# **FEDERAL RESERVE statistical release**



Nov. '21 to

G.17 (419)

For release at 9:15 a.m. (EST) December 15, 2022

Percent change

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

2022

Industrial production declined 0.2 percent in November. Decreases of 0.6 percent for manufacturing and 0.7 percent for mining were partly offset by a rebound of 3.6 percent for utilities following three months of declines. At 104.5 percent of its 2017 average, total industrial production in November was 2.5 percent above its

(over)

2022

**Industrial Production and Capacity Utilization: Summary** 

Seasonally adjusted

Industrial production	June	July	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>	June	July	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>	Nov. '22
		- · · · J											
Total index	103.9	104.5	104.4	104.8	104.7	104.5	2	.5	1	.4	1	2	2.5
Previous estimates	104.1	104.8	104.7	104.8	104.7		1	.7	1	.1	1		
Major market groups													
Final Products	104.1	104.6	105.0	105.2	105.9	105.4	7	.4	.5	.1	.7	4	3.4
Consumer goods	104.2	104.4	104.6	104.5	105.3	104.8	-1.0	.2	.2	1	.7	4	1.8
Business equipment	96.8	97.5	98.4	99.0	99.5	98.7	2	.7	.9	.7	.5	8	5.7
Nonindustrial supplies	101.8	102.1	101.9	102.2	101.9	101.7	-1.0	.4	2	.3	3	2	.2
Construction	103.9	104.4	104.1	104.7	104.3	104.1	-1.2	.6	3	.6	4	2	7
Materials	104.4	105.1	104.6	105.3	104.7	104.6	.4	.6	4	.6	6	1	2.5
Maiariadastas													
Major industry groups	101.1	101.5	101.6	102.0	102.2	101.6	0	4	1	2	2		1.2
Manufacturing (see note below)	101.1	101.5	101.6	102.0	102.2	101.6	8	.4	.1	.3	.3	6	1.2
Previous estimates	101.3	101.8	101.9	102.1	102.3	117.0	6	.5	.1	.2	.1	7	6.2
Mining	115.4	116.9	116.7	118.8	118.0	117.2	1.6	1.3	2	1.8	7	7	6.3
Utilities	107.6	107.7	106.3	104.2	102.9	106.6	.5	.1	-1.3	-2.0	-1.3	3.6	4.6
													Capacity
					Perce	ent of cap	acity						growth
	Average	1988-	1990-	1994-									8 ****
	1972-	89	91	95	2009	2021	2022						Nov. '21 to
Capacity utilization	2021	high	low	high	low	Nov.	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>	Nov. '22
Total industry	79.6	85.2	78.8	85.0	66.6	79.0	79.7	80.0	79.9	80.1	79.9	79.7	1.6
Previous estimates							79.8	80.2	80.0	80.1	79.9		
Manufacturing (see note below)	78.2	85.6	77.3	84.7	63.4	78.7	78.9	79.1	79.1	79.3	79.5	78.9	1.0
Previous estimates							79.0	79.3	79.3	79.5	79.5		
Mining	86.3	86.2	84.3	88.6	78.9	85.9	87.8	88.6	88.2	89.6	88.9	88.2	3.6
Utilities	84.7	92.9	84.5	92.9	78.0	73.0	75.9	75.9	74.7	73.1	72.0	74.4	2.6
Stage-of-process groups													
Crude	85.5	87.9	84.8	90.0	76.9	85.0	86.6	87.1	86.4	87.3	86.6	86.0	2.6
Primary and semifinished	80.1	86.5 83.3	78.0	87.8 80.7	63.5	78.0	78.4	78.7 78.4	78.3 78.9	78.2	77.8	78.1 78.8	1.0 1.6
Finished	76.7		77.5		66.4	77.6	78.2			79.1	79.6		

r Revised. p Preliminary.

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

year-earlier reading. Capacity utilization moved down 0.2 percentage point in November to 79.7 percent, a rate that is 0.1 percentage point above its long-run (1972–2021) average.

### Market Groups

Decreases were broad based across market groups with the primary exceptions of consumer energy products, energy materials, and defense and space equipment. The output of consumer durables fell about 2 percent, led by automotive products, while the output of consumer non-energy nondurables decreased about ½ percent. The production of business equipment fell 0.8 percent, reflecting decreases for transit equipment and for industrial and other equipment. The indexes for construction supplies, business supplies, durable materials, and nondurable materials all declined ½ percent or less.

### **Industry Groups**

Manufacturing output decreased 0.6 percent in November but remained 1.2 percent above its year-earlier level. The indexes for durable and nondurable manufacturing both declined 0.6 percent, and the index for other manufacturing (publishing and logging) slipped 0.4 percent. Within durables, increases were recorded by wood products, by computer and electronic products, and by aerospace and miscellaneous transportation equipment; these gains were outweighed by losses for other industries, particularly for motor vehicles and parts. Within nondurables, most industries registered decreases, with only printing and support posting an increase.

Mining output declined 0.7 percent. The indexes for oil and gas extraction and for oil and gas well drilling also each fell 0.7 percent; the decrease for drilling followed more than two years of nearly uninterrupted increases. The output of utilities strengthened 3.6 percent in November, as a decrease for natural gas utilities partly offset an increase for electric utilities.

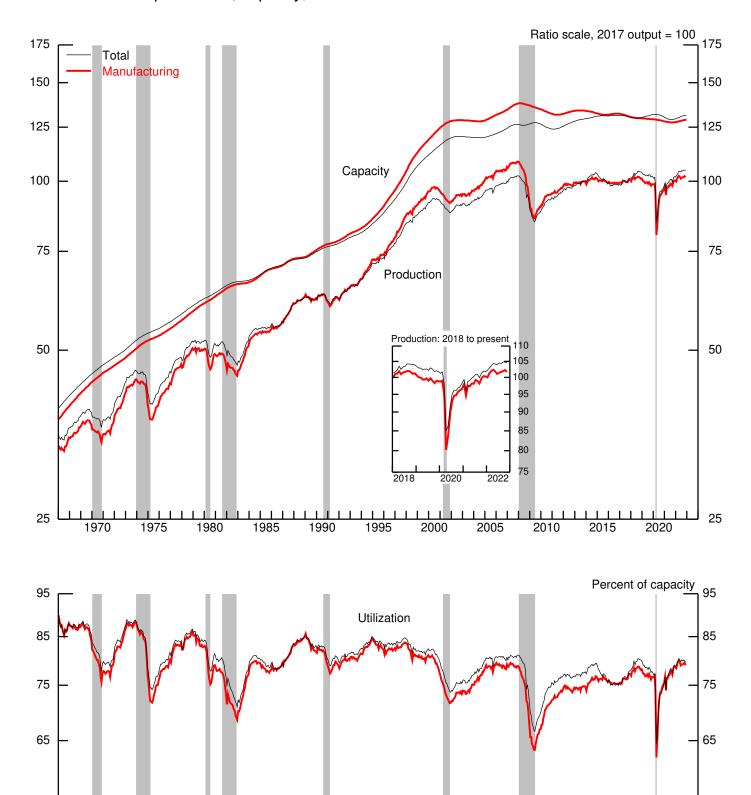
Capacity utilization for manufacturing fell 0.6 percentage point in November to 78.9 percent, a rate that is 0.7 percentage point above its long-run average. The operating rate for mining fell 0.7 percentage point to 88.2 percent, while the operating rate for utilities increased 2.4 percentage points to 74.4 percent. Capacity utilization for mining was 1.9 percentage points above its long-run average, but the rate for utilities remained substantially below its long-run average of 84.7 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
- 7. Capacity Utilization
- 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
- 15. Industrial Production: Reliability Estimates

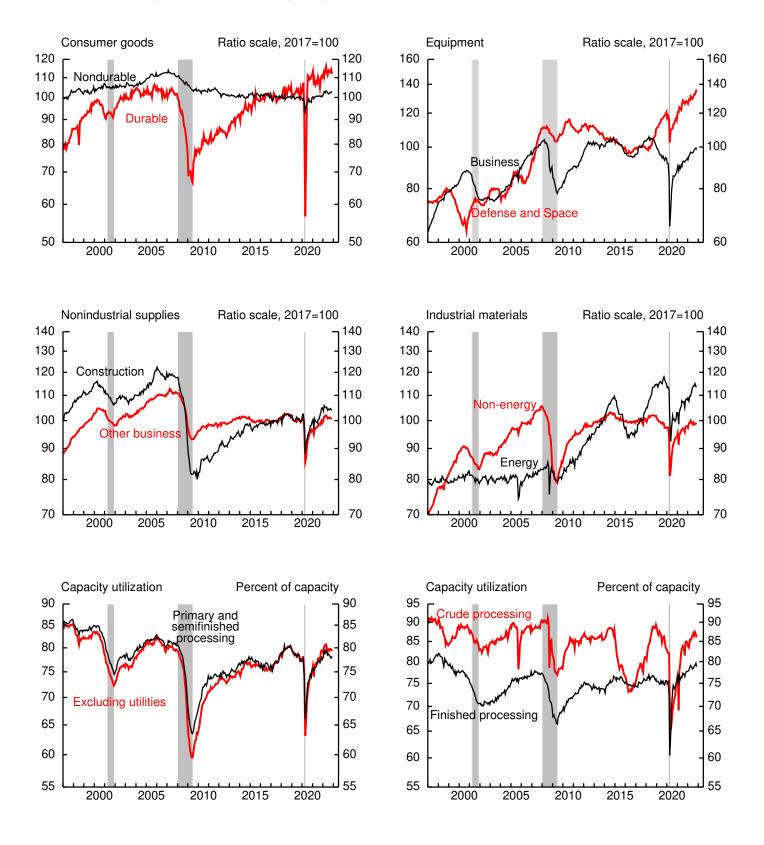
Further detail is available on the Board's website (www.federalreserve.gov/releases/G17/).

# 1. Industrial production, capacity, and utilization



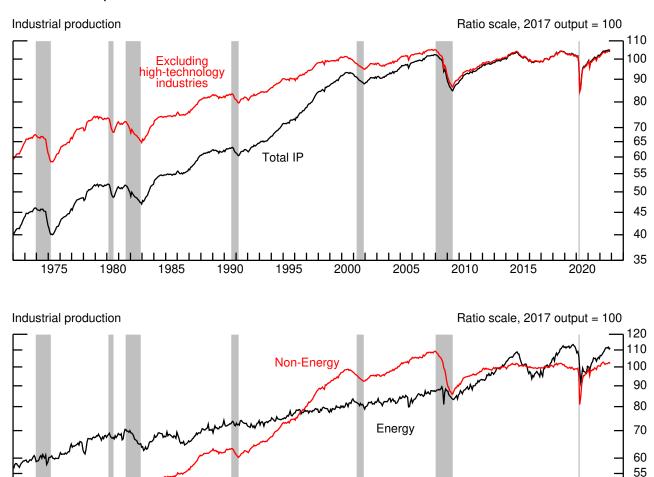
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

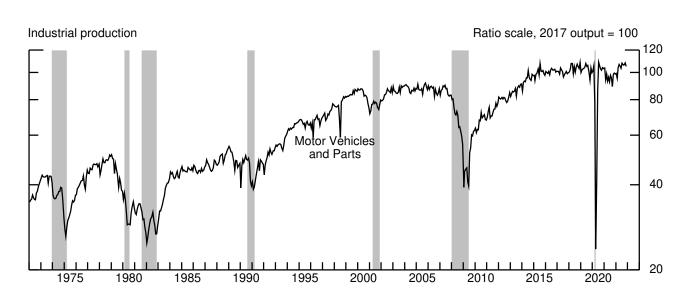
# 2. Industrial production and capacity utilization



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

## 3. Industrial production of selected 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 represent periods of business recession as defined by the NBER.

Table 1 INDUSTRIAL PRODUCTION: MARKET AND INDUSTRY GROUP SUMMARY

			1	th quart ırth quai			nnual ra	te			Month	ıly rate			Nov. '21
Item		2021 proportion <sup>1</sup>	2019	2020	2021	2022 Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	2022 June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>	to Nov. '22
Total IP		100.00	-2.0	-4.4	4.5	4.7	5.0	1.7	2	.5	1	.4	1	2	2.5
MARKET GROUPS															
Final products and nonindustrial supplie	es	53.24	-1.9	-2.5	3.9	6.7	3.9	1	8	.4	.3	.2	.4	4	2.5
Consumer goods		26.88	5	.6	1.4	7.2	2.7	-2.4	-1.0	.2	.2	1	.7	4	1.8
Durable		6.18 3.39	-2.1 -1.3	8.2 12.6	1	6.7 7.4	5.4 22.8	4 3.3	-1.7 -2.0	2.3	4 -1.5	4 -1.7	1.4	-2.1	1.1 4.1
Automotive products Home electronics		.14	2.2	14.1	-5.5 12.3	.9	23.8	23.6	5.0	.9	1.3	-1.7	2.0	-3.1 1.3	12.5
Appliances, furniture, carpeting		.97	-4.5	2.7	4.5	11.8	-31.1	-19.1	-4.0	.9 -1.9	4.8	2.2	1.3	1.3 7	-7.0
Miscellaneous goods		1.68	-3.0	1.3	8.8	3.4	-31.1	-19.1	-4.0	1.0	7	.6	.1	-1.2	-1.1
Nondurable		20.70	-3.0	-1.6	2.0	7.4	1.9	-3.0	8	4	7	.0	.5	.1	2.0
Non-energy		15.90	1.6	.1	1.9	3.2	.3	-1.6	9	5	.7	.5	1.0	6	1.3
Foods and tobacco		9.47	2.5	.5	1	7.3	-1.0	-4.8	-1.3	5	.2	.4	1.2	5	1.1
Clothing		.18	7	-9.7	6.0	-10.3	11.8	18.1	6.1	1.3	-2.7	2.4	1.2	1	5.4
Chemical products		5.09	2.1	.7	6.4	-3.8	4.2	4.6	3	5	1.8	.5	.8	8	2.4
Paper products		.78	-7.2	-5.2	-4.4	-1.5	-10.6	-11.2	-1.2	-1.9	4	2.2	.1	9	-6.0
Energy		4.80	-4.9	-8.0	3.1	22.2	6.7	-6.8	5	1	5	-1.4	9	2.4	4.4
Business equipment		8.41	-7.9	-7.6	7.7	6.6	8.7	5.2	2	.7	.9	.7	.5	8	5.7
Transit		1.79	-18.8	-12.0	2.2	-1.5	26.2	6.3	2	2.3	.9 7	.9	1.7	-1.5	7.2
Information processing		1.82	-16.6	-3.9	10.1	-6.8	3.1	1.9	.3	-1.1	1.7	.5	.3	-1.5	1.0
Industrial and other		4.80	-5.6	-7.2	8.9	15.3	5.0	6.1	2	.7	1.2	.6	.2	-1.0	6.9
Defense and space equipment		2.14	11.4	-2.9	10.0	.8	7.3	6.4	4	1.5	.9	.2	1.6	1.0	6.4
Construction supplies		5.20	-2.1	-1.1	5.9	2.2	-1.0	9	-1.2	.6	3	.6	4	2	7
Business supplies		10.09	-1.6	-3.6	3.2	6.9	1.8	-2.1	8	.3	2	.2	2	2	.7
Materials		46.76	-2.1	-7.0	5.2	2.6	6.2	3.7	.4	.6	4	.6	6	1	2.5
Non-energy		27.72	-4.3	-3.7	4.3	2.9	3.2	-1.7	7	.6	7	.3	1	3	.5
Durable		16.66	-5.6	-5.5	4.5	3.7	5.1	1.4	7	1.3	5	.6	.1	2	2.5
Consumer parts		2.69	-12.8	-3.1	1.3	1.9	6.5	4.8	-1.4	2.5	2	1.9	2	5	4.0
Equipment parts		4.53	-3.2	-7.4	8.6	5.5	2.3	.7	5	.2	1.0	1	.4	1	2.8
Other		9.44	-4.5	-5.2	3.4	3.3	6.1	.9	7	1.4	-1.2	.5	.0	2	1.9
Nondurable		11.07	-2.3	8	4.0	1.7	.3	-6.4	7	5	9	.0	3	5	-2.4
Textile		.36	-4.6	-3.8	4.7	-8.5	-4.6	-9.2	-1.1	.2	-2.6	.9	-2.9	.2	-8.6
Paper		1.59	5	-8.2	2.0	3.2	9.8	-16.1	.2	-2.0	-3.2	-1.2	6	3	-3.5
Chemical Energy		5.62 19.03	-5.1 1.5	.3 -12.7	6.2 7.0	2.1	-1.5 10.1	-4.2 10.9	-1.2 1.8	.2	4 1	5 .9	4 -1.2	2 .3	-2.5 5.0
INDUSTRY GROUPS															
Manufacturing		74.31	-2.6	-2.6	4.2	3.7	2.9	4	8	.4	.1	.3	.3	6	1.2
Manufacturing (NAICS)	31-33	72.60	-2.6	-2.6	4.5	3.7	3.3	1	7	.4	.1	.3	.3	6	1.4
Durable manufacturing		37.34	-4.3	-3.1	5.1	5.5	5.1	1.8	6	1.1	.0	.3	.4	6	2.7
Wood products	321	2.00	2	3.0	1.6	9.9	-2.0	-9.5	3	4	-1.4	-2.7	-3.6	3.6	-2.8
Nonmetallic mineral products	327	2.08	3	-1.0	1	16.2	1.3	6.0	.2	1	.1	2.6	3	-1.2	5.5
Primary metals	331	3.28	-7.6	-4.6	7.8	-11.7	7.7	-2.4	4	1.0	-1.9	8	1.1	-1.4	-3.7
Fabricated metal products	332	5.83	-4.7	-7.8	5.9	5.3	2.0	3.0	-1.5	2.0	5	1.1	.3	4	2.3
Machinery	333	5.24	-7.4	-6.7	10.3	15.7	-4.8	4	-1.9	.6	2.0	1.3	.6	2	5.3
Computer and electronic products	334	4.66	1.3	-1.0	9.0	-2.4	.0	2	.5	8	.7	.0	2	.5	2
Electrical equip., appliances,				_							_	_	_		
and components	335	1.89	-3.2	5	5.8	10.2	4.7	-7.1	1.3	-1.7	8	.3	.7	-2.4	.1
Motor vehicles and parts	3361–3	4.98	-6.0	3.9	-4.0	2.5	25.1	6.2	-1.8	4.1	-1.4	.2	1.6	-2.8	5.6
Aerospace and miscellaneous	2254.5						15.5	10.5		2.2		_			10.0
transportation equipment	3364–9	3.71	-4.0	-7.8	7.0	7.0	15.6	10.5	.6	2.2	.6	7	1.5	1.1	10.2
Furniture and related products	337	1.09	-6.6	-8.3	4.8	12.8	-3.8	-7.6	-1.7	5	7	1.3	-1.2	-2.0	-2.4
Miscellaneous	339	2.59	-5.2	1	7.5	10.0	3.5	9.4	.5	.7	1.9	7	1	-1.6	3.0
Nondurable manufacturing		35.26	7	-2.0	3.9	1.8	1.4	-2.2	9	3	.3	.3	.2	6	.0
Food, beverage, and tobacco products	311,2	11.99	2.6	.7	.0	6.5	9	-3.5	9	4	.1	.7	.8	6	.9
Textile and product mills	313,4	.63	-4.0	-3.6	4.8	-3.3	-10.4	-11.4	-3.4	.7	-1.6	2	-1.5	-1.0	-9.2
Apparel and leather	315,6	.19	-1.3	-9.4	6.7	-9.3	12.6	18.2	5.9	1.6	-2.7	2.1	.9	3	5.2
Paper	322	2.39	-1.1	-4.6	.5	5.4	3.8	-17.5	6	-1.9	-3.2	6	-1.0	-1.0	-5.5
Printing and support	323	1.12	-2.0	-8.1	3.4	-2.2	6.0	-7.0	2	-1.4	.8	-2.5	2.8	1.6	1.4
Petroleum and coal products	324	3.15	-4.5	-16.4	18.7	-7.3	1	6.5	-2.6	.1	2.8	2.8	-2.6	5	-1.2
Chemicals	325	12.16	-1.5	1	5.9	9	2.5	4	4	4	.6	1	.4	3	.5
Plastics and rubber products	326	3.63	-3.3	-1.3	2.3	5.1	5.1	1.5	9	1.2	1	.0	.3	-1.8	.6
Other manufacturing (non-NAICS)	1133,5111	1.71	-3.5	-2.9	-5.6	3.1	-12.3	-12.0	-1.4	-2.0	.1	1.7	3	4	-5.8
Mining	21	15.54	1.7	-18.0	10.9	9	15.1	13.5	1.6	1.3	2	1.8	7	7	6.3
Utilities	2211,2	10.15	-1.7	-2.5	3	23.2	3.0	-3.7	.5	.1	-1.3	-2.0	-1.3	3.6	4.6
Electric	2211	8.66	-1.2	-1.6	.4	16.4	2.5	-2.2	.3	.0	-1.2	-2.3	-2.4	4.8	3.5
Natural gas	2212	1.49	-4.7	-8.5	-4.6	72.7	6.1	-11.8	1.7	1.0	-1.9	5	4.8	-2.0	11.7
		ı	1			1			1						

r Revised. p Preliminary.

<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.

Note. Under the industry groups, the figures to the right of the series descriptions are 2017 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/G17/20221215/default.sup.htm). Under market groups, in the products category, miscellaneous consumer nondurables, oil and gas well drilling, and manufactured homes are not shown separately; in the nondurable materials category, containers and miscellaneous nondurable materials are not shown separately.

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

Percent change, seasonally adjusted			1	rth quartourth quar		Α.	nnual rat	- A			Month	ıly rate			Nov. '21
Item		2021				2022			2022						to
		proportion	2019	2020	2021	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct.r	Nov. <sup>p</sup>	Nov. '22
Total industry		100.00	-2.0	-4.4	4.5	4.7	5.0	1.7	2	.5	1	.4	1	2	2.5
Energy		26.73	2	-12.3	7.2	7.1	10.1	7.5	1.2	.7	2	.6	-1.1	.6	5.5
Consumer products		4.80	-4.9	-8.0	3.1	22.2	6.7	-6.8	5	1	5	-1.4	9	2.4	4.4
Commercial products	212111	2.46	.7	-7.7	7.0	13.0	6.1	.0	-1.5	1.3	-1.1	1.9	9	.6	4.4
Oil and gas well drilling Converted fuel	213111	5.07	-11.5 -2.5	-50.2 -3.9	73.1	46.5 13.9	69.4	52.0 3.4	4.3 1.0	3.5	2.7	1.0	.8	7 1.2	41.1
Primary energy		13.96	3.2	-16.5	8.8	-1.7	12.5	13.5	2.0	.7	.2	1.7	-1.6	.0	5.1
Non-energy		73.27	-2.6	-2.0	3.8	3.8	2.9	7	8	.5	.0	.3	.4	6	1.3
Selected high-technology industries		2.12	5.3	6.3	11.1	1.5	.6	6.2	1.8	.5	2	2	6	.6	1.6
Computers and peripheral equipment	3341	.23	8.9	13.7	20.8	9.3	11.4	17.3	3.3	3	1.6	2.0	.4	1.4	12.3
Communications equipment	3342	.44	2.1	6.2	14.1	-18.0	32.7	45.9	4.1	3.7	2.8	1.9	1.1	.8	16.0
Semiconductors and related															
electronic components	3344	1.45	5.9	5.1	8.6	6.9	-8.9	-5.9	.8	4	-1.5	-1.2	-1.3	.4	-4.5
Excluding selected high-technology industries		71.15	-2.8	-2.2	3.6	3.9	3.0	8	9	.5	.0	.3	.4	6	1.3
Motor vehicles and parts	3361-3	4.98	-6.0	3.9	-4.0	2.5	25.1	6.2	-1.8	4.1	-1.4	.2	1.6	-2.8	5.6
Motor vehicles	3361	2.32	-4.0	9.2	-8.8	-2.7	47.3	20.0	-1.6	6.8	-1.3	.0	2.9	-5.0	10.3
Motor vehicle parts	3363	2.07	-9.2	-2.3	-1.0	2.6	21.5	10.1	2	3.4	-1.0	.9	.1	2	8.5
Excluding motor vehicles and parts		66.18	-2.5	-2.8	4.3	4.0	1.5	-1.4	8	.2	.1	.3	.3	4	1.0
Consumer goods		19.14	.6	.4	2.6	3.4	-1.4	-2.1	-1.0	3	.7	.5	.8	7	.6
Business equipment		7.21	-8.5	-7.8	7.7	11.0	7.3	4.1	1	.4	1.1	.3	.5	5	6.3
Construction supplies		5.19	-2.1	-1.2	5.9	2.2	-1.1	9	-1.2	.6	3	.6	4	2	7
Business supplies Materials		7.19 25.27	-2.9 -4.1	-2.7 -4.0	1.6 4.6	4.9 2.7	.8 2.2	-2.8 -2.5	7 8	1 .4	.2 6	4 .3	.1 .0	5 3	3 .1
Measures excluding selected high-technology industries															
Total industry		97.88	-2.2	-4.7	4.3	4.8	5.1	1.6	2	.5	1	.4	1	2	2.5
Manufacturing <sup>1</sup>		72.19	-2.9	-2.8	4.0	3.7	3.0	6	8	.4	.1	.3	.3	6	1.2
Durable		35.40	-4.8	-3.6	4.7	5.9	5.3	1.7	7	1.1	.0	.3	.4	7	2.8
Measures excluding motor vehicles and parts															
Total industry		95.02	-1.7	-5.0	5.1	4.8	4.0	1.5	1	.3	.0	.4	1	1	2.4
Manufacturing <sup>1</sup> Durable		69.33 32.54	-2.3 -3.9	-3.1 -4.3	5.0 6.8	3.8 6.2	1.5 2.2	9 1.3	7 4	.1 .7	.2 .2	.3 .3	.2 .1	4 3	.9 2.3
Measures excluding selected high-technology industries															
and motor vehicles and parts															
Total industry		92.90	-1.9	-5.2	4.9	4.9	4.1	1.4	2	.3	.0	.4	1	1	2.4
Manufacturing <sup>1</sup>		67.21	-2.6	-3.4	4.7	3.8	1.5	-1.1	8	.1	.3	.4	.2	5	.9
Stage-of-process components of non-energy materials, measures of the input to Finished processors		9.17	-5.6	-6.2	5.3	3.5	4.5	-1.6	7	.5	2	.4	.0	3	1.6
Primary and semifinished processors		18.56	-3.6	-2.2	3.8	2.6	2.6	-1.8	8	.6	2	.3	1	4	.0
Timary and seministica processors		10.30	-5.0	-2.2	5.0	2.0	2.0	-1.0	0	.0	9		1		.0

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

willions of units, seasonarry adjusted aimuai rate											
	2021	2021	2022			2022					
Item	average	Q4	Q1	Q2	Q3	June	July	Aug.	Sept.	Oct.	Nov.
Total	9.16	9.23	9.19	10.36	10.62	10.31	10.48	10.74	10.63	10.84	10.25
Autos	1.56	1.54	1.62	1.79	1.88	1.83	1.85	1.93	1.87	1.82	1.72
Trucks	7.59	7.69	7.56	8.56	8.73	8.48	8.63	8.81	8.76	9.02	8.53
Light	7.31	7.37	7.28	8.24	8.40	8.16	8.30	8.50	8.40	8.66	8.19
Medium and heavy	.29	.32	.28	.32	.34	.32	.33	.31	.37	.36	.34
Memo Autos and light trucks	8.87	8.90	8.91	10.04	10.28	9.99	10.15	10.43	10.26	10.48	9.91

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

r Revised. p Preliminary.

1. The composition of manufacturing is specified in a note for the summary table.

Table 4 INDUSTRIAL PRODUCTION INDEXES: MARKET AND INDUSTRY GROUP SUMMARY 2017 = 100, seasonally adjusted

017 = 100, seasonally adjusted											
Item		2021 proportion	2022 Mar.	Apr.	May	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct. <sup>r</sup>	Nov. <sup>p</sup>
Total IP		100.00	103.6	104.3	104.2	103.9	104.5	104.4	104.8	104.7	104.5
		100.00	100.0	101.0	102	100.5	105	10	100	10	10.110
MARKET GROUPS Final products and nonindustrial supplies		53.24	103.7	104.7	104.2	103.4	103.9	104.1	104.3	104.7	104.3
Consumer goods		26.88	103.7	104.7	105.2	104.2	104.4	104.1	104.5	105.3	104.8
Durable		6.18	113.5	116.0	113.3	111.3	113.9	113.5	113.0	114.5	112.1
Automotive products		3.39	116.3	119.7	118.9	116.5	121.2	119.4	117.4	119.8	116.1
Home electronics		.14	168.2	172.0	173.4	182.1	183.7	186.2	186.4	185.9	188.3
Appliances, furniture, carpeting		.97	98.9	104.0	91.6	87.9	86.2	90.3	92.3	93.5	92.9
Miscellaneous goods		1.68	112.4	111.4	110.8	110.3	111.4	110.6	111.3	111.5	110.2
Nondurable		20.70	102.2	103.3	103.0	102.2	101.8	102.2	102.2	102.7	102.8
Non-energy		15.90	103.0	102.9	103.0	102.1	101.6	102.4	102.8	103.8	103.2
Foods and tobacco		9.47	102.8	102.7	102.3	101.1	100.5	100.7	101.1	102.3	101.8
Clothing		.18 5.09	90.3 107.3	89.8 107.6	89.6 108.9	95.1 108.6	96.3 108.1	93.7 110.0	96.0 110.6	97.2 111.4	97.1 110.5
Chemical products Paper products		.78	81.5	79.9	78.3	77.4	75.9	75.6	77.2	77.3	76.6
Energy Energy		4.80	99.0	103.6	101.9	101.4	101.3	100.8	99.4	98.5	100.9
Business equipment		8.41	96.4	97.3	97.0	96.8	97.5	98.4	99.0	99.5	98.7
Transit		1.79	69.2	71.3	71.1	70.5	72.2	71.6	72.3	73.6	72.4
Information processing		1.82	111.8	112.7	112.8	113.1	111.9	113.8	114.4	114.7	115.1
Industrial and other		4.80	106.0	106.2	105.8	105.7	106.4	107.7	108.4	108.5	107.5
Defense and space equipment		2.14	128.4	131.2	129.8	129.3	131.3	132.4	132.7	134.8	136.2
Construction supplies		5.20	105.2	105.0	105.1	103.9	104.4	104.1	104.7	104.3	104.1
Business supplies		10.09	101.7	102.1	101.6	100.8	101.1	100.9	101.0	100.9	104.1
Materials		46.76	103.4	103.7	104.0	104.4	105.1	104.6	105.3	104.7	104.6
Non-energy		27.72	99.3	99.9	99.3	98.6	99.2	98.5	98.9	98.8	98.5
Durable		16.66	98.0	99.2	98.3	97.6	98.9	98.4	98.9	99.0	98.8
Consumer parts		2.69	88.1	90.7	88.3	87.1	89.3	89.1	90.8	90.6	90.1
Equipment parts		4.53	103.8	104.3	103.2	102.7	103.0	103.9	103.8	104.3	104.2
Other		9.44	98.3	99.3	99.1	98.4	99.9	98.6	99.1	99.1	98.9
Nondurable		11.07	101.3	101.2	100.9	100.2	99.8	98.8	98.8	98.5	98.0
Textile		.36	91.0	92.2	91.0	90.0	90.2	87.9	88.6	86.1	86.2
Paper		1.59	92.9	94.6	94.5	94.7	92.9	89.9	88.9	88.4	88.1
Chemical Energy		5.62 19.03	100.7 109.8	100.1 109.7	100.0 111.3	98.8 113.3	98.9 114.1	98.6 114.0	98.1 115.0	97.7 113.7	97.6 114.0
INDUSTRY GROUPS Manufacturing		74.31	102.0	102.4	101.9	101.1	101.5	101.6	102.0	102.2	101.6
Manufacturing (NAICS)	31-33	72.60	102.4	102.9	102.5	101.7	102.1	102.3	102.6	102.9	102.2
Durable manufacturing		37.34	103.1	104.2	103.3	102.7	103.8	103.8	104.0	104.4	103.8
Wood products	321	2.00	105.9	103.9	103.8	103.4	103.1	101.6	98.9	95.3	98.8
Nonmetallic mineral products	327	2.08	103.7	102.1	103.7	103.9	103.8	103.8	106.5	106.2	104.9
Primary metals	331	3.28	95.4	97.1	97.8	97.4	98.3	96.4	95.7	96.8	95.5
Fabricated metal products	332	5.83	100.7	101.3	100.3	98.8	100.8	100.3	101.4	101.8	101.3
Machinery	333	5.24	104.8	106.9	103.3	101.3	101.9	104.0	105.4	106.0	105.7
Computer and electronic products	334	4.66	115.1	114.7	114.5	115.1	114.2	115.0	115.0	114.7	115.3
Electrical equip., appliances,	225	1.00	100.4	100.2	107.4	100.0	107.0	106.1	106.7	107.2	101
and components	335	1.89	108.4	109.3	107.4	108.9	107.0	106.1	106.5	107.2	104.6
Motor vehicles and parts	3361–3	4.98	103.9	106.8	105.3	103.4	107.6	106.2	106.4	108.1	105.0
Aerospace and miscellaneous transportation equipment	3364–9	3.71	92.9	96.0	95.3	95.8	97.9	98.5	97.9	99.3	100.5
Furniture and related products	3304-9	1.09	92.9	96.0	93.3	93.8	90.0	89.4	97.9	89.5	87.7
Miscellaneous	339	2.59	108.7	108.8	109.3	109.8	110.6	112.8	112.0	111.9	110.2
Nondurable manufacturing		35.26	101.7	101.5	101.6	100.7	100.4	100.7	101.0	101.2	100.6
Food, beverage, and tobacco products	311,2	11.99	103.9	103.8	103.3	100.7	101.9	100.7	102.7	103.6	100.0
Textile and product mills	313,4	.63	93.7	93.6	93.1	89.9	90.5	89.1	88.9	87.6	86.7
Apparel and leather	315,6	.19	91.0	90.6	90.4	95.7	97.3	94.6	96.6	97.5	97.2
Paper	322	2.39	97.3	97.8	97.4	96.8	95.0	92.0	91.4	90.4	89.5
Printing and support	323	1.12	92.5	92.9	92.9	92.7	91.4	92.1	89.9	92.3	93.8
Petroleum and coal products	324	3.15	95.5	94.1	95.5	93.0	93.1	95.6	98.3	95.8	95.3
Chemicals	325	12.16	103.1	102.9	103.3	102.9	102.5	103.2	103.0	103.4	103.1
Plastics and rubber products	326	3.63	103.8	104.4	104.1	103.1	104.3	104.2	104.2	104.5	102.6
Other manufacturing (non-NAICS)	1133,5111	1.71	86.7	83.8	81.6	80.5	78.9	78.9	80.3	80.0	79.7
	•	15.54	111.9	112.3	113.6	115.4	116.9	116.7	118.8	118.0	117.2
Mining	21	13.34									
Utilities	2211,2	10.15	103.1	106.7	107.0	107.6	107.7	106.3	104.2	102.9	106.6
Mining Utilities Electric Natural gas					107.0 106.5 110.0	107.6 106.8 111.9	107.7 106.8 113.0	106.3 105.5 110.8	104.2 103.1 110.3	102.9 100.6 115.6	106.6 105.4 113.3

 $\label{eq:continuous_preliminary} \overline{r \mbox{ Revised. p Preliminary.}}$  Note. Refer to the notes for table 1.

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

2017 = 100, seasonally adjusted

2017 = 100, scasonary adjusted											
Item		2021 proportion	2022 Mar.	Apr.	May	June <sup>r</sup>	July	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>
		100.00	103.6	104.3	104.2	103.9	104.5	104.4	104.8	104.7	104.5
Total industry		100.00	103.0	104.3	104.2	103.9	104.3	104.4	104.6	104.7	104.3
Energy		26.73	107.2	108.3	109.2	110.5	111.2	111.1	111.8	110.6	111.2
Consumer products		4.80	99.0	103.6	101.9	101.4	101.3	100.8	99.4	98.5	100.9
Commercial products		2.46	105.8	109.0	108.4	106.8	108.2	107.0	109.0	108.0	108.7
Oil and gas well drilling	213111	.44	120.2	124.6	133.1	138.8	143.7	147.6	149.0	150.2	149.1
Converted fuel		5.07	105.8	106.4	108.8	109.8	110.5	109.4	107.8	107.8	109.1
Primary energy		13.96	111.0	110.7	112.0	114.3	115.1	115.4	117.3	115.5	115.5
Non-energy		73.27	102.2	102.7	102.2	101.4	101.9	101.8	102.1	102.5	101.9
Selected high-technology industries		2.12	139.3	137.3	137.4	139.8	140.5	140.3	140.0	139.3	140.1
Computers and peripheral equipment	3341	.23	193.5	192.9	195.4	202.0	201.4	204.5	208.5	209.4	212.2
Communications equipment	3342	.44	145.2	151.2	154.4	160.6	166.6	171.3	174.5	176.3	177.8
Semiconductors and related											
electronic components	3344	1.45	129.3	125.2	124.3	125.3	124.8	122.9	121.4	119.8	120.2
Excluding selected high-technology											
industries		71.15	101.1	101.7	101.2	100.3	100.8	100.8	101.1	101.5	100.9
Motor vehicles and neuts	3361-3	4.98	103.9	106.8	105.3	103.4	107.6	106.2	106.4	108.1	105.0
Motor vehicles and parts Motor vehicles	3361	2.32	110.8	114.4	114.1	112.3	120.0	118.4	118.4	121.8	115.7
Motor vehicle parts	3363	2.32	93.8	96.6	95.3	95.1	98.3	97.4	98.2	98.3	98.1
wiotor venicie parts	3303	2.07	93.6	90.0	93.3	93.1	90.3	97.4	90.2	90.3	70.1
Excluding motor vehicles and parts		66.18	101.0	101.4	100.9	100.1	100.3	100.4	100.7	101.0	100.6
Consumer goods		19.14	103.5	103.8	103.2	102.2	101.9	102.6	103.0	103.9	103.2
Business equipment		7.21	93.8	94.6	94.4	94.3	94.7	95.7	95.9	96.4	95.9
Construction supplies		5.19	105.1	104.8	105.0	103.7	104.3	104.0	104.6	104.1	103.9
Business supplies		7.19	98.9	98.5	98.2	97.5	97.4	97.6	97.2	97.4	96.9
Materials		25.27	99.0	99.6	99.1	98.3	98.7	98.1	98.4	98.4	98.0
Measures excluding selected high-technology											
industries											
Total industry		97.88	102.8	103.6	103.5	103.2	103.7	103.7	104.1	104.0	103.8
Manufacturing <sup>1</sup>		72.19	101.0	101.4	100.9	100.1	100.4	100.6	100.9	101.2	100.6
Durable		35.40	101.2	102.4	101.4	100.7	101.8	101.8	102.1	102.5	101.8
Measures excluding motor vehicles and parts											
Total industry		95.02	103.6	104.2	104.2	104.0	104.4	104.4	104.8	104.6	104.5
Manufacturing <sup>1</sup>		69.33	101.9	102.1	101.7	101.0	101.1	101.3	101.7	101.8	101.4
Durable		32.54	103.2	103.9	103.1	102.7	103.3	103.5	103.8	104.0	103.7
Measures excluding selected high-technology industries and motor vehicles and parts											
Total industry		92.90	102.8	103.4	103.4	103.2	103.6	103.6	104.0	103.9	103.8
Manufacturing <sup>1</sup>		67.21	100.8	101.0	100.6	99.8	99.9	100.2	100.5	100.7	100.3
St											
Stage-of-process components of non-energy											
materials, measures of the input to Finished processors		9.17	96.7	98.1	06.9	96.2	96.7	96.5	96.8	96.8	96.5
Primary and semifinished processors		18.56	100.8	101.1	96.8 100.9	100.1	100.7	96.3	100.2	100.1	96.3
Timely and seminimished processors		10.50	100.0	101.1	100.7	100.1	100.7	77.0	100.2	100.1	79.1
		1	1								

r Revised. p Preliminary.

Table 6
DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

ercent												
Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One month earlier												
2020	57.1	56.1	28.0	12.5	58.4	73.6	72.6	67.2	57.8	64.5	60.8	57.8
2021	65.2	30.4	76.0	51.0	60.5	53.7	59.8	54.1	50.7	69.6	59.8	47.6
2022	47.3	66.6	57.4	57.3	43.9	50.3	59.8	42.2	54.4	55.2		
Three months earlier												
2020	59.5	55.7	33.1	13.2	11.1	26.7	75.7	82.8	80.4	73.0	63.5	63.9
2021	68.2	48.0	63.9	52.4	69.3	54.1	61.1	58.8	56.4	61.8	67.2	65.2
2022	52.7	61.5	70.3	71.3	54.4	53.4	52.4	51.7	58.8	54.6		
Six months earlier												
2020	50.7	50.0	31.4	15.2	15.5	20.9	30.1	32.1	48.3	80.4	86.5	83.1
2021	76.0	57.1	69.9	63.5	63.5	61.8	54.4	69.3	55.1	63.9	65.2	65.9
2022	58.4	65.2	72.6	68.9	63.9	61.8	63.5	53.0	56.4	50.7		

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> The composition of manufacturing is specified in a note for the summary table.

Table 7
CAPACITY UTILIZATION
Percent of capacity, seasonally adjusted

Item		2021	2021	95	2009	2022			2022					
		proportion	ave.	high	low	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov.
Total industry		100.00	79.6	85.0	66.6	79.4	80.0	80.0	79.7	80.0	79.9	80.1	79.9	79.3
Manufacturing <sup>1</sup>		76.08	78.2	84.7	63.4	79.1	79.5	79.2	78.9	79.1	79.1	79.3	79.5	78.9
Manufacturing (NAICS)	31–33	74.16	78.1	84.8	63.3	79.2	79.6	79.3	79.0	79.3	79.3	79.4	79.6	79.0
Durable manufacturing		39.49	76.8	83.8	58.1	77.3	78.0	78.0	77.3	78.1	77.9	78.0	78.2	77.0
Wood products	321	1.88	76.7	86.6	48.3	82.8	82.2	80.1	81.9	81.6	80.4	78.2	75.4	78.
Nonmetallic mineral products	327	2.19	73.4	82.4	43.8	80.0	80.0	80.8	80.5	80.3	80.2	82.1	81.7	80.
Primary metals	331	3.43	77.9	95.2	49.4	73.1	74.3	73.4	74.2	74.7	73.1	72.4	73.1	72
Fabricated metal products	332	5.96	77.6	84.2	62.6	78.8	79.4	80.0	78.3	80.0	79.6	80.5	80.8	80.
Machinery	333	5.15	77.8	87.5	58.7	85.3	84.1	83.9	82.0	82.4	84.1	85.1	85.6	85.
Computer and electronic products	334	5.10	77.3	84.5	70.0	73.6	72.3	71.1	72.1	71.1	71.3	70.9	70.4	70
Electrical equip., appliances,	225	1.07	01.5	02.7	((7	02.0	02.6	01.0	02.0	02.2	01.6	01.0	02.2	00
and components	335	1.87	81.5	92.7	66.7	82.8	83.6	81.9	83.8	82.3	81.6	81.8	82.3	80.
Motor vehicles and parts	3361–3	5.89	75.0	87.5	33.1	70.7	74.7	75.6	73.4	76.3	75.2	75.4	76.5	74.
Aerospace and miscellaneous	2264 0	4.47	72.0	71.6	70.4	60.4	72.0	72.0	70.1	72.7	74.1	72.6	747	75
transportation equipment	3364–9	4.47	73.9	71.6	72.4	69.4	72.0	73.8	72.1	73.7	74.1	73.6	74.7	75.
Furniture and related products	337 339	1.09	77.3 76.8	82.7	53.9	82.0	80.8	78.8	79.5	79.0	78.3	79.2	78.1	76
Miscellaneous	339	2.47	/0.8	81.0	68.2	87.3	87.0	87.9	87.0	87.3	88.6	87.7	87.3	85
Nondurable manufacturing		34.67	80.0	86.1	68.8	81.3	81.4	80.9	80.9	80.6	80.8	81.1	81.2	80
Food, beverage, and tobacco products	311,2	11.90	80.3	85.3	75.2	80.2	79.8	79.0	79.2	78.8	78.8	79.3	80.0	79
Textile and product mills	313,4	.69	78.4	91.7	54.1	73.0	71.2	69.2	69.5	70.0	68.9	68.8	67.8	67
Apparel and leather	315,6	.21	75.8	87.4	58.6	72.6	74.8	78.1	77.6	78.9	76.8	78.4	79.2	79.
Paper	322	2.16	86.6	92.7	72.8	87.3	88.2	84.2	87.8	86.2	83.5	83.0	82.2	81.
Printing and support	323	1.24	79.4	85.4	58.7	77.6	79.1	77.9	79.1	78.1	78.8	76.9	79.1	80.
Petroleum and coal products	324	2.81	85.4	91.1	75.9	84.0	83.3	83.9	82.0	81.8	83.9	86.1	83.7	83.
Chemicals	325	12.30	76.6	82.1	65.2	80.4	80.9	80.6	80.7	80.4	80.9	80.7	81.0	80.
Plastics and rubber products	326	3.36	82.1	93.2	57.0	86.4	87.3	87.4	86.6	87.5	87.3	87.2	87.4	85
Other manufacturing (non-NAICS)	1133,5111	1.92	79.5	83.3	65.0	76.1	74.9	73.7	73.9	72.8	73.3	75.0	75.1	75.
Mining	21	13.08	86.3	88.6	78.9	84.9	86.9	88.8	87.8	88.6	88.2	89.6	88.9	88.
<b>Jtilities</b>	2211,2	10.85	84.7	92.9	78.0	75.7	75.7	74.6	75.9	75.9	74.7	73.1	72.0	74.
Selected high-technology industries		2.16	77.5	86.4	71.3	79.8	77.8	76.8	78.0	77.6	76.8	76.0	74.9	74.
Computers and peripheral equipment	3341	.22	77.7	86.9	82.9	94.5	95.6	97.8	97.6	96.8	97.7	99.0	98.8	99.
Communications equipment	3342	.57	75.6	86.6	77.7	60.0	62.1	65.8	63.5	65.1	66.0	66.5	66.4	66.
Semiconductors and related	22.2	,	75.0	00.0	, , , ,	00.0	02.1	00.0	05.5	00.1	00.0	00.0	00	00.
electronic components	3344	1.37	79.1	92.2	63.0	85.7	81.5	78.2	81.0	80.0	78.1	76.5	74.9	74.
Measures excluding selected														
nigh-technology industries														
Total industry		97.84	79.7	84.9	66.3	79.4	80.0	80.0	79.7	80.1	79.9	80.1	80.0	79.
Manufacturing <sup>1</sup>		73.91	78.2	84.5	63.0	79.1	79.5	79.2	78.9	79.1	79.2	79.4	79.6	79.
STAGE-OF-PROCESS GROUPS														
Crude		16.97	85.5	90.0	76.9	84.2	85.9	87.0	86.6	87.1	86.4	87.3	86.6	86.
Primary and semifinished		45.31	80.1	87.8	63.5	78.9	79.0	78.4	78.4	78.7	78.3	78.2	77.8	78.
Finished		37.71	76.7	80.7	66.4	78.1	78.7	78.8	78.2	78.4	78.9	79.1	79.6	78.

r Revised. p Preliminary.

1. The composition of manufacturing is specified in a note for the summary table.

Table 8 INDUSTRIAL CAPACITY

Percent change

													Monthly
			nnual rate		Fourth	quarter to	o fourth c	quarter		Annua	l rate		rate
Item	1972-	1980-	1989-	1995-					2022				2022
	79	88	94	2022	2019	2020	2021	2022	Q1	Q2	Q3	Q4	Nov.
Total industry	3.1	1.9	2.3	1.6	1.1	7	-1.1	1.6	1.5	1.9	1.8	1.4	.1
Manufacturing <sup>1</sup>	3.3	2.2	2.6	1.5	4	8	5	1.0	.8	1.0	1.1	1.0	.1
Mining	.7	.1	7	1.1	8.9	-3.3	-7.3	3.5	3.6	4.8	3.9	1.9	.1
Utilities	4.3	2.2	1.8	1.7	1.5	2.5	2.4	2.6	2.6	2.6	2.6	2.5	.2
	40.5		160	160									
Selected high-technology industries	18.6	16.7	16.0	16.3	8.0	2.3	7.7	11.5	11.4	11.6	11.6	11.4	.9
Manufacturing <sup>1</sup> ex. selected high-technology industries	2.6	1.2	1.6	.4	6	9	7	.7	.5	.8	.8	.7	.1
STAGE-OF-PROCESS GROUPS Crude	1.5	.5	5	.9	5.7	-2.8	-6.0	2.6	2.5	3.6	2.9	1.4	.1
Primary and semifinished	3.0	1.3	2.5	1.7	3	1	3	1.0	.8	1.1	1.2	1.1	.1
Finished	3.9	3.2	2.8	1.5	.3	5	.4	1.6	1.5	1.7	1.6	1.6	.1
	3.7	3.2	2.0	1.5		.5	• • •	1.0	1.5	1.7	1.0	1.0	

<sup>1.</sup> The composition of manufacturing is specified in a note for the summary table.

 Table 9

 GROSS VALUE OF FINAL PRODUCTS AND NONINDUSTRIAL SUPPLIES

 Billions of 2012 dollars at annual rate, seasonally adjusted

inions of 2012 donars at annual rate, seaso	many adjusted										
			2022			2022					
Item	2012	2021	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug. <sup>r</sup>	Sept.r	Oct.r	Nov. <sup>p</sup>
Final products and nonindustrial supplies	4,006.0	4,118.2	4,241.0	4,293.9	4,295.4	4,266.0	4,286.6	4,292.5	4,307.0	4,311.7	4,289.9
Final products	2,985.7	3,056.8	3,139.5	3,185.3	3,194.6	3,166.4	3,183.7	3,196.1	3,204.0	3,215.7	3,195.7
Consumer goods	2,188.9	2,334.8	2,386.6	2,412.6	2,408.9	2,394.8	2,403.8	2,410.2	2,412.6	2,418.7	2,405.1
Durable	428.6	553.6	571.5	589.5	594.1	579.6	598.1	594.5	589.5	599.0	582.8
Automotive products	282.2	390.6	402.5	427.7	434.9	422.2	441.4	435.3	428.1	436.9	421.7
Other durable goods	146.4	162.8	168.9	162.6	160.2	158.3	158.1	160.3	162.2	163.0	161.7
Nondurable	1,760.4	1,774.9	1,809.9	1,817.7	1,809.7	1,809.8	1,800.6	1,810.5	1,817.8	1,814.5	1,817.2
Equipment, total	796.8	731.7	762.2	782.1	795.3	781.0	789.4	795.5	801.1	806.7	800.2
Business and defense	761.5	710.5	735.7	752.2	763.0	749.6	757.5	762.9	768.6	774.5	768.1
Business	632.8	567.1	588.8	602.6	611.0	600.8	606.5	610.5	615.8	619.5	611.7
Defense and space	128.8	144.0	147.3	150.1	152.5	149.2	151.5	152.9	153.2	155.7	157.3
Nonindustrial supplies	1,020.3	1,061.6	1,101.8	1,109.0	1,101.5	1,100.1	1,103.5	1,097.3	1,103.8	1,097.2	1,095.1
Construction supplies	243.9	271.2	281.5	280.8	278.9	278.4	279.7	278.5	278.5	277.2	276.9
Business supplies	776.4	788.0	817.9	826.7	821.1	820.2	822.1	817.0	824.1	818.6	816.8
Commercial energy products	274.9	298.7	316.2	325.2	322.5	320.7	322.8	317.1	327.5	321.4	322.3

r Revised. p Preliminary.

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

Percent change, seasonally adjusted														
		Fou	rth quarte	er to										
		fo	urth quar	ter	A	Annual r	ate			Month	nly rate			Nov. '21
Item	2021				2022			2022						to
	gross value <sup>1</sup>	2019	2020	2021	Q1	Q2 <sup>r</sup>	Q3 <sup>r</sup>	June <sup>r</sup>	July <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov. <sup>p</sup>	Nov. '22
Finished	2,339.7	-1.0	1	2.9	5.9	7.1	3.3	5	.8	.5	.3	.9	-1.3	3.8
Semifinished	1,941.7	-2.9	-2.9	3.6	7.4	3.4	7	-1.0	.8	2	.1	3	.5	2.4
Primary	1,786.1	-5.1	-9.0	7.4	3.1	2.2	-2.4	9	2	3	.7	-1.2	1	7
Crude	875.2	-1.7	-9.2	4.4	6	7.5	3.0	.8	.5	-1.0	.6	3	6	1.4

r Revised. p Preliminary.

<sup>1.</sup> Billions of 2012 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>																	
2000	1	.4	.4	.6	.3	.1	2	3	.4	3	.0	3	4.1	5.0	4	-1.1	3.9
2001	5	7	3	3	6	6	6	1	5	3	6	.0	-5.1	-5.0	-5.5	-4.3	-3.1
2002	.7	.0	.8	.5	.4	.8	.0	1	.1	3	.5	5	2.9	6.4	2.5	2	.3
2003 2004	.8	.6	3 4	6 .4	.0	.1 8	.5 .7	2 .1	.7 .1	.1	.7	.1	2.5 2.9	-3.0 2.3	2.7 2.2	3.9 5.7	1.3 2.7
2005	4	7	1	2	1	4	2	2	1.0	1.2	1.1	.5	57	2.2	1.6	2.7	2.2
2005 2006	.4	.7	1 .2	.2	.1	.4	3 1	.3	-1.9 2	1.2 1	1.1 1	1.0	5.7 3.9	2.3	-1.6 1.5	3.7	3.3 2.3
2007	4	1.0	.2	.7	.1	.0	1	.2	.2	3	.6	.0	4.0	4.9	.6	1.3	2.5
2008	1	4	4	7	6	2	4	-1.6	-4.4	1.0	-1.3	-2.8	-1.3	-5.8	-12.3	-16.0	-3.5
2009	-2.5	6	-1.6	8	-1.0	3	1.2	1.1	.8	.2	.4	.4	-20.7	-10.7	6.6	6.3	-11.4
2010	1.1	.4	.7	.4	1.4	.2	.4	.4	.3	3	.1	1.0	8.0	8.1	5.4	1.6	5.5
2011	2	4	1.0	3	.1	.3	.5	.6	1	.7	.0	.5	2.2	1.6	4.7	4.2	3.2
2012 2013	.6	.3 .5	5 .4	.7 1	.2	.0	.2 3	4 .6	1 .5	.3 1	.4	.3	4.0 3.1	2.5	.0 1.5	2.0 2.7	3.0 2.0
2013	4	.8	1.0	.1	.4	.3	.3	2	.3	.0	.6	.0	2.8	5.5	2.5	2.2	3.0
2015	8	6	3	6	5	3	.7	2	3	5	8	5	-4.3	-5.5	.2	-5.4	-1.4
2016	.6	5	8	.3	2	.5	.2	1	1	.1	4	.6	-2.6	-1.5	1.2	4	-2.2
2017	2	3	.7	1.0	.1	.2	2	5	.1	1.3	.2	.2	.4	5.9	-1.2	5.5	1.4
2018	.0	.4	.6	1.1	9	.8	.2	.7	.0	1	1	1	2.2	5.1	3.5	.1	3.2
2019	6	4	.1	5	.2	.0	4	.7	3	8	.3	3	-3.7	-1.8	.2	-2.6	7
2020	5	.4	-3.8	-13.2	1.6	6.3	3.8	.9	.0	.8	.3	1.1	-6.1	-41.6	42.6	6.6	-7.0
2021 2022	1.1	-3.1 .7	2.7	.2 .7	.8 1	.4 2	.7 .5	.0 1	-1.0 .4	1.5	.6 2	2	3.1	6.5 5.0	3.5 1.7	4.8	4.9
		.,	.,	.,	1	2	.5	-,1		1	2		4.7	5.0	1.7		
IP (2017=100) 2020	101.3	101.7	97.9	85.0	86.3	91.8	95.2	96.1	96.1	96.8	97.1	98.1	100.3	87.7	95.8	97.4	95.3
2020	99.3	96.2	98.9	99.0	99.8	100.2	100.9	100.8	99.8	101.4	102.0	101.8	98.1	99.7	100.5	101.7	100.0
2022	102.1	102.9	103.6	104.3	104.2	103.9	104.5	104.4	104.8	104.7	104.5	101.0	102.9	104.1	104.6	10117	100.0
Capacity (percent of 2017 output) 2020	131.6	131.7	131.7	131.7	131.6	131.5	131.4	131.2	131.0	130.8	130.5	130.2	131.6	131.6	131.2	130.5	131.2
2021 2022	130.0 129.4	129.7 129.6	129.5 129.8	129.3 130.0	129.1 130.2	129.0 130.4	128.9 130.6	128.9 130.7	128.9 130.9	129.0 131.1	129.1 131.2	129.2	129.8 129.6	129.2 130.2	128.9 130.7	129.1	129.2
	125.1	127.0	127.0	150.0	150.2	150.1	150.0	150.7	150.5	131.1	131.2		125.0	130.2	150.7		
Utilization (percent)																	
2000	82.1	82.1	82.1	82.3	82.3	82.1	81.7	81.2	81.2	80.7	80.4	79.9	82.1	82.2	81.3	80.3	81.5
2001	79.2	78.4	78.0	77.5	76.9	76.2	75.6	75.3	74.7	74.3	73.8	73.6	78.5	76.9	75.2	73.9	76.1
2002	74.0	73.9	74.3	74.6	74.9	75.5	75.4	75.3	75.4	75.2	75.6	75.3	74.1	75.0	75.4	75.4	75.0
2003	75.9 77.1	76.0 77.6	75.8 77.3	75.4 77.7	75.4 78.2	75.5 77.6	75.9 78.2	75.8 78.3	76.3 78.4	76.4 79.0	76.9 79.2	77.0 79.8	75.9 77.4	75.4 77.8	76.0 78.3	76.8 79.3	76.0 78.2
2004			11.5	, , . ,	70.2	77.0	70.2	70.5	70.1	77.0							
2004														90 S			80.2
2005	80.0	80.5	80.3	80.4	80.4	80.6	80.3	80.4	78.8	79.6	80.4	80.6	80.3	80.5	79.8	80.2	00.5
2005 2006	80.7	80.5 80.6	80.7	80.8	80.7	80.8	80.6	80.8	80.4	80.1	79.9	80.5	80.6	80.7	80.6	80.2	
2005 2006 2007	80.7 80.0	80.5 80.6 80.6	80.7 80.6	80.8 81.0	80.7 80.9	80.8 80.8	80.6 80.6	80.8 80.7	80.4 80.8	80.1 80.5	79.9 81.0	80.5 81.0	80.6 80.4	80.7 80.9	80.6 80.7	80.2 80.9	80.7
2005 2006 2007 2008	80.7	80.5 80.6	80.7	80.8	80.7	80.8	80.6	80.8	80.4	80.1	79.9	80.5	80.6	80.7	80.6	80.2	80.7 77.7
	80.7 80.0 81.0	80.5 80.6 80.6 80.7	80.7 80.6 80.5	80.8 81.0 80.0	80.7 80.9 79.5	80.8 80.8 79.4	80.6 80.6 79.0	80.8 80.7 77.7	80.4 80.8 74.3	80.1 80.5 74.9	79.9 81.0 73.9	80.5 81.0 71.7	80.6 80.4 80.7	80.7 80.9 79.6	80.6 80.7 77.0	80.2 80.9 73.5	80.7 77.7 68.4
2005 2006 2007 2008 2009 2010 2011	80.7 80.0 81.0 69.8 70.6 75.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0	80.7 80.6 80.5 68.1 71.7 75.8	80.8 81.0 80.0 67.5 72.1 75.5	80.7 80.9 79.5 66.8 73.2 75.6	80.8 80.8 79.4 66.6 73.5 75.7	80.6 80.6 79.0 67.3 74.0 76.0	80.8 80.7 77.7 68.1 74.4 76.4	80.4 80.8 74.3 68.7 74.7 76.3	80.1 80.5 74.9 69.0 74.6 76.7	79.9 81.0 73.9 69.3 74.7 76.5	80.5 81.0 71.7 69.7 75.5 76.8	80.6 80.4 80.7 69.1 71.1 75.4	80.7 80.9 79.6 67.0 72.9 75.6	80.6 80.7 77.0 68.1 74.3 76.2	80.2 80.9 73.5 69.3 74.9 76.7	80.7 77.7 68.4 73.3 76.0
2005 2006 2007 2008 2009 2010 2011 2012	80.7 80.0 81.0 69.8 70.6 75.3 77.1	80.5 80.6 80.6 80.7 69.3 71.0 75.0	80.7 80.6 80.5 68.1 71.7 75.8 76.6	80.8 81.0 80.0 67.5 72.1 75.5 77.1	80.7 80.9 79.5 66.8 73.2 75.6 77.1	80.8 80.8 79.4 66.6 73.5 75.7 76.9	80.6 80.6 79.0 67.3 74.0 76.0 77.0	80.8 80.7 77.7 68.1 74.4 76.4 76.5	80.4 80.8 74.3 68.7 74.7 76.3 76.4	80.1 80.5 74.9 69.0 74.6 76.7 76.5	79.9 81.0 73.9 69.3 74.7 76.5 76.7	80.5 81.0 71.7 69.7 75.5 76.8 76.8	80.6 80.4 80.7 69.1 71.1 75.4 77.0	80.7 80.9 79.6 67.0 72.9 75.6 77.0	80.6 80.7 77.0 68.1 74.3 76.2 76.6	80.2 80.9 73.5 69.3 74.9 76.7 76.6	80.7 77.7 68.4 73.3 76.0 76.8
2005 2006 2007 2008 2009 2010 2011 2012 2013	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9	80.7 80.9 79.6 67.0 72.9 75.6 77.0 77.0	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5	80.7 77.7 68.4 73.3 76.0 76.8 77.1
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0 76.9 75.2	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0 76.5 75.3	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4 75.9 74.9	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7 77.0 75.2	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0	80.2 80.9 73.5 69.3 74.9 76.6 77.5 79.2	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.3
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.3 76.5
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3 78.6 76.0 75.3	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.0	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5 77.8 75.0 75.6	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5 77.3 75.2 76.4	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.0 76.5	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1 77.2 75.4 76.6	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9 77.1 75.3 76.3	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0 76.9 75.2 76.5	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0 76.5 75.3 77.5	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4 75.9 74.9 77.8	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3 75.5 75.4 78.0	80.6 80.4 80.7 69.1 71.1 75.4 77.9 76.9 77.9 78.2 75.5 75.3	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7 77.0 75.2 76.5	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0 75.3 76.5	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2 76.0 75.2 77.8	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.3 76.5
2005 2006 2007 2008 2009	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3 78.6 76.0 75.3 78.0	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.0 78.3	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5 77.8 75.0 75.6 78.8	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5 77.3 75.2 76.4 79.7	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.0 76.5	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0 76.7 75.3 76.7 79.6	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1 77.2 75.4 76.6 79.8	80.8 80.7 77.7 68.1 74.4 76.5 77.1 78.9 77.1 75.3 76.3 80.3	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0 76.9 75.2 76.5 80.3	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0 76.5 75.3 77.5 80.1	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4 75.9 74.9 77.8 80.0	80.5 81.0 71.7 69.7 75.5 76.8 76.8 77.6 79.3 75.5 75.4 78.0 79.9	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9 78.2 75.5 75.3 78.4	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7 77.0 75.2 76.5 79.5	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0 77.0 75.3 76.5 80.1	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2 76.0 75.2 77.8 80.0	80.5 80.7 77.7 68.4 73.3 76.0 76.8 77.1 75.3 76.5 79.5 78.3
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	80.7 80.0 81.0 69.8 70.6 75.3 77.1 76.7 77.3 78.6 76.0 75.3 78.0	80.5 80.6 80.6 80.7 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.0 78.3 78.9	80.7 80.6 80.5 68.1 71.7 75.8 76.6 77.2 78.5 77.8 75.0 75.6 78.8 78.9	80.8 81.0 80.0 67.5 72.1 75.5 77.1 77.0 78.5 77.3 75.2 76.4 79.7 78.5	80.7 80.9 79.5 66.8 73.2 75.6 77.1 77.0 78.7 75.0 76.5 79.0 78.5	80.8 80.8 79.4 66.6 73.5 75.7 76.9 77.0 79.0 76.7 75.3 76.7 75.3 76.7 79.6	80.6 80.6 79.0 67.3 74.0 76.0 77.0 76.7 79.1 77.2 75.4 76.6 79.8 78.1	80.8 80.7 77.7 68.1 74.4 76.4 76.5 77.1 78.9 77.1 75.3 76.3 80.3 78.5	80.4 80.8 74.3 68.7 74.7 76.3 76.4 77.5 79.0 76.9 75.2 76.5 80.3 78.2	80.1 80.5 74.9 69.0 74.6 76.7 76.5 77.3 79.0 76.5 75.3 77.5 80.1	79.9 81.0 73.9 69.3 74.7 76.5 76.7 77.5 79.4 75.9 74.9 77.8 80.0 77.7	80.5 81.0 71.7 69.7 75.5 76.8 77.6 79.3 75.5 75.4 78.0 79.9 77.4	80.6 80.4 80.7 69.1 71.1 75.4 77.0 76.9 77.9 78.2 75.5 75.3 78.4 79.1	80.7 80.9 79.6 67.0 72.9 75.6 77.0 78.7 77.0 75.2 76.5 79.5	80.6 80.7 77.0 68.1 74.3 76.2 76.6 77.1 79.0 75.3 76.5 80.1 78.3	80.2 80.9 73.5 69.3 74.9 76.7 76.6 77.5 79.2 76.0 75.2 77.8 80.0 77.5	80.7 77.7 68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.3 76.5 79.5 78.3

<sup>1.</sup> Quarterly percentage changes are at annual rates. Annual percentage 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>																	
2000	.0	.3	.6	.6	.0	.2	.1	7	.5	4	3	6	4.5	4.9	4	-2.7	4.1
2001	5	7	2	4	6	6	5	5	4	4	4	.2	-5.9	-5.3	-5.9	-4.0	-3.7
2002	.6	.0	.7	.3	.5	1.0	1	.1	.1	3	.5	6	3.6	5.8	3.2	4	.4
2003	.8	1	.1	8	.0	.5	.3	5	.9	.1	.9	.0	2.1	-2.3	2.5	4.4	1.3
2004	1	.8	.0	.4	.7	7	.9	.5	.0	.9	.0	.8	2.7	3.3	4.0	5.4	3.1
2005	.6	.9	5	.4	.3	.2	3	.5	-1.1	1.4	.9	.1	6.4	2.6	5	6.1	4.1
2006	.8	3	.0	.4	3	.3	3	.7	.0	5	.1	1.5	4.0	.8	.9	1.5	2.6
2007	4 2	.3 7	.8 5	.6 -1.0	.0	.3	.0 -1.0	3	.3 -3.4	2 7	.5 -2.5	.1 -3.3	4.6 -2.5	5.7 -8.3	.5 -13.7	1.3	2.8
2008 2009	-3.2	1	-1.8	-1.0	6 -1.1	7 2	1.6	-1.3 1.1	1.0	.0	1.0	-3.3	-24.7	-10.4	8.7	-22.0 7.0	-4.8 -13.8
2010	1.0	1	1.3	.8	1.3	.0	.5	.1	.1	.1	.1	.5	6.9	10.5	4.3	1.5	5.9
2011	.1	.2	.6	6	.0	.1	.6	.5	.3	.5	2	.6	3.0	2	4.4	3.9	2.9
2012	.9	.4	5	.5	3	.2	2	1	2	2	.6	.7	5.4	.5	-1.2	1.1	2.6
2013	3	.4	1	3	.3	.1	8	.9	.1	.1	.0	2	2.7	.1	.1	1.6	.9
2014	-1.1	.9	.9	.0	.3	.3	.5	6	.0	1	.7	2	-1.1	4.7	1.7	.1	1.1
2015	6	7	.4	.0	.0	4	.8	4	3	1	3	3	-3.4	7	.7	-2.8	5
2016 2017	.4	3 .0	1 3	2 1.1	1 2	.2 .0	.1 3	4 2	.2 .0	.2 1.1	1 .0	.0 3	5 .1	-1.2 3.2	.1 -1.9	.3 3.8	8 .6
2017	4	1.0	3	.7	2 9	.6	3	2	.0	1.1 4	.0 4	3	.1	2.8	1.6	-2.2	1.3
2019	8	4	1	6	.1	.3	6	.7	7	8	.7	1	-4.6	-2.7	8	-2.4	-2.0
2020	1	.3	-4.3	-15.3	4.3	7.4	3.6	1.6	.1	1.1	.5	.3	-4.6	-43.3	53.2	8.7	-6.3
2021	1.6	-3.5	3.1	1	.9	1	1.1	2	7	1.7	.5	1	2.4	5.1	3.6	5.8	5.7
2022	3	1.2	.7	.4	5	8	.4	.1	.3	.3	6		3.7	2.9	4		
IP (2017=100)	00.7	00.0	0.1.7	00.2	02.7	00.0	02.1	0.4.6	0.4.7	05.7	06.2	06.7	07.7	0.4.6	0.4.1	06.1	02.1
2020	98.7	99.0 94.6	94.7 97.5	80.2	83.7 98.2	89.9	93.1	94.6	94.7	95.7	96.2	96.5	97.5	84.6	94.1	96.1	93.1
2021			4/7	97.3	98.2	98.1	99.2	98.9	98.2	99.8	100.4	100.3	96.7	97.9	98.8	100.1	98.4
	98.0 100.0	101.2	102.0	102.4	101.9	101.1	101.5	101.6	102.0	102.2	101.6		101.1	101.8	101.7		
2021 2022 <b>Capacity</b> (percent of 2017 output) 2020						101.1	101.5	101.6	102.0	102.2	128.1	128.0	101.1	101.8	101.7	128.1	128.6
Capacity (percent of 2017 output) 2020 2021	129.0 127.9	101.2 129.0 127.8	102.0 128.9 127.7	102.4 128.8 127.6	101.9 128.8 127.5	128.7 127.4	128.6 127.4	128.5 127.4	128.4 127.4	128.2 127.4	128.1 127.5	128.0 127.5	129.0 127.8	128.8 127.5	128.5 127.4	128.1 127.5	128.6 127.5
2022  Capacity (percent of 2017 output) 2020 2021 2021 2022  Utilization	129.0	101.2 129.0	102.0 128.9	102.4	101.9 128.8	128.7	128.6	128.5	128.4	128.2	128.1		129.0	128.8	128.5		
Capacity (percent of 2017 output) 2020 2021 2022 Utilization (percent)	129.0 127.9 127.6	129.0 127.8 127.7	102.0 128.9 127.7 127.8	102.4 128.8 127.6 127.9	101.9 128.8 127.5 128.1	128.7 127.4 128.2	128.6 127.4 128.3	128.5 127.4 128.4	128.4 127.4 128.5	128.2 127.4 128.6	128.1 127.5 128.7	127.5	129.0 127.8 127.7	128.8 127.5 128.1	128.5 127.4 128.4	127.5	127.5
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000	129.0 127.9 127.6	101.2 129.0 127.8 127.7	102.0 128.9 127.7 127.8	102.4 128.8 127.6 127.9	101.9 128.8 127.5 128.1	128.7 127.4 128.2	128.6 127.4 128.3	128.5 127.4 128.4	128.4 127.4 128.5	128.2 127.4 128.6	128.1 127.5 128.7	127.5 77.5	129.0 127.8 127.7	128.8 127.5 128.1	128.5 127.4 128.4	127.5 78.2	127.5 79.8
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001	129.0 127.9 127.6 80.7 76.9	129.0 127.8 127.7 80.6 76.1	102.0 128.9 127.7 127.8 80.8 75.6	102.4 128.8 127.6 127.9 80.9 75.1	101.9 128.8 127.5 128.1 80.6 74.5	128.7 127.4 128.2 80.4 73.8	128.6 127.4 128.3 80.2 73.3	128.5 127.4 128.4 79.3 72.8	128.4 127.4 128.5 79.4 72.4	128.2 127.4 128.6 78.8 71.9	128.1 127.5 128.7 78.3 71.6	77.5 71.6	129.0 127.8 127.7 80.7 76.2	128.8 127.5 128.1 80.7 74.5	128.5 127.4 128.4 79.6 72.8	78.2 71.7	79.8 73.8
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2001 2002	129.0 127.9 127.6 80.7 76.9 72.0	101.2 129.0 127.8 127.7	102.0 128.9 127.7 127.8	102.4 128.8 127.6 127.9	101.9 128.8 127.5 128.1	128.7 127.4 128.2	128.6 127.4 128.3	128.5 127.4 128.4	128.4 127.4 128.5	128.2 127.4 128.6	128.1 127.5 128.7 78.3 71.6 73.7	77.5 71.6 73.3	129.0 127.8 127.7	128.8 127.5 128.1	128.5 127.4 128.4	78.2 71.7 73.5	79.8 73.8 73.0
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2001 2002 2003	129.0 127.9 127.6 80.7 76.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9	102.0 128.9 127.7 127.8 80.8 75.6 72.4	102.4 128.8 127.6 127.9 80.9 75.1 72.6	101.9 128.8 127.5 128.1 80.6 74.5 72.9	128.7 127.4 128.2 80.4 73.8 73.6	128.6 127.4 128.3 80.2 73.3 73.5	128.5 127.4 128.4 79.3 72.8 73.6	128.4 127.4 128.5 79.4 72.4 73.6	128.2 127.4 128.6 78.8 71.9 73.4	128.1 127.5 128.7 78.3 71.6	77.5 71.6	129.0 127.8 127.7 80.7 76.2 72.1	128.8 127.5 128.1 80.7 74.5 73.0	128.5 127.4 128.4 79.6 72.8 73.6	78.2 71.7	79.8 73.8 73.0 74.1
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004 2005	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0	77.5 71.6 73.3 75.1 78.0 79.0	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9	78.2 71.7 73.5 74.9 77.7 78.8	79.8 73.8 73.0 74.1 76.5
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2001 2002 2003 2004 2005 2006	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 78.8	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1	77.5 71.6 73.3 75.1 78.0 79.0 79.1	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7	78.2 71.7 73.5 74.9 77.7 78.8 78.5	79.8 73.8 73.0 74.1 76.5 78.6
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2001 2002 2003 2004 2005 2006 2007	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7	79.8 73.8 73.0 74.1 76.5 78.6 78.8
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004  2005 2006 2007 2008	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 78.8	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1	77.5 71.6 73.3 75.1 78.0 79.0 79.1	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7	78.2 71.7 73.5 74.9 77.7 78.8 78.5	79.8 79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 78.6	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.5 71.6	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 78.6 65.6	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6 64.5	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 78.8 79.2 76.5 63.5	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6 64.5 68.7	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6	79.8 73.8 73.0 74.1 76.5 78.6 78.9 74.6 65.2 70.3 73.1
2022  Capacity (percent of 2017 output) 2020 2021 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7 74.3	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6 64.5 68.7 73.0	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5 72.7	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3 71.2 73.5	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6	79.8 73.8 73.0 74.1 76.5 78.6 78.8 78.9 74.6 65.2 70.3 73.1 74.3
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2001 2002 2002 2002 2001 2000 2001 2008 2009 2010 2010 2011 2012 2013	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6 64.5 68.7 73.0 74.4	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5 72.7 74.5	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 74.5 65.3 71.2 73.5 74.1	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2 70.3 73.1 74.3
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9 74.5 74.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 79.1 77.6 64.5 68.7 73.0 74.4 74.4 75.4	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4	128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 74.4 75.7	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5 72.7 74.5 74.5 76.0	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 66.6 71.8 74.0 74.1 74.8 76.5	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2 70.3 73.1 74.3 75.8
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.3 75.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9 74.5 74.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 79.0 79.1 77.6 64.5 68.7 73.0 74.4 74.4 75.4 76.1 75.5	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4 76.2 75.3	128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 75.7	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5 72.7 74.5 76.0 76.0 75.3	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0 74.1 74.8 76.5	79.8 73.8 73.0 74.1 76.5 78.6 78.8 78.9 74.6 65.2 70.3 73.1 74.3 75.8
2022  Capacity (percent of 2017 output) 2020 2021 2021 2022  Utilization (percent) 2000 2001 2001 2002 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.3 75.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9 74.5 74.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 79.1 77.6 64.5 68.7 73.0 74.4 74.4 75.4 76.1 75.5 75.3	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4 76.2 75.3 76.2	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 74.7 75.7	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.9 79.2 76.1 63.4 70.5 72.7 74.5 74.5 76.0 76.0 75.3 76.3	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4 76.6 75.4 76.6	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1 76.1 75.3 77.2	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6 75.6 75.2 77.1	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0 74.1 74.8 76.5 75.9 75.3 77.2	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2 70.3 73.1 74.5 75.8
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2001 2002 2003 2004  2005 2006 2007 2008 2010 2011 2012 2012 2013 2014  2015 2016 2017 2018	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.3 75.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9 74.5 74.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 79.0 79.1 77.6 64.5 68.7 73.0 74.4 74.4 75.4 76.1 75.5	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4 76.2 75.3	128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 75.7	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 78.9 79.2 76.1 63.4 70.5 72.7 74.5 76.0 76.0 75.3	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0 74.1 74.8 76.5	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2 70.3 74.3 74.5 75.8
2022  Capacity (percent of 2017 output) 2020 2021	129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.4 79.5 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.3 75.9 75.4	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 79.1 78.7 78.0 65.6 67.7 72.5 74.9 74.5 74.7	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 78.5 79.0 79.1 77.6 64.5 68.7 73.0 74.4 75.4 76.1 75.5 75.3 77.8	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4 76.2 75.3 76.2 78.4	101.9 128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 75.7 76.3 75.2 76.2 77.8	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.9 79.2 76.1 63.4 70.5 72.7 74.5 74.5 76.0 76.0 75.3 76.3	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4 76.6 75.4 76.2	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0 76.4 75.1 76.1 78.6	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1 76.1 75.3 77.2	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6 75.6 75.2 77.1 78.1	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7 76.2 75.3 76.2	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2 76.4 75.2 76.2 78.5	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0 74.1 74.8 76.5 75.9 75.3 77.2	79.8 73.8 73.0 74.1 76.5 78.6 78.8 78.9 74.6 65.2 70.3 73.1 74.3 75.8 76.1 75.4 76.2 78.1
2022  Capacity (percent of 2017 output) 2020 2021 2022  Utilization (percent) 2000 2001 2002 2003 2004  2005 2006 2007 2008 2009  2010 2011 2012 2013 2014  2015 2016 2017 2018 2019	100.0 129.0 127.9 127.6 80.7 76.9 72.0 73.9 75.0 78.6 65.6 67.7 72.3 74.7 74.3 73.9 76.3 75.9 75.9 75.9 75.9	101.2 129.0 127.8 127.7 80.6 76.1 71.9 73.8 75.6 79.0 65.6 67.7 72.5 74.9 74.5 74.7 75.8 75.6 75.7 77.2	102.0 128.9 127.7 127.8 80.8 75.6 72.4 73.9 75.6 64.5 68.7 73.0 74.4 74.4 75.4 76.1 75.5 75.3 77.8 77.2	102.4 128.8 127.6 127.9 80.9 75.1 72.6 73.3 75.9 78.7 79.2 79.4 76.9 64.1 69.4 72.6 74.7 74.2 75.4 76.2 75.3 76.2 78.4 76.7	128.8 127.5 128.1 80.6 74.5 72.9 73.4 76.5 78.8 79.2 76.5 63.5 70.4 72.6 74.4 74.7 75.7 76.3 75.2 76.8	128.7 127.4 128.2 80.4 73.8 73.6 73.7 76.0 78.7 79.2 76.1 63.4 70.5 72.7 74.5 76.0 76.0 75.3 76.3 76.3 77.1	128.6 127.4 128.3 80.2 73.3 73.5 74.0 76.7 78.3 78.5 79.0 75.3 64.5 71.0 73.1 74.3 73.9 76.4 76.6	128.5 127.4 128.4 79.3 72.8 73.6 73.7 77.0 78.6 78.9 78.6 74.5 65.3 71.2 73.5 74.1 74.6 76.0	128.4 127.4 128.5 79.4 72.4 73.6 74.3 77.0 77.6 78.8 78.7 72.0 66.0 71.4 73.6 73.8 74.7 76.1 76.2 75.2 76.2 78.6 76.6	128.2 127.4 128.6 78.8 71.9 73.4 74.4 77.6 78.5 78.2 78.5 71.6 66.1 71.5 74.0 73.6 74.8 76.1 76.1 75.3 77.2 78.3	128.1 127.5 128.7 78.3 71.6 73.7 75.1 77.5 79.0 78.1 78.8 69.9 66.9 71.7 73.8 74.0 74.8 76.7	77.5 71.6 73.3 75.1 78.0 79.0 79.1 78.8 67.7 66.9 72.1 74.2 74.5 74.7 76.6 75.6 75.2 77.1 78.1	129.0 127.8 127.7 80.7 76.2 72.1 73.9 75.4 78.6 79.2 78.8 78.1 65.2 68.0 72.6 74.7 74.4 74.7 75.7 75.7 77.3	128.8 127.5 128.1 80.7 74.5 73.0 73.5 76.1 78.7 79.0 79.3 76.5 63.7 70.1 72.6 74.5 74.4 75.7 76.2 75.3 76.2 78.1 76.9	128.5 127.4 128.4 79.6 72.8 73.6 74.0 76.9 78.1 78.7 78.8 73.9 65.3 71.2 73.4 74.1 74.4 76.2 76.4 75.2 76.8	78.2 71.7 73.5 74.9 77.7 78.8 78.5 78.7 69.7 66.6 71.8 74.0 74.1 74.8 76.5 75.9 75.3 77.2 78.2	79.8 73.8 73.0 74.1 76.5 78.6 78.8 74.6 65.2

The composition of manufacturing is specified in a note for the summary table.
 Quarterly percentage changes are at annual rates. Annual percentage 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

Seasonally adjusted Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent																	
change) <sup>2</sup>																	
2000	4	.1	.1	.4	.0	1	5	4	.3	5	2	5	.6	1.5	-3.2	-2.8	1.0
2001	6	6	3	2	5	5	4	1	6	3	5	2	-5.7	-4.3	-4.3	-4.5	-3.9
2002	.8	1	.7	.5	.4	.8	1	2	.1	3	.5	6	2.7	6.1	1.9	8	.3
2003	.8	1	4	8	2	.0	.4	4	.6	.0	.6	.0	1.5	-4.7	.8	2.5	.2
2004	.1	.6	5	.4	.7	8	.8	.0	.0	.9	.2	.7	2.0	2.2	2.0	5.3	1.8
2005	.2	.6	2	.1	.0	.4	4	.2	-2.2	1.1	1.1	.4	4.7	1.3	-2.9	2.5	2.6
2006	.1	.0	.2	.3	1	.3	1	.3	3	1	1	1.0	3.4	1.8	.7	.1	1.4
2007	5	.9	.0	.5	.1	.1	1	.1	.1	5	.4	1	3.2	3.9	.5	4	1.8
2008	2	5	5	8	7	3	4	-1.6	-4.5	1.2	-1.1	-2.7	-2.5	-6.9	-12.5	-14.9	-4.3
2009	-2.5	7	-1.7	9	-1.1	3	1.2	1.1	.8	.2	.4	.3	-20.5	-11.6	6.5	5.8	-11.4
2010	1.0	.2	.6	.3	1.4	.2	.3	.3	.3	3	.0	.9	6.9	7.4	5.1	1.0	4.9
2011	3	4	1.1	3	.1	.3	.5	.6	1	.7	.0	.5	1.6	1.7	4.6	4.2	2.8
2012	.6	.3	6	.7	.2	1	.2	4	1	.3	.4	.2	3.6	2.0	2	1.7	2.8
2013	.0	.5	.4	2	.1	.1	4	.6	.5	1	.2	.2	3.0	1.4	1.2	2.5	1.7
2014	4	.7	1.0	.0	.4	.3	.3	2	.3	.0	.6	.0	2.6	5.3	2.4	2.2	2.8
2015	8	6	4	6	5	3	.7	2	3	5	8	6	-4.4	-5.8	.3	-5.6	-1.5
2016	.5	5	8	.3	3	.5	.1	1	2	.0	4	.6	-2.8	-1.7	.9	8	-2.4
2017	2	3	.7	.9	.1	.2	2	5	.1	1.2	.2	.1	.4	5.7	-1.3	5.2	1.2
2018 2019	.0	.4 5	.6 .1	1.1 5	-1.0 .2	.7	.2 4	.7	.0 3	1 8	1	1	2.1	5.0 -1.9	3.2	.2	3.0
2017	6	3	.1	3	.∠	.0	4	. /	3	0	.5	4	-3.8	-1.9		-2.8	8
2020	4	.4	-3.9	-13.5	1.7	6.4	3.8	.9	1	.7	.3	1.1	-6.3	-42.2	43.3	6.3	-7.3
2021	1.2	-3.2	2.8	.1	.7	.4	.7	.0	-1.0	1.5	.6	2	3.0	6.2	3.5	4.5	4.8
2022	.4	.7	.7	.7	1	2	.5	1	.4	1	2		4.8	5.1	1.6		
<b>IP</b> (2017=100)																	
2020	100.9	101.4	97.5	84.3	85.8	91.3	94.8	95.7	95.6	96.3	96.6	97.6	99.9	87.1	95.3	96.8	94.8
2021	98.7	95.6	98.2	98.4	99.1	99.5	100.2	100.2	99.1	100.6	101.2	101.0	97.5	99.0	99.8	100.9	99.3
2022	101.4	102.2	102.8	103.6	103.5	103.2	103.7	103.7	104.1	104.0	103.8		102.1	103.4	103.8		
Capacity																	
(percent of																	
2017 output)	121 1	121.2	121.0	121.0	121.1	121.0	120.0	120.7	120.5	120.2	120.0	120.7	121.2	121.1	120.7	120.0	120.7
2020	131.1 129.4	131.2 129.1	131.2 128.9	131.2 128.6	131.1	131.0	130.9	130.7	130.5	130.2 128.2	129.9	129.7	131.2 129.1	131.1 128.5	130.7 128.2	129.9	130.7
2021 2022	129.4	129.1	128.9	128.0	128.4 129.2	128.3 129.4	128.2 129.6	128.1 129.7	128.1 129.9	128.2	128.3 130.1	128.4	129.1	128.3	128.2	128.3	128.5
T14*1*4*																	
Utilization (percent)																	
2000	81.6	81.5	81.5	81.7	81.6	81.4	80.9	80.5	80.6	80.1	79.9	79.4	81.6	81.6	80.7	79.8	80.9
2001	78.9	78.3	78.0	77.7	77.2	76.8	76.4	76.3	75.7	75.4	74.9	74.7	78.4	77.3	76.1	75.0	76.7
2002	75.3	75.1	75.6	75.9	76.2	76.8	76.8	76.6	76.7	76.5	77.0	76.6	75.3	76.3	76.7	76.7	76.3
2003	77.2	77.2	77.0	76.5	76.4	76.4	76.7	76.5	76.9	77.0	77.5	77.5	77.2	76.4	76.7	77.3	76.9
2004	77.6	78.0	77.7	78.1	78.7	78.1	78.7	78.8	78.8	79.6	79.7	80.3	77.8	78.3	78.8	79.9	78.7
2005	80.5	81.0	80.8	80.9	80.8	81.1	80.7	80.8	79.0	79.8	80.5	80.8	80.8	80.9	80.1	80.4	80.6
2006	80.8	80.6	80.7	80.8	80.6	80.7	80.5	80.6	80.2	80.0	79.8	80.5	80.7	80.7	80.4	80.1	80.5
2007	80.0	80.6	80.5	80.9	80.9	81.0	80.9	81.0	81.2	80.8	81.3	81.2	80.4	80.9	81.0	81.1	80.9
2008	81.1	80.8	80.5	79.9	79.4	79.1	78.8	77.5	73.9	74.7	73.7	71.7	80.8	79.5	76.7	73.4	77.6
2009	69.7	69.2	67.9	67.3	66.5	66.3	67.1	67.9	68.5	68.8	69.2	69.5	69.0	66.7	67.8	69.2	68.2
	70.4	70.7	71.4	71.8	73.0	73.3	73.7	74.1	74.5	74.3	74.4	75.2	70.8	72.7	74.1	74.7	73.1
2010	70.4				755	75.7	76.0	76.4	76.3	76.8	76.7	76.9	75.2	75.5	76.2	76.8	75.9
2011	75.1	74.8	75.7	75.4	75.5					76.6	76.9	77.0	77.1	77.1	76.8	76.8	77.0
2011 2012	75.1 77.3	74.8 77.3	76.8	77.2	77.2	77.0	77.1	76.7	76.5			77.0					
2011 2012 2013	75.1	74.8		77.2 77.2		77.0 77.3	77.1 77.0	77.4	77.7	77.6 79.1	77.7 79.6	77.9 79.5	77.2	77.3 79.0	77.4 79.2	77.7 79.4	77.4 78.9
2011 2012 2013 2014	75.1 77.3 76.9 77.5	74.8 77.3 77.2 78.1	76.8 77.4 78.8	77.2 77.2 78.7	77.2 77.2 79.0	77.0 77.3 79.2	77.1 77.0 79.3	77.4 79.1	77.7 79.2	77.6 79.1	77.7 79.6	79.5	77.2 78.1	77.3 79.0	77.4 79.2	77.7 79.4	78.9
2011 2012 2013 2014 2015	75.1 77.3 76.9 77.5	74.8 77.3 77.2 78.1 78.3	76.8 77.4 78.8 77.9	77.2 77.2 78.7 77.4	77.2 77.2 79.0	77.0 77.3 79.2 76.8	77.1 77.0 79.3 77.3	77.4 79.1 77.2	77.7 79.2 77.0	77.6 79.1 76.6	77.7 79.6 76.1	79.5 75.7	77.2 78.1 78.3	77.3 79.0 77.1	77.4 79.2 77.2	77.7 79.4 76.1	78.9 77.2
2011 2012 2013 2014 2015 2016	75.1 77.3 76.9 77.5 78.8 76.1	74.8 77.3 77.2 78.1 78.3 75.7	76.8 77.4 78.8 77.9 75.1	77.2 77.2 78.7 77.4 75.3	77.2 77.2 79.0 77.1 75.1	77.0 77.3 79.2 76.8 75.5	77.1 77.0 79.3 77.3 75.6	77.4 79.1 77.2 75.5	77.7 79.2 77.0 75.4	77.6 79.1 76.6 75.4	77.7 79.6 76.1 75.0	79.5 75.7 75.5	77.2 78.1 78.3 75.6	77.3 79.0 77.1 75.3	77.4 79.2 77.2 75.5	77.7 79.4 76.1 75.3	78.9 77.2 75.4
2011 2012 2013 2014 2015 2016 2017	75.1 77.3 76.9 77.5 78.8 76.1 75.4	74.8 77.3 77.2 78.1 78.3 75.7 75.2	76.8 77.4 78.8 77.9 75.1 75.7	77.2 77.2 78.7 77.4 75.3 76.4	77.2 77.2 79.0 77.1 75.1 76.5	77.0 77.3 79.2 76.8 75.5 76.7	77.1 77.0 79.3 77.3 75.6 76.7	77.4 79.1 77.2 75.5 76.4	77.7 79.2 77.0 75.4 76.5	77.6 79.1 76.6 75.4 77.5	77.7 79.6 76.1 75.0 77.7	79.5 75.7 75.5 77.9	77.2 78.1 78.3 75.6 75.4	77.3 79.0 77.1 75.3 76.6	77.4 79.2 77.2 75.5 76.5	77.7 79.4 76.1 75.3 77.7	78.9 77.2 75.4 76.6
2011 2012 2013 2014 2015 2016 2017	75.1 77.3 76.9 77.5 78.8 76.1	74.8 77.3 77.2 78.1 78.3 75.7	76.8 77.4 78.8 77.9 75.1	77.2 77.2 78.7 77.4 75.3	77.2 77.2 79.0 77.1 75.1	77.0 77.3 79.2 76.8 75.5	77.1 77.0 79.3 77.3 75.6	77.4 79.1 77.2 75.5	77.7 79.2 77.0 75.4	77.6 79.1 76.6 75.4	77.7 79.6 76.1 75.0	79.5 75.7 75.5	77.2 78.1 78.3 75.6	77.3 79.0 77.1 75.3	77.4 79.2 77.2 75.5	77.7 79.4 76.1 75.3	78.9 77.2 75.4 76.6
2011 2012 2013 2014 2015 2016 2017 2018 2019	75.1 77.3 76.9 77.5 78.8 76.1 75.4 78.0 79.4	74.8 77.3 77.2 78.1 78.3 75.7 75.2 78.3 79.0	76.8 77.4 78.8 77.9 75.1 75.7 78.8 79.0	77.2 77.2 78.7 77.4 75.3 76.4 79.7 78.5	77.2 77.2 79.0 77.1 75.1 76.5 79.0 78.6	77.0 77.3 79.2 76.8 75.5 76.7 79.6 78.5	77.1 77.0 79.3 77.3 75.6 76.7 79.7 78.1	77.4 79.1 77.2 75.5 76.4 80.3 78.6	77.7 79.2 77.0 75.4 76.5 80.3 78.3	77.6 79.1 76.6 75.4 77.5 80.1 77.6	77.7 79.6 76.1 75.0 77.7 80.1 77.7	79.5 75.7 75.5 77.9 80.0 77.4	77.2 78.1 78.3 75.6 75.4 78.4 79.1	77.3 79.0 77.1 75.3 76.6 79.4 78.6	77.4 79.2 77.2 75.5 76.5 80.1 78.3	77.7 79.4 76.1 75.3 77.7 80.1 77.6	78.9 77.2 75.4 76.6 79.5 78.4
2011 2012 2013 2014 2015 2016 2017 2018 2019	75.1 77.3 76.9 77.5 78.8 76.1 75.4 78.0 79.4	74.8 77.3 77.2 78.1 78.3 75.7 75.2 78.3 79.0	76.8 77.4 78.8 77.9 75.1 75.7 78.8 79.0	77.2 77.2 78.7 77.4 75.3 76.4 79.7 78.5	77.2 77.2 79.0 77.1 75.1 76.5 79.0 78.6 65.4	77.0 77.3 79.2 76.8 75.5 76.7 79.6 78.5	77.1 77.0 79.3 77.3 75.6 76.7 79.7 78.1	77.4 79.1 77.2 75.5 76.4 80.3 78.6	77.7 79.2 77.0 75.4 76.5 80.3 78.3	77.6 79.1 76.6 75.4 77.5 80.1 77.6	77.7 79.6 76.1 75.0 77.7 80.1 77.7	79.5 75.7 75.5 77.9 80.0 77.4 75.3	77.2 78.1 78.3 75.6 75.4 78.4 79.1	77.3 79.0 77.1 75.3 76.6 79.4 78.6	77.4 79.2 77.2 75.5 76.5 80.1 78.3	77.7 79.4 76.1 75.3 77.7 80.1 77.6	78.9 77.2 75.4 76.6 79.5 78.4 72.5
2011 2012 2013 2014 2015 2016 2017 2018 2019	75.1 77.3 76.9 77.5 78.8 76.1 75.4 78.0 79.4	74.8 77.3 77.2 78.1 78.3 75.7 75.2 78.3 79.0	76.8 77.4 78.8 77.9 75.1 75.7 78.8 79.0	77.2 77.2 78.7 77.4 75.3 76.4 79.7 78.5	77.2 77.2 79.0 77.1 75.1 76.5 79.0 78.6	77.0 77.3 79.2 76.8 75.5 76.7 79.6 78.5	77.1 77.0 79.3 77.3 75.6 76.7 79.7 78.1	77.4 79.1 77.2 75.5 76.4 80.3 78.6	77.7 79.2 77.0 75.4 76.5 80.3 78.3	77.6 79.1 76.6 75.4 77.5 80.1 77.6	77.7 79.6 76.1 75.0 77.7 80.1 77.7	79.5 75.7 75.5 77.9 80.0 77.4	77.2 78.1 78.3 75.6 75.4 78.4 79.1	77.3 79.0 77.1 75.3 76.6 79.4 78.6	77.4 79.2 77.2 75.5 76.5 80.1 78.3	77.7 79.4 76.1 75.3 77.7 80.1 77.6	78.9 77.2 75.4 76.6 79.5 78.4

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

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

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

Seasonally adjusted Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent																	
change) <sup>3</sup>	4	1	2	2	4	0	2	0	2	-		0	2	0	2.0	4.0	7
2000 2001	4 5	1 7	.3 3	.3 2	4 5	.0 5	3 2	9 4	.3 4	5 5	6 3	8 .1	-6.7	.8 -4.4	-3.8 -4.5	-4.9 -4.2	.7 -4.7
2002	.8	2	.7	.3	.5	1.0	2	.0	.0	4	.4	7	3.3	5.5	2.6	-1.1	.4
2003	.8	4	.0	9	1	.3	.1	7	.7	1	.8	1	.8	-4.3	.2	2.7	.0
2004	2	.7	1	.4	.7	7	.9	.4	1	.9	1	.7	1.5	3.2	3.8	4.8	2.0
2005	.5	.8	6	.3	.2	.1	5	.4	-1.3	1.3	.9	.0	5.1	1.4	-2.0	4.7	3.1
2006 2007	.8 5	4 .2	1 .6	.3	4 .0	.2 .5	4 .0	.6 4	1 .1	5 4	.0	1.5	3.2	2 4.4	1	.6 -1.0	1.5 1.8
2008	3	9	6	-1.1	7	7	-1.0	-1.3	-3.5	4	-2.3	-3.2	-4.1	-9.9	-14.0	-20.8	-5.9
2009	-3.3	2	-2.0	8	-1.2	3	1.6	1.1	1.0	.0	1.0	2	-24.6	-11.6	8.6	6.4	-13.9
2010	.9	3	1.2	.8	1.3	.0	.5	.1	.0	.0	.0	.3	5.3	9.6	3.8	.7	5.1
2011 2012	.0	.2	.7 6	6 .5	.0 4	.1	.7 2	.4 1	.3 3	.6 3	2 .7	.6 .7	2.2	2 2	4.3 -1.5	3.9	2.5 2.3
2012	3	.3	0	4	.3	.1	2	.8	3 .1	3 .1	1	2	2.6	4	-1.5	1.3	.5
2014	-1.1	.9	.8	1	.2	.3	.5	7	.0	1	.7	2	-1.4	4.3	1.5	.0	.8
2015	6	8	.4	1	.0	4	.8	4	3	1	3	3	-3.5	8	.8	-2.9	7
2016 2017	.4 .2	4 .0	1 3	2 1.1	1 2	.2 .0	.1 3	4 2	.1 .0	.1 1.1	1 .0	.0 3	8 .2	-1.5 2.8	2 -2.1	3 3.4	-1.0 .3
2017	4	1.0	3	.7	2 9	.5	3	2	.0	4	4	3	.2	2.5	1.3	-2.1	1.1
2019	9	5	1	6	.1	.3	7	.6	7	8	.6	1	-4.8	-2.8	-1.0	-2.7	-2.1
2020	.0	.3	-4.5	-15.7	4.5	7.6	3.7	1.6	.0	1.0	.5	.3	-4.8	-44.2	54.7	8.4	-6.6
2021	1.6	-3.6	3.1	2	.8	1	1.1	3	8	1.7	.5	1	2.2	4.7	3.6	5.5	5.5
2022	2	1.2	.8	.4	5	8	.4	.1	.3	.3	6		3.7	3.0	6		
<b>IP</b> (2017=100)	00.2	00.7	0.4.1	70.2	02.0	00.2	02.4	02.0	02.0	0.4.0	05.4	05.7	06.0	02.0	02.4	05.2	02.4
2020 2021	98.2 97.2	98.5 93.7	94.1 96.6	79.3 96.4	82.9 97.2	89.2 97.2	92.4 98.3	93.9 98.0	93.9 97.2	94.9 98.8	95.4 99.3	95.7 99.2	96.9 95.8	83.8 97.0	93.4 97.8	95.3 99.1	92.4 97.4
2022	99.0	100.2	101.0	101.4	100.9	100.1	100.4	100.6	100.9	101.2	100.6	99.2	100.1	100.8	100.6	<i>) ) )</i> . 1	77.4
Capacity (percent of 2017 output)																	
2020	128.3	128.2	128.2	128.1	128.0	127.9	127.8	127.7	127.6	127.4	127.3	127.2	128.2	128.0	127.7	127.3	127.8
2021 2022	127.0 126.4	126.9 126.5	126.8 126.6	126.7 126.7	126.5 126.8	126.5 126.8	126.4 126.9	126.4 127.0	126.3 127.1	126.3 127.2	126.4 127.2	126.4	126.9 126.5	126.6 126.8	126.4 127.0	126.4	126.5
Utilization																	
(percent)																	
2000	80.0	79.8	79.9	80.1	79.6	79.5	79.1	78.3	78.5	78.0	77.4	76.7	79.9	79.7	78.6	77.4	78.9
2001 2002	76.2 73.3	75.7 73.2	75.4 73.7	75.1 73.9	74.7 74.3	74.3 75.0	74.0 74.9	73.7 75.0	73.3 75.0	73.0 74.8	72.7 75.2	72.8 74.7	75.8 73.4	74.7 74.4	73.7 75.0	72.8 74.9	74.2 74.4
2003	75.3	75.1	75.1	74.5	74.4	74.7	74.8	74.3	75.0	75.0	75.6	75.5	75.2	74.5	74.7	75.4	74.9
2004	75.4	76.0	76.0	76.3	76.9	76.4	77.2	77.5	77.5	78.2	78.1	78.6	75.8	76.6	77.4	78.3	77.0
2005	79.0	79.5	79.0	79.1	79.2	79.2	78.7	78.9	77.7	78.6	79.2	79.0	79.2	79.2	78.4	79.0	78.9
2006	79.5	79.1	78.9	79.1	78.6	78.7	78.2	78.6	78.4	77.9	77.8	78.9	79.2	78.8	78.4	78.2	78.7
2007 2008	78.4 78.6	78.5 77.9	78.9 77.4	79.2 76.6	79.1 76.1	79.4 75.5	79.4 74.8	79.0 73.9	79.1 71.4	78.7 71.1	78.9 69.6	78.9 67.4	78.6 78.0	79.3 76.1	79.1 73.4	78.8 69.4	79.0 74.2
2009	65.3	65.3	64.0	63.6	63.0	63.0	64.1	64.9	65.7	65.8	66.5	66.6	64.9	63.2	64.9	66.3	64.8
2010	67.3	67.3	68.2	68.9	69.9	70.1	70.5	70.7	70.9	71.1	71.2	71.6	67.6	69.6	70.7	71.3	69.8
2011	71.8	72.0	72.6	72.3	72.4	72.5	73.0	73.3	73.5	74.0	73.8	74.2	72.1	72.4	73.3	74.0	73.0
2012 2013	74.8 74.4	75.0 74.8	74.5 74.7	74.8 74.4	74.4 74.6	74.5 74.8	74.3 74.1	74.2 74.8	73.9 74.9	73.7 75.0	74.2 75.0	74.7 75.0	74.8 74.6	74.6 74.6	74.2 74.6	74.2 75.0	74.4 74.7
2013	74.4	74.8	75.6	75.6	75.9	76.2	76.6	76.2	76.3	76.3	76.8	76.8	74.0	75.9	76.4	76.6	75.9
2015	76.4	75.9	76.3	76.3	76.4	76.1	76.8	76.5	76.3	76.2	76.0	75.8	76.2	76.3	76.5	76.0	76.3
2016	76.1	75.8	75.7	75.5	75.4	75.6	75.6	75.3	75.4	75.5	75.4	75.4	75.8	75.5	75.4	75.4	75.5
2017	75.6	75.6	75.5	76.3	76.3	76.4	76.2	76.1	76.2	77.1	77.2	77.0	75.6	76.3	76.2	77.1	76.3
2018 2019	76.8 77.6	77.7 77.2	77.8 77.2	78.4 76.8	77.7 76.8	78.2 77.1	78.3 76.7	78.5 77.2	78.6 76.7	78.3 76.1	78.0 76.6	78.2 76.5	77.4	78.1 76.9	78.5 76.8	78.2 76.4	78.0 76.9
2020	76.5	76.8	73.4	61.9	64.7	69.7	72.3	73.5	73.6	74.5	74.9	75.2	75.6	65.4	73.2	74.9	72.3
2021	76.5	73.8	76.2	76.1	76.8	76.8	77.7	77.6	76.9	78.2	78.6	78.5	75.5	76.6	77.4	78.5	77.0
2022	78.3	79.2	79.8	80.0	79.6	78.9	79.1	79.2	79.4	79.6	79.0		79.1	79.5	79.2		
																	1

The composition of manufacturing is specified in a note for the summary table.
 Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.
 Quarterly percentage changes are at annual rates. Annual percentage changes are calculated from annual averages.

Table 15
INDUSTRIAL PRODUCTION: RELIABILITY ESTIMATES
Seasonally adjusted Annualized Annualized

	Annua										_					
	cha	nge	2017=100							Percent change						
	2022		2022						2022							
Item	Q2	Q3	June	July	Aug.	Sept.	Oct.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.		
Total index																
85th percentile	4.97	2.14	103.95	104.54	104.53	105.01	105.09	104.92	21	.57	.03	.54	.24	.13		
Current estimate	4.97	1.71	103.95	104.49	104.41	104.81	104.75	104.52	21	.52	07	.38	06	22		
15th percentile	4.97	1.29	103.95	104.43	104.31	104.64	104.46	104.08	21	.47	16	.27	31	58		
Manufacturing (SIC)																
85th percentile	2.91	.08	101.12	101.55	101.74	102.16	102.51	102.00	76	.43	.22	.46	.45	32		
Current estimate	2.91	40	101.12	101.49	101.62	101.96	102.23	101.61	76	.37	.13	.33	.27	60		
15th percentile	2.91	87	101.12	101.43	101.50	101.74	101.92	101.12	76	.31	.03	.21	.11	91		
Mining																
85th percentile	15.10	14.47	115.39	117.01	117.00	119.34	119.12	118.61	1.55	1.41	.11	2.26	.16	.26		
Current estimate	15.10	13.54	115.39	116.87	116.69	118.80	117.96	117.15	1.55	1.29	16	1.81	71	68		
15th percentile	15.10	12.35	115.39	116.70	116.33	118.20	116.72	115.39	1.55	1.14	46	1.42	-1.46	-1.62		
Electric and gas utilities																
85th percentile	3.03	-2.60	107.59	107.76	106.39	104.79	104.85	108.61	.52	.16	-1.25	-1.42	.50	5.53		
Current estimate	3.03	-3.74	107.59	107.75	106.33	104.20	102.87	106.60	.52	.15	-1.31	-2.01	-1.28	3.63		
15th percentile	3.03	-4.22	107.59	107.73	106.24	103.97	101.59	105.37	.52	.13	-1.41	-2.22	-2.70	1.86		

Note. The reliability measures show the likely range of values for the IP indexes after their fifth and final monthly revision. The 15th (85th) percentile estimate is equal to the current estimate plus an amount such that the equivalent measure revised by a lower (higher) amount for only 15 percent of the months since 2008. More information is available at https://www.federalreserve.gov/releases/g17/g17\_technical\_qa.htm#reliability

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 2017. 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 2012, the total IP index has been constructed from 296 individual series based on the 2017 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 5 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by 5/10 percentage point  $(0.05 \times 10\% = 0.5\%)$ . 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 74 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 83 percent for estimates in the second month that the estimate is published, 92 percent in the third month, 94 percent in the fourth month, 96 percent in the fifth month, and 97 percent in the sixth month. Data availability by data type in 2021 is summarized in the table below:

**Availability of Monthly IP Data in Publication Window** (Percent of value added in 2021; the numbers may not sum because of rounding.)

	Month of estimate										
Type of data	1st	2nd	3rd	4th	5th	6th					
Physical product	31	40	49	51	53	54					
Production-worker hours	43	43	43	43	43	43					
IP data received	74	83	92	94	96	97					
IP data estimated	26	17	8	6	4	3					

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 more than 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 54 percent). Of the 31 percent, about three-quarters (26 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-13 ARIMA. For series based on production-worker hours, the current seasonal factors were estimated with data through January 2022; for other series, the factors were estimated with data through at least December 2021. 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-13 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

0.29 percent during the 1987–2021 period. The average revision to the percent change in total IP, without regard to sign, from the first to the fourth estimates was 0.23 percentage point during the 1987–2021 period. In most cases (about 86 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 24 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 67 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 9 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 1972–2021 period, the average total industry utilization rate was 79.6 percent; for manufacturing, the average factory operating rate was 78.2 percent. Industrial plants usually operate at capacity utilization rates that are well below 100 percent: none of the broad aggregates has ever reached 100 percent. For total 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 June 28, 2022, 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 release on Industrial Production and Capacity Utilization is published at 9:15 a.m. on:

2022: January 14, February 16, March 17, April 15, May 17, June 17, July 15, August 16, September 15, October 18, November 16, December 15

2023: January 18, February 15, March 17, April 14, May 16, June 15, July 18, August 16, September 15, October 17, November 16, December 15

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