 75.3 74.8	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 77.6 64.9 69.0 73.6 74.7 74.5 75.1	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9 64.5 69.8 73.2 75.1 74.2	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.6 78.5 79.1 76.6 63.9 70.9 73.3 74.7 74.4 75.3	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 73.7 75.9 78.5 78.7 79.2 76.2 63.8 71.0 73.4 74.5 75.6	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4 64.7 71.6 73.8 74.5 73.8 75.9	135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 73.6 74.7 65.6 74.7 65.6 71.8 74.0 74.2 74.5	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2 66.2 72.0 74.1 74.6 75.7	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9 66.5 72.2 74.5 73.8 74.7	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 70.3 67.2 72.3 74.1 74.3 74.6	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 68.0 67.2 72.7 74.5 74.6 76.1	135.4 136.0 137.1 81.4 84.0 81.6 82.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7 78.0 65.7 68.4 73.2 75.0 74.6	135.4 136.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 76.6 64.0 70.6 73.3 74.8 74.4	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9 78.5 74.1 65.5 71.8 74.0 74.3 74.3	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 70.1 67.0 72.4 74.4 74.3 74.6 76.0	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.8 74.7 65.6 70.8 73.7 74.6 74.5
Capacity (percent of 2012 output) 2014 2015 2016 Utilization	103.4 135.5 135.9 137.0 81.2 84.4 81.3 82.0 83.5 80.6 80.6 76.7 72.0 73.7 74.9 78.4 79.2 78.4 78.4 78.4 78.5 66.1 68.0 73.0 75.1 74.5	103.3 135.4 136.0 137.1 81.1 83.9 82.1 82.7 83.0 80.8 80.4 76.0 71.9 73.8 75.5 78.9 78.9 78.6 77.9 66.1 68.1 73.1 75.3 74.8	102.9 135.4 136.1 137.2 81.9 83.8 81.5 83.1 82.3 80.4 80.6 75.5 72.4 73.9 75.4 78.3 78.7 79.0 77.6 64.9 69.0 73.6 74.7 74.5	103.0 135.4 136.2 137.3 82.4 83.4 82.0 82.5 82.1 80.3 80.8 75.1 72.5 73.3 75.8 78.4 79.0 79.4 76.9 64.5 69.8 73.2 75.1 74.2	102.8 135.4 136.3 137.3 82.7 83.1 82.2 82.6 81.9 80.7 80.4 74.4 72.9 73.4 76.6 78.5 79.1 76.6 63.9 70.9 73.3 74.7 74.4	103.0 135.5 136.4 137.4 82.6 83.2 82.6 82.7 80.7 80.1 80.2 73.7 73.7 75.9 78.5 78.7 79.2 76.2 63.8 71.0 73.4 74.7 74.5	103.4 135.5 136.5 137.5 82.7 82.3 82.3 82.7 79.9 80.1 80.0 73.2 73.4 73.9 76.5 78.1 78.3 79.0 75.4 64.7 71.6 73.8	102.8 135.5 136.6 137.6 83.0 82.8 82.3 83.2 81.3 80.3 79.2 72.7 73.6 74.2 74.7 65.6 71.8 74.0 74.2 74.5	135.6 136.7 137.7 83.1 83.2 82.5 83.4 80.7 79.6 79.2 72.4 73.7 74.2 76.8 77.3 78.6 78.8 72.2 66.2 72.0 74.1 74.6	135.7 136.8 137.8 137.8 83.7 82.7 81.9 83.5 81.0 80.5 78.7 71.9 73.4 74.3 77.6 78.3 78.2 78.4 71.9 66.5 72.2 74.5 73.8 74.7	84.0 82.4 82.2 83.8 80.7 80.6 78.2 71.6 73.7 75.1 77.4 78.7 70.3 67.2 72.3 74.1 74.3 74.6	84.6 82.3 82.4 83.5 80.7 80.8 77.5 71.7 73.3 75.0 77.9 78.7 79.0 78.7 768.0 67.2 72.7 74.5 74.8	135.4 136.0 137.1 81.4 84.0 81.6 82.9 80.6 80.5 76.1 72.1 73.8 75.3 78.5 78.9 78.7 78.0 65.7 68.4 73.2 75.0 74.6	135.4 136.3 137.3 137.3 82.5 83.2 82.2 82.6 81.6 80.4 80.5 74.4 73.0 73.5 76.0 78.5 79.2 76.6 64.0 70.6 73.3 74.8 74.4	135.5 136.6 137.6 83.0 82.8 82.4 83.1 80.6 80.0 79.5 72.8 73.6 73.9 76.8 77.9 78.5 78.5 74.1 65.5 71.8 74.1	84.1 82.5 82.2 83.6 80.8 80.6 78.1 71.7 73.5 74.8 77.6 78.6 70.1 67.0 72.4 74.4 74.3 74.6	82.7 83.1 82.1 83.0 81.5 80.4 79.6 73.7 73.1 74.0 76.4 78.6 78.8 74.7 65.6 70.8 73.7 74.6

Refer to note on cover page.
 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 Q3 Year Jan. Feb. Mar. May June July Aug. Sept. Oct. Nov. Dec. Q1 Q2 Q4 Annual Apr. IP (percent change)2 1994 .3 .0 4.3 5.4 3.2 5.8 4.0 -.5 -.5 1995 -.2 .1 .2 1.0 -.4 2.8 -1.2 1.3 .4 2.4 -.1 .1 -1.0 1.3 -.3 .8 .6 .3 .5 -.4 .7 .5 -.5 2.9 1.7 1996 .6 6.6 2.0 1997 -.2 .2 .5 .8 5.1 2.5 6.4 4.2 .9 .4 .3 .6 .7 .1 7.6 -.1 .7 1.9 2.2 1998 .3 .0 .0 .1 .6 -1.0 -.7 -.5 .5 -.3 .1 .7 -.4 2.5 3.1 1999 2 -.5 .3 -.5 1.2 2 .3 9 5.6 1.1 .6 .6 .6 2000 0. -.5 -.2 1.7 -3.2 -2.6 1.0 -.5 -.4 -.5 -.3 -.1 .3 .1 -3.9 -.4 -5.9 -4.5 2001 -.7 -.4 -.5 -.5 -4.2-4.4 -.6 -.3 -.1 -.6 -.5 -.1 -.1 2.5 .2 9 .8 - 3 - 4 5 19 - 7 2002 6 - 1 4 .4 - 1 - 1 - 5 6.1 2003 .5 .1 -.3 -.9 -.1 .0 .2 .5 .0 .8 -.1 1.2 -4.4 .6 2.8 .2 2004 -.9 .8 .0 .2 .7 2.0 5.2 1.8 .1 .6 -.5 .8 .0 1.8 .4 -.2 1.2 2005 .3 .6 .4 -.4 -2.1 1.0 1.3 -3.1 2.6 2.5 .1 .1 .5 4.7 .1 2006 .1 .0 .1 .4 -.2 .3 -.1 .2 -.3 -.1 -.1 1.1 3.3 1.8 .5 .3 1.4 2007 -.6 1.0 .0 .6 .1 .1 -.1 .2 -.6 .4 -.1 3.0 4.0 .9 -1.0 1.8 2008 -.2 -1.5 -4.4 1.2 -1.0 -2.8 -2.9 -6.5 -12.4 -14.9 -4.3 -.4 -.5 -.4 -.8 2009 -2.4-1.01.0 20.3 12.1 5.9 11.5 -.7 -1.7 1.11.1 5.7 -.3 .7 2010 1.0 2 .4 1.6 .2 .4 .3 .3 .0 .7 6.8 8.0 5.7 1.0 4.9 .6 -.5 .5 2011 -.1 9 -.4 .2 .4 .0 -.2 .4 1.5 .8 4.0 3.5 2.6 2012 .2 -.8 .9 .1 0. .3 -.5 .2 .6 .3 3.3 2.1 .2 2.2 2.6 .7 .1 2.7 .5 .2 .7 .2 .9 .5 2013 .0 .5 .3 3.0 1.7 -.1 .1 -.1 -.6 -.1 2.7 0. 1.0 37 2014 -..5 .8 .8 .4 4 .1 .4 .1 -.1 2.0 5.3 24 2015 -.2 -1.9 -2.8 1.6 .3 -.5 -.1 -.3 -.2 -.2 .6 .1 -.3 -.2 -.6 -.5 -3.6 2016 -1.0 -.3 .0 -1.9 -.8 1.6 -.1 IP(2012=100)2014 102.1 102.9 103.6 103.8 104.2 104.6 104.7 104.7 105.0 105.1 106.2 106.0 102.9 104.2 104.8 105.8 104.4 2015 105.5 105.3 105.0 104.7 104.5 104.3 105.0 105.1 104.8 104.6 103.9 103.4 105.3 104.5 104.9 104.0 104.7 2016 103.9 103.8 102.8 103.2 103.1 103.6 103.9 103.7 103.5 103.5 103.5 103.3 103.7 Capacity (percent of 2012 output) 2014 132.0 132.1 132.2 132.3 132.5 132.7 133.3 133.6 134.3 134.6 132.1 132.5 133.3 134.3 133.0 133.0 133.9 135.0 135.3 135.7 137.0 135.3 2015 136.0 136.2 136.5 136.7 136.8 137.1 137.1 137.2 136.2 136.8 137.1 136.4 2016 137.2 137.2 137.2 137.2 137.2 137.2 137.2 137.3 137.3 137.4 137.2 137.2 137.3 Utilization (percent) 1994 82.5 82.4 83.0 83.2 83.4 83.6 83.8 83.7 84.1 84.3 84.9 82.7 83.4 83.7 84.4 83.6 83.7 1995 84.9 84.5 84.3 83.9 83.8 83.8 83.2 83.9 83.8 83.4 83.3 83.2 84.5 83.8 83.6 83.3 83.8 1996 82.2 83.2 82.8 83.3 83.6 84.0 83.4 83.5 83.7 83.2 83.7 83.8 82.7 83.6 83.6 83.6 83.4 1997 84.6 84.8 83.9 83.6 84.1 84.2 83.7 83.7 83.6 83.8 84.1 84.3 84.6 83.7 84.1 84.7 84.1 1998 84.2 83.6 82.7 83.1 82.4 82.6 82.1 81.9 84.2 82.5 82.2 84.5 83.8 83.8 81.8 83.4 83.0 1999 81.8 81.8 81.5 81.2 81.5 80.9 81.0 81.1 80.6 81.5 81.5 81.9 81.7 81.2 80.9 81.6 81.3 2000 81.5 81.4 81.4 81.7 81.5 81.3 80.8 80.3 80.5 80.1 79.9 79.4 81.4 81.5 80.5 79.8 80.8 2001 78.8 78.3 78.0 77.8 77.2 76.7 76.4 76.2 75.8 75.3 74.9 74.8 78.3 77.2 76.1 75.0 76.7 2002 75.2 75.1 75.6 75.9 76.2 76.9 76.7 76.6 76.7 76.5 76.9 76.5 75.3 76.3 76.7 76.6 76.2 2003 77.0 77.1 77.0 76.3 76.3 76.3 76.5 76.4 76.8 76.8 77.4 77.4 77.0 76.3 76.6 77.2 76.8 2004 77.5 77.9 77.6 77.9 78.6 78.0 78.6 78.7 78.7 79.4 79.6 80.1 77.7 78.2 78.7 797 78.6 2005 80.4 80.8 80.6 80.7 80.7 81.0 80.6 80.5 78.7 79.6 80.3 80.7 80.6 80.8 79.9 80.2 80.4 2006 80.6 80.5 80.7 80.6 80.4 80.5 79.9 79.7 80.5 80.6 80.3 80.0 80.4 80.5 80.4 80.1 80.4 2007 799 80.6 80.5 80.9 80.9 81.0 80.9 81.1 813 80.8 81.2 81.1 80.3 80.9 81.1 81.0 80.8 2008 80.9 80.6 80.4 79.7 79.3 79.1 78.7 77.4 73.9 74.7 73.9 71.7 80.6 79.4 76.7 73.4 77.5 2009 69.9 69.4 68.2 67.2 68.0 68.6 68.9 69.3 69.7 69.1 66.9 68.0 69.3 68.3 67.5 66.7 66.4 70.6 70.9 73.2 74.0 74.4 74.7 74.8 75.5 72.9 75.0 2010 71.5 71.9 73.6 74.8 71.0 74.4 73.3 75.9 76.9 75.4 75.2 75 9 75.6 76.3 76.6 76.9 76.7 75.8 76.4 76.8 2011 75.8 76.5 75.5 76.1 2012 77.3 77.4 76.6 77.1 77.1 77.0 77.0 76.6 76.5 76.5 76.9 77.0 77.1 77.1 76.7 76.8 76.9 2013 76.8 77.2 77.2 77.1 77.0 77.2 76.7 77.2 77.5 77.4 77.7 77.8 77.1 77.1 77.1 77.6 77.2 77.9 78.5 78.5 79.0 78.6 78.5 2014 77.3 78.4 78.4 78.6 78.8 78.7 78.6 78.7 77.9 78.6 78.7 2015 78.1 77.8 77.4 77.0 76.7 76.4 76.8 76.8 76.5 76.3 75.8 75.4 77.8 76.7 76.7 75.8 76.8 2016 75.7 75.7 74.9 75.2 75.1 75.5 75.7 75.6 75.3 75.3 75.4 75.3 75.5

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

<sup>2.</sup> Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

Table 14
HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION: Manufacturing Excluding Selected High-Technology Industries Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>IP</b> (percent change) <sup>3</sup>				*	•		•		*								
1994	.1	.1	1.1	.6	.5	.1	.2	.5	.2	.7	.6	.9	3.9	7.1	3.7	7.1	4.4
1995	.1	4	1	4	1	.3	8	.8	.6	4	1	.0	2.7	-2.2	.2	.8	2.5
1996	-1.2	1.3	5	1.0	.6	.8	1	.2	.6	5	.7	.7	-2.0	7.4	4.0	2.7	1.5
1997	2	1.1	.8	5	.4	.4	.4	1.0	.6	.7	.8	.1	6.2	3.0	6.9	8.2	4.9
1998	.6	.0	3	.2	.4	-1.2	8	2.3	6	.7	1	.2	3.4	3	6	4.2	3.5
1999	1	.5	5	.0	.7	7	.0	.6	5	1.4	.4	.4	.7	.4	.0	6.7	1.3
2000	3	2	.3	.4	6	.0	2	-1.0	.3	4	5	8	.3	.9	-3.8	-4.6	.7
2001	6	6	3	1	7	6	2	5	2	7	2	.2	-6.9	-4.4	-4.6	-4.2	-4.7
2002	.6	2	.8	.2	.6	1.1	4	.1	.1	4	.4	6	3.2	5.6	2.5	-1.0	.4
2003	.4	1	.1	-1.0	1	.3	.0	6	.7	1	1.0	3	.4	-3.9	1	3.1	.0
2004	2	.7	2	.4	.8	8	.9	.4	1	1.0	1	.6	1.3	3.3	3.8	4.8	2.0
2005	.6	.7	6	.2	.3	.1	5	.2	-1.2	1.4	.7	.1	5.2	1.4	-2.2	4.9	3.1
2006	.8	4	1	.5	6	.2	4	.5	.0	4	.0	1.5	3.1	.0	4	.9	1.5
2007 2008	6 5	.3 8	.6 5	.5 -1.2	.0 6	.5 6	.0 -1.1	4 -1.2	.3 -3.5	7 4	.3 -2.1	.0 -3.3	3.2 -4.5	4.7 -9.2	.7 -13.8	-1.7 -20.3	1.8 -5.9
2006	5	0	5	-1.2	0	0	-1.1	-1.2	-5.5		-2.1	-3.3	-4.5	-9.2	-13.6	-20.5	-5.9
2009	-3.1	2	-2.0	9	-1.2	4	1.4	1.2	.8	.1	.9	2	-24.2	-12.5	7.4	6.4	-13.9
2010	1.0	3	1.1	.8	1.5	1	.6	.1	.1	.1	1	.2	5.2	10.1	4.7	.8	5.1
2011 2012	1.0	.1	.6 7	6 .6	.1 5	.0	.6 1	.2 2	.4 1	.6 4	4 .8	.6 .7	2.2 5.0	6 .1	3.8 -1.0	3.5 1.2	2.5
2013	3	.5	3	4	.2	.2	-1.1	.9	.1	.0	1	.0	2.7	-1.1	-1.0	1.2	.5
2014	-1.1	1.0	.6	.0	.2	.4	.4	4	.1	.0	.9	1	-1.1	4.3	2.0	2.0	.9
2015 2016	4	4	.2 4	.2	.0 2	2 .2	.7	1 6	3 .2	.2	3	1	-1.5 .0	.6 -1.2	1.8	9	.8
2010		.0	4	.1	2	.2	.5	0	.2	.2			.0	-1.2	.0		
<b>IP</b> (2012=100)																	
2014	99.3	100.4	101.0	101.1	101.2	101.7	102.1	101.6	101.8	101.8	102.7	102.5	100.2	101.3	101.8	102.3	101.4
2015 2016	102.1 102.5	101.7 102.5	101.9 102.0	102.1 102.1	102.2 101.9	102.0 102.1	102.7 102.4	102.6 101.8	102.3 101.9	102.5 102.1	102.3	102.2	101.9 102.3	102.1 102.0	102.5 102.0	102.3	102.2
Capacity	102.3	102.3	102.0	102.1	101.9	102.1	102.4	101.6	101.9	102.1			102.3	102.0	102.0		
(percent of																	
2012 output)																	
2014	134.1	134.1	134.0	134.0	134.1	134.1	134.1	134.2	134.3	134.4	134.5	134.6	134.1	134.1	134.2	134.5	134.2
2015 2016	134.7 135.8	134.8 135.8	134.9 135.9	135.0 135.9	135.1 136.0	135.2 136.1	135.3 136.1	135.4 136.2	135.5 136.3	135.6 136.3	135.6	135.7	134.8 135.8	135.1 136.0	135.4 136.2	135.6	135.2
2010	133.6	133.6	133.9	133.9	130.0	130.1	130.1	130.2	130.3	130.3			133.6	130.0	130.2		
Utilization																	
(percent)																	
1994	81.3	81.2	82.1	82.4	82.7	82.7	82.8	83.1	83.1	83.5	83.8	84.5	81.5	82.6	83.0	83.9	82.8
1995 1996	84.4 80.8	83.9 81.7	83.7 81.2	83.2 81.8	82.9 82.1	83.0 82.6	82.1 82.3	82.6 82.3	82.9 82.6	82.4 82.0	82.1 82.3	82.0 82.7	84.0 81.2	83.0 82.2	82.5 82.4	82.2 82.3	82.9 82.0
1997	82.3	82.9	83.2	82.5	82.5	82.5	82.5	83.0	83.2	83.3	83.7	83.4	82.8	82.5	82.9	83.5	82.9
1998	83.6	83.2	82.6	82.4	82.5	81.2	80.2	81.7	80.9	81.2	80.9	80.8	83.1	82.0	81.0	81.0	81.8
1000	90.5	90.6	00.0	70.0	00.2	70.4	70.2	70.6	70.0	90.0	90.1	90.2	90.4	70.0	70.2	00.1	70.0
1999 2000	80.5 79.9	80.6 79.6	80.0 79.8	79.8 80.0	80.2 79.4	79.4 79.3	79.3 79.0	79.6 78.2	79.0 78.3	80.0 77.9	80.1 77.4	80.3 76.7	80.4 79.8	79.8 79.6	79.3 78.5	80.1 77.3	79.9 78.8
2000	76.1	75.6	75.3	75.2	74.6	74.2	74.0	73.6	73.4	72.9	72.7	70.7	75.7	74.7	73.6	72.8	74.2
2002	73.2	73.1	73.7	73.8	74.2	75.1	74.8	74.9	75.0	74.7	75.0	74.6	73.3	74.3	74.9	74.8	74.3
2003	75.0	75.0	75.0	74.3	74.3	74.5	74.6	74.2	74.8	74.8	75.5	75.4	75.0	74.4	74.5	75.2	74.8
2004	75.3	75.9	75.7	76.1	76.8	76.2	77.0	77.3	77.2	78.0	77.9	78.3	75.6	76.4	77.2	78.1	76.8
2004	78.8	79.3	78.7	78.8	79.0	79.0	78.5	78.5	77.4	78.4	78.9	78.8	78.9	78.9	78.1	78.7	78.7
2006	79.3	78.9	78.7	79.0	78.4	78.5	78.1	78.4	78.2	77.8	77.7	78.8	78.9	78.6	78.2	78.1	78.5
2007	78.3	78.4	78.8	79.1	79.1	79.4	79.4	79.0	79.2	78.7	78.8	78.8	78.5	79.2	79.2	78.8	78.9
2008	78.4	77.8	77.5	76.6	76.1	75.7	74.9	74.1	71.6	71.4	70.0	67.8	77.9	76.2	73.6	69.8	74.3
2009	65.8	65.8	64.6	64.1	63.4	63.3	64.4	65.3	65.9	66.1	66.9	66.9	65.4	63.6	65.2	66.6	65.2
2010	67.7	67.6	68.6	69.3	70.5	70.6	71.2	71.4	71.6	71.9	72.0	72.3	68.0	70.1	71.4	72.0	70.4
2011	72.6	72.7	73.3	73.0	73.1	73.2	73.7	73.9	74.2	74.6	74.3	74.7	72.9	73.1	73.9	74.5	73.6
2012 2013	75.3 74.7	75.5 75.1	74.9 74.8	75.3 74.5	74.8 74.7	74.8 74.8	74.7 74.1	74.5 74.8	74.3 74.9	74.0 75.0	74.5 74.9	75.0 74.9	75.2 74.9	75.0 74.7	74.5 74.6	74.5 74.9	74.8 74.8
2013	/4./	73.1	74.0	14.3	/4./	74.0	74.1	74.0	74.7	13.0	74.7	74.7	/4.9	/4./	74.0	74.7	/4.0
2014	74.1	74.9	75.4	75.4	75.5	75.8	76.1	75.7	75.8	75.7	76.4	76.2	74.8	75.6	75.9	76.1	75.6
2015	75.8	75.5	75.5	75.6	75.6	75.4	75.9	75.8	75.5	75.6	75.4	75.3	75.6	75.5	75.7	75.4	75.6
2016	75.5	75.4	75.1	75.1	74.9	75.0	75.2	74.7	74.8	74.9			75.3	75.0	74.9		

Refer to note on cover page.
 Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.
 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, files containing data shown in the release, more detailed series that were published in the G.17 prior to December 2000, and historical data are available from the Data Download Program on the Board's website. Instructions for searching for and downloading specific series are provided as well.

#### 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 2012. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing plus those industries— logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. For the period since 1997, the total IP index has been constructed from 299 individual series based on the 2012 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 website at 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 typically 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 semiconductors. When suitable data on physical product are not available, estimates of output are based on production-worker hours by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The 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 U.S. 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 Bulletin* February 1997 and March 2001.) In the IP index, series that measure the output of an individual industry are combined using weights derived from their proportion in the total value-added output of all industries. The IP index, which extends back to 1919, is built as a chain-type index since 1972. The current formula for the growth in monthly IP (or any of the sub-aggregates) since 1972 is the geometric mean of the change in output (*I*), and, as can be seen below, is computed using the unit value added estimate for the current

month  $(p_m)$  and the estimate for previous month:

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

The IP proportions (typically shown in the first column of the relevant tables in the monthly 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 6 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by 6/10 percentage point  $(0.06 \times 10\% = 0.6\%)$ . To assist users with calculations, the Federal Reserve's website 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 73 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 87 percent for estimates in the second month that the estimate is published, 94 percent in the third month, 97 percent in the fourth month, 99 percent in the fifth month, and 99 percent in the sixth month. Data availability by data type in early 2016 is summarized in the table below:

**Availability of Monthly IP Data in Publication Window** (Percent of value added in 2015; the numbers may not sum because of rounding.)

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Month of estimate									
Type of data	1st	2nd	3rd	4th	5th	6th			
Physical product	31	45	52	55	55	56			
Production-worker hours	42	42	42	42	42	42			
IP data received	73	87	94	97	99	99			
IP data estimated	27	13	6	3	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 one-half of the series (in terms of value added) that ultimately are based on physical product data (31 percent out of a total of 56 percent). Of the 31 percent, about three-fourths (23 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 2016; for other series, the factors were estimated with data through at least December 2015. Series are pre-adjusted for the effects of holidays or the business cycle when appropriate. For the data since 1972, all seasonally adjusted aggregate indexes are calculated by aggregating the seasonally adjusted indexes of the individual series. Additional documentation and X-12 specifications can be found on the Board's website at www.federalreserve.gov/releases/G17/About.htm.

**Reliability.** The average revision to the *level* of the total IP index, without regard to sign, between the first and the fourth estimates was

0.27 percent during the 1987–2015 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 1987-2015 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 North American Industry Classification System, or 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 NAICS definition of manufacturing plus those industries—logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. Also, special aggregates are available, such as high-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 (for example, 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 about 65 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 10 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the Board's website (www.federalreserve.gov/releases/G17/Meth/MethCap.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 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 survey of large companies reported, on average, higher utilization rates than those reported by establishments covered by the annual Survey of Plant Capacity (the primary source of factory operating rates through 2006, after which it was discontinued) for the fourteen years they overlapped. Adjustments have been made to keep the industry utilization rates currently reported by the Federal Reserve (now based on the QSPC) 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 Census utilization surveys.

**Perspective.** Over the 1972–2015 period, the average total industry utilization rate was 80.0 percent; for manufacturing, the average factory operating rate was 78.5 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 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 April 1, 2016, is available on the Board's website (www.federal reserve.gov/releases/g17/revisions/Current/DefaultRev.htm). 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, August 2009) or in online staff studies

(www.federalreserve.gov/releases/g17/articles/rev2010/industrial10.pdf, www.federalreserve.gov/releases/g17/articles/rev2012/industrial12.pdf, www.federalreserve.gov/releases/g17/articles/rev2013/industrial13.pdf).

### Release Schedule

The G.17 will be published at 9:15 a.m. on

**2016:** January 15, February 17, March 16, April 15, May 17, June 15, July 15, August 16, September 15, October 17, November 16, and December 14.

2017: January 18, February 15, March 17, April 18, May 16, June 15, July 14, August 17, September 15, October 17, November 16, and December 15.

This release schedule is available on the Board's website at http://www.federalreserve.gov/releases/g17.