# **FEDERAL RESERVE statistical release**



G.17 (419)

For release at 9:15 a.m. (EST) February 15, 2024

Percent change

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production edged down 0.1 percent in January after recording no change in December. In January, manufacturing output declined 0.5 percent and mining output fell 2.3 percent; winter weather contributed to the declines in both sectors. The index for utilities jumped 6.0 percent, as demand for heating

(over)

**Industrial Production and Capacity Utilization: Summary** 

Seasonally adjusted

	2023					2024	2023					2024	Jan. '23 to
Industrial production	Aug.	Sept. <sup>r</sup>	Oct.r	Nov.r	Dec.r	Jan. <sup>p</sup>	Aug. <sup>r</sup>	Sept.r	Oct.r	Nov. <sup>r</sup>	Dec.r	Jan. <sup>p</sup>	Jan. '24
													-
Total index	103.1	103.2	102.4	102.7	102.7	102.6	1	.1	8	.3	.0	1	.0
Previous estimates	103.2	103.3	102.5	102.4	102.5		.0	.1	8	.0	.1		
Major market groups													
Final Products	101.7	101.4	100.6	101.2	101.3	101.7	1	3	8	.7	.1	.4	.3
Consumer goods	102.3	102.1	101.2	101.9	102.0	102.6	1	2	9	.7	.1	.6	.4
Business equipment	96.8	95.8	94.9	95.7	95.4	95.3	3	-1.0	9	.8	3	2	-2.0
Nonindustrial supplies	100.3	100.5	100.5	100.3	99.8	99.3	.2	.2	.0	2	5	5	-1.9
Construction	100.5	101.4	101.3	101.1	100.6	99.6	6	.9	1	2	5	9	-4.1
Materials	105.4	105.8	104.6	104.8	104.9	104.5	2	.4	-1.1	.2	.1	4	.5
Major industry groups													
Manufacturing (see note below)	99.4	99.5	98.7	99.1	99.1	98.6	1	.1	8	.4	.1	5	9
Previous estimates	99.5	99.6	98.8	99.0	99.1		.1	.1	8	.2	.1		
Mining	119.4	120.4	119.5	119.1	120.1	117.3	5	.8	7	3	.9	-2.3	-1.2
Utilities	107.7	106.7	105.7	106.1	104.3	110.5	.7	9	9	.3	-1.7	6.0	9.0
							•.						Capacity
		1000	1000	1004	Perce	nt of cap	acity						growth
	Average	1988-	1990-	1994-	2000	2022	2022					2024	T 100
G'44'1'4'	1972-	89	91	95	2009	2023	2023	G . r	0.45	NT T	ъг	2024	Jan. '23 to
Capacity utilization	2023	high	low	high	low	Jan.	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct.	Nov. <sup>r</sup>	Dec. <sup>r</sup>	Jan. <sup>p</sup>	Jan. '24
Total industry	79.6	85.2	78.8	85.0	66.6	79.6	79.4	79.4	78.6	78.8	78.7	78.5	1.4
Previous estimates	79.0	65.2	70.0	05.0	00.0	79.0	79.4	79.4	78.7	78.6	78.6	76.5	1.4
1 revious estimates							19.3	19.3	70.7	76.0	76.0		
Manufacturing (see note below)	78.2	85.6	77.3	84.6	63.4	78.3	77.6	77.6	76.9	77.1	77.1	76.6	1.3
Previous estimates	76.2	05.0	11.5	04.0	05.4	70.5	77.7	77.7	77.0	77.1	77.1	70.0	1.5
Mining	86.5	86.3	84.3	88.6	78.9	92.8	93.6	94.5	93.9	93.6	94.5	92.2	6
Utilities	84.4	93.2	84.7	93.2	78.1	70.4	73.4	72.5	71.6	71.6	70.2	74.2	3.5
omics	04.4	75.2	04.7	75.2	70.1	70.4	73.4	12.5	71.0	71.0	70.2	74.2	3.3
Stage-of-process groups													
Crude	85.7	87.9	84.8	90.0	76.9	89.8	91.3	92.1	91.2	91.3	92.2	90.1	5
Primary and semifinished	80.2	86.5	78.0	87.8	63.6	76.8	77.2	77.2	76.6	76.7	76.3	76.7	1.4
i iiiiai y ana sciiiiiiisiica													
Finished	76.7	83.4	77.5	80.7	66.3	77.7	76.2	75.8	75.1	75.3	75.2	75.1	2.2

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.

surged following a move from unusually mild temperatures in December to unusually cold temperatures in January. At 102.6 percent of its 2017 average, total industrial production in January was identical to its year-earlier level. Capacity utilization for the industrial sector moved down 0.2 percentage point in January to 78.5 percent, a rate that is 1.1 percentage points below its long-run (1972–2023) average.

### Market Groups

The major market groups posted mixed results in January. The index for consumer goods rose 0.6 percent with modest gains in its durable and nondurable components. The indexes for business equipment, construction supplies, and business supplies all declined less than 1 percent; the index for construction supplies was 4.1 percent below its year-earlier level. Meanwhile, the output of defense and space equipment continued to post solid growth in January and was over 13 percent above its year-earlier level. Materials output decreased 0.4 percent in January, as the non-energy component decreased 0.7 percent, while the energy component edged up 0.1 percent.

### **Industry Groups**

Manufacturing output fell 0.5 percent in January; the index for durable manufacturing edged up 0.1 percent, while the index for nondurable manufacturing fell 1.1 percent. The index for other manufacturing (publishing and logging) moved down 0.2 percent. Among durables, the largest gains were recorded in electrical equipment, appliances, and components as well as in aerospace and miscellaneous transportation equipment. Computer and electronic products also moved up in January, in part based on the continued strength in semiconductor production. Nonmetallic mineral products and primary metals recorded declines of around 1 percent. Declines were widespread among nondurables, with notable weather-related decreases in the indexes of petroleum and coal products, chemicals, and plastics and rubber products.

In January, mining output fell 2.3 percent amid a weather-related pullback in oil and gas extraction and a drop in coal production. The output of utilities jumped 6.0 percent as electric and natural gas utilities output increased 4.7 and 13.9 percent, respectively.

Capacity utilization for manufacturing decreased to 76.6 percent in January, a rate that is 1.6 percentage points below its long-run average. The operating rate for mining decreased 2.3 percentage points to 92.2 percent, a rate that is 5.7 percentage points above its long-run average. The operating rate for utilities moved up 4.0 percentage points to 74.2 percent, well below its long-run average of 84.4 percent.

## **Note: Preliminary Estimates of Industrial Capacity**

The data in this release include preliminary estimates of industrial capacity for 2024 (table 8). Measured from Q4 to Q4, total industrial capacity is projected to rise 1.7 percent this year after increasing 1.5 percent in 2023. Manufacturing capacity is also expected to move up 1.7 percent in 2024 after increasing 1.3 percent in 2023. Capacity in the mining sector is estimated to increase 0.7 percent in 2024 after declining 0.4 percent in 2023. Capacity at electric and natural gas utilities is projected to rise 3.6 percent in 2024 after expanding 3.5 percent in 2023.

### **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

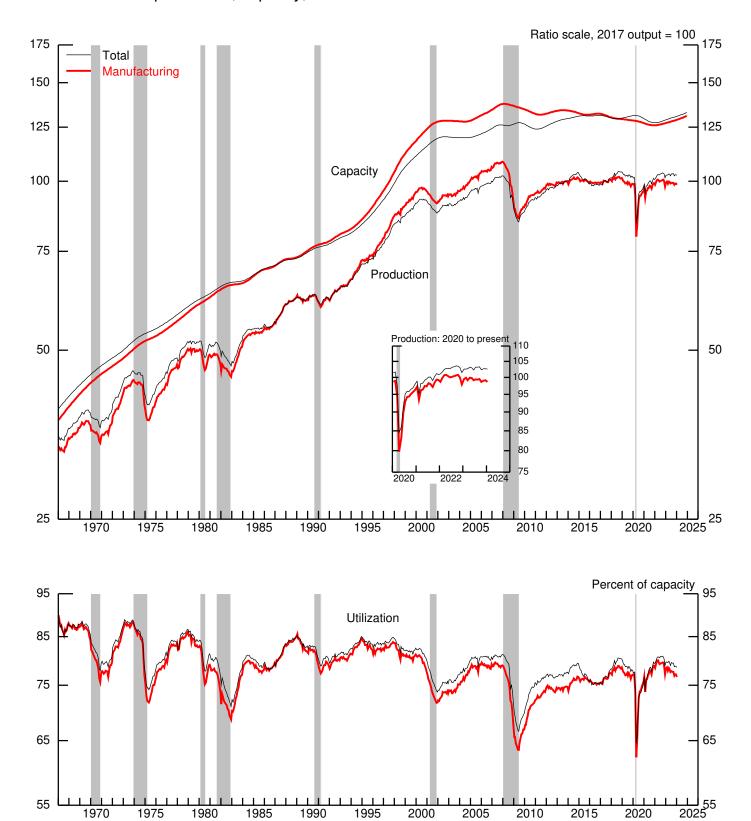
Further detail is available on the Board's website (www.federalreserve.gov/releases/G17/).

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

The Federal Reserve Board plans to issue its annual revision to the indexes of industrial production (IP) and the related measures of capacity utilization tentatively in the first half of 2024. The Economic Census for 2022 will not be available from the U.S. Census Bureau by early 2024, so no new annual benchmark data will be included for manufacturing. Other annual data, including information on the mining of metallic and nonmetallic minerals (except fuels), will be incorporated. The updated IP indexes will include revisions to the monthly indicator (either product data or input data) and to seasonal factors for each industry. In addition, the estimation methods for some series may be changed. Any modifications to the methods for estimating the output of an industry will affect the index from 1972 to the present.

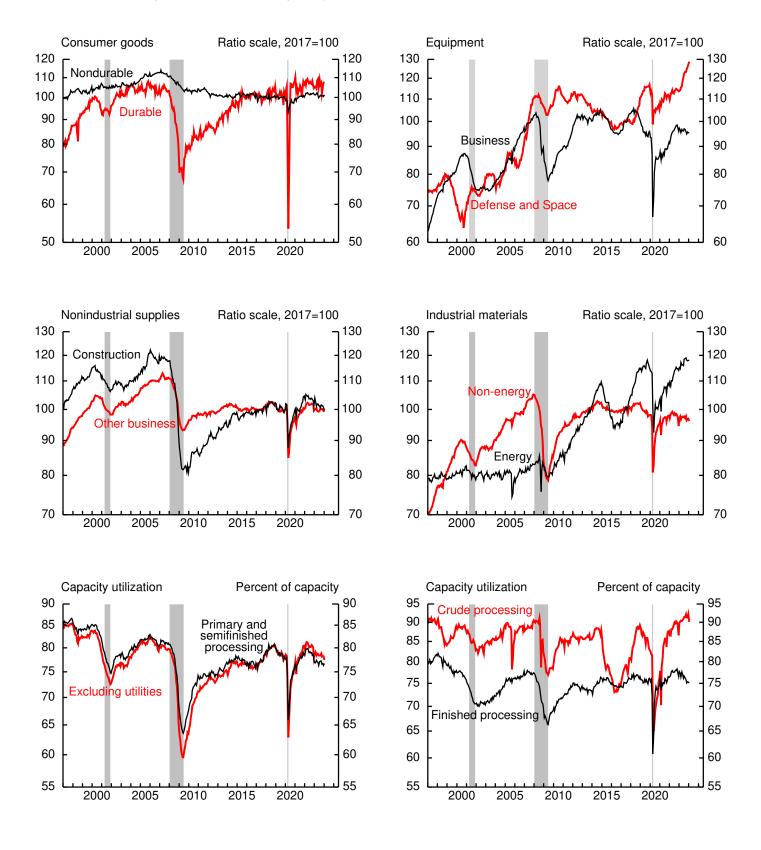
Capacity and capacity utilization will be revised to incorporate data for manufacturing through the fourth quarter of 2023 from the U.S. Census Bureau's Quarterly Survey of Plant Capacity Utilization, along with new data on capacity from the U.S. Geological Survey, the U.S. Department of Energy, and other organizations.

# 1. Industrial production, capacity, and utilization



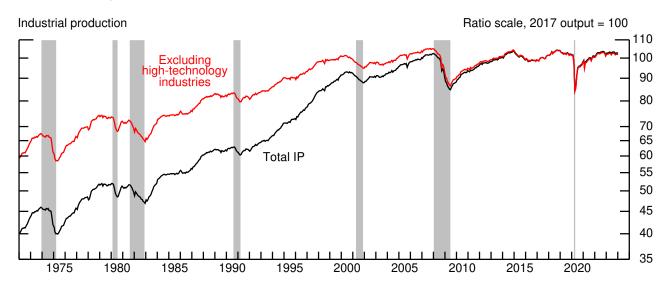
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

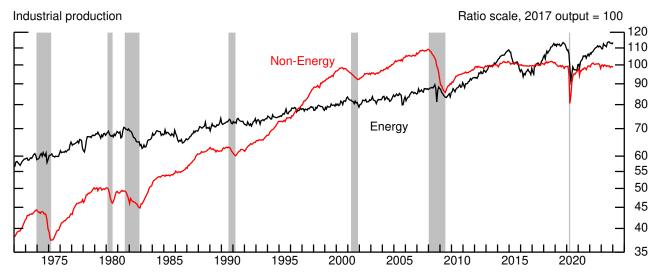
# 2. Industrial production and capacity utilization

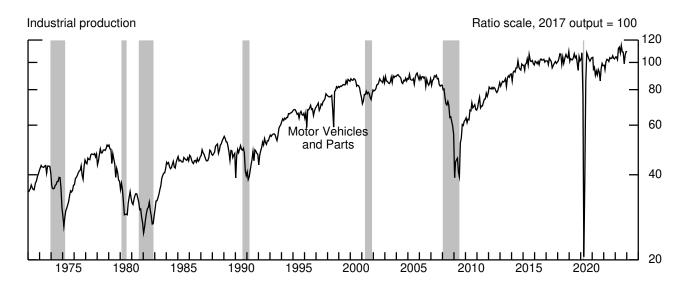


Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

# 3. Industrial production 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

Percent change, seasonally adjusted

Percent change, seasonally adjusted			1	th quart irth quai		Aı	nnual ra	te			Month	ly rate			Jan. '23
Item		2023 proportion <sup>1</sup>	2021	2022	2023	2023 Q2	Q3 <sup>r</sup>	Q4 <sup>r</sup>	2023 Aug. <sup>r</sup>	Sept.r	Oct.r	Nov. <sup>r</sup>	Dec.r	2024 Jan. <sup>p</sup>	to Jan. '24
Total IP		100.00	3.8	1.8	1	.8	1.5	-2.3	1	.1	8	.3	.0	1	.0
Market Groups															
Final products and nonindustrial supplie	es	54.43	3.4	2.0	-1.1	1	.3	-1.8	.0	2	6	.4	1	.2	3
Consumer goods		27.70	1.6	1.2	-1.2	.9	9	-2.3	1	2	9	.7	.1	.6	.4
Durable		5.96	3	3	-1.3	10.3	5	-9.8	-2.5	1.0	-5.1	3.3	2.0	.2	2.0
Automotive products		3.26	-5.5	1.9	.0	22.0	9	-16.7	-4.5	.6	-8.8	7.1	3.6	.4	4.2
Home electronics		.14	10.8	2.9	12.3	27.4	18.3	5.6	1.4	.4	.3	1.1	-1.2	1.2	12.4
Appliances, furniture, carpeting		.90	1.8	-8.0	-5.2	-16.3	6.3	7.0	3.0	4.6	9	-1.2	-1.6	6	-2.6
Miscellaneous goods Nondurable		1.66 21.74	9.3	5 1.6	-2.7 -1.2	3.1	-4.6 -1.1	-4.6	-1.4	1 5	3	-1.1	1.1	.2	6 .0
Non-energy		15.71	1.4	1.0	-1.2	-4.3	-1.1 -5.1	1 1.3	.6 .4	5 5	.2 .9	5	4 2	1	-2.7
Foods and tobacco		9.51	.0	.0	-2.7	-8.9	-6.5	2.9	.4	7	1.5	6	.0	.0	-4.3
Clothing		.17	6.1	2.5	-11.3	-12.8	-21.3	-16.4	-3.4	-2.2	.2	-3.1	.0	.1	-15.2
Chemical products		4.88	3.9	3.3	2.0	8.1	-4.0	-1.3	.7	2	3	1	2	1	1.3
Paper products		.76	8	-4.3	-3.3	-16.7	-1.9	1.7	9	.1	1.5	-1.0	5	4	-6.2
Energy		6.03	6.4	3.1	8	6.0	10.6	-3.7	1.1	7	-1.4	1.3	9	2.7	7.5
Business equipment		8.59	5.3	7.7	-2.0	1	.9	-4.8	3	-1.0	9	.8	3	2	-2.0
Transit		1.72	-5.9	21.4	1	13.1	7.9	-9.0	-2.1	3	-5.2	4.7	2.4	6	3.8
Information processing		1.70	9.5	7	1.0	2.6	5.9	1.0	1	-1.2	1.3	.3	-1.0	.3	1.8
Industrial and other		5.17	7.2	6.8	-3.7	-5.1	-3.0	-5.1	.3	-1.1	2	3	9	2	-5.1
Defense and space equipment		1.71	4.9	2.3	10.4	14.7	16.4	9.8	.9	1	1.2	1.0	.8	1.4	13.3
Construction supplies Business supplies		5.23 10.61	5.5 3.7	-1.3 1.0	-1.4 -1.1	-3.8 -3.2	-2.2 2.3	2 3	6 .7	.9 1	1 .1	2 2	5 5	9 3	-4.1 8
Materials		45.57	4.4	1.6	1.2	1.9	3.2	-2.9	2	.4	-1.1	.2	.1	4	.5
Non-energy		27.51	3.1	-1.1	.0	1.9	1	-3.2	5	.6	-1.4	.4	.1	7	7
Durable		16.68	2.8	1.2	6	5.1	.2	-4.6	7	.4	-1.7	.8	.1	3	1
Consumer parts		2.90	-5.2	4.1	3.0	15.8	4.6	-10.2	-1.7	.3	-4.6	2.8	1.6	1	4.0
Equipment parts		4.46	6.9	1.0	.8	5.1	.6	8	.2	5	.3	.4	-1.4	.8	1.7
Other		9.32	3.5	.4	-2.3	2.0	-1.5	-4.5	8	.9	-1.8	.3	.3	9	-2.2
Nondurable Textile		10.83	3.5	-4.5 -5.9	.7 -3.4	-2.8 -7.6	-1.3 1.2	-1.1 -11.5	1 -2.8	.9 7	8 .3	1 -2.5	.2 8	-1.4 1	-1.8 -8.4
Paper		1.56	.0	-4.7	-2.3	-6.2	-2.5	5.2	2.0	3.2	-2.3	1.8	8 9	-1.5	-2.4
Chemical		5.52	6.5	-6.7	3.1	-1.7	.9	-3.1	1	1.0	-1.2	4	.1	-2.2	-1.3
Energy		18.06	7.2	5.4	3.0	1.7	9.1	-2.5	.3	.2	7	3	.2	.1	2.5
INDUSTRY GROUPS															
Manufacturing		75.35	3.5	.6	6	.4	7	-1.9	1	.1	8	.4	.1	5	9
Manufacturing (NAICS)	31–33	73.84	3.7	.7	5	1.1	7	-2.0	1	.1	9	.4	.1	5	8
Durable manufacturing	224	36.88	3.5	2.5	3	3.9	.8	-4.0	5	.1	-1.6	1.1	1	.1	.3
Wood products	321 327	1.69	2.8	-3.6 6.9	9 -2.5	6 -9.5	1 -4.2	2	.9	2.1	-2.3 .8	1.5 -1.4	-1.2 .0	7 -1.1	-1.4 -5.3
Nonmetallic mineral products Primary metals	331	2.36 2.87	6.0	-5.3	1.5	13.5	-3.7	1.1 -3.9	.2 4	2.1	-3.1	-1.4	.8	-1.1	1.9
Fabricated metal products	332	6.07	6.0	1.5	-1.7	-1.6	-1.6	-1.8	5	.2	-3.1	2	.o 7	9	-1.3
Machinery	333	5.53	8.2	4.9	-5.0	-10.1	-1.0	-6.0	1.1	3	-1.4	.3	-1.5	7	-6.6
Computer and electronic products	334	4.27	6.7	-1.3	5.4	10.3	9.9	5.6	.1	5	1.4	.6	3	.9	7.9
Electrical equip., appliances,															
and components	335	2.11	3.2	1.0	5	4.0	-7.0	1	.0	9	1.2	2	-1.4	1.5	7
Motor vehicles and parts	3361–3	5.35	-5.2	7.0	.7	31.4	-1.2	-20.2	-5.0	3	-9.1	7.2	3.2	2	4.4
Aerospace and miscellaneous transportation equipment	3364–9	3.02	3	9.4	4.1	6.0	10.5	3.5	.9	3	.2	.8	.2	1.5	6.4
Furniture and related products	3364–9	1.03	2.4	-2.8	-9.0	-7.6	-7.7	-10.1	1.0	3 -1.1	.2 -1.4	.8 7	-1.0	1.5	-7.4
Miscellaneous	337	2.58	8.1	4.6	-9.0	-4.2	8.4	.7	.7	1.1	.2	7	-1.0	6	-7.4
Nondurable manufacturing		36.96	2.0	1.2		1 7	2.2	.0	4	1	1	2	2	1 1	-1.8
Food, beverage, and tobacco products	311,2	36.96 12.05	3.9	-1.2 .3	7 -2.5	-1.7 -7.1	-2.2 -6.8	2.4	.4 .0	.1 6	1 1.2	3 5	.3 .2	-1.1 1	-1.8
Textile and product mills	313,4	.55	3.3	-8.2	-4.1	-8.0	6.4	-13.6	-2.7	.2	6	-2.8	-1.2	1	-8.0
Apparel and leather	315,6	.19	6.7	3.3	-10.1	-11.0	-19.4	-15.7	-3.6	-2.0	.7	-3.5	.2	.2	-13.9
Paper	322	2.31	-1.1	-5.9	-1.2	-5.1	.1	6.4	1.6	2.2	8	.8	6	-1.9	-1.9
Printing and support	323	1.28	3.1	.7	-8.6	-10.0	-7.8	-7.9	1.1	-2.4	8	.4	8	1.6	-5.8
Petroleum and coal products	324	4.72	18.2	-2.5	3.6	6.5	6.5	7.7	1.4	.7	.3	.5	.9	-3.7	3.1
Chemicals Plastics and rubber products	325 326	12.19	5.9	-1.5	1.6	2.3	-1.4	-3.1	.4	.1	9 -1.5	3	.4	-1.3	5 -2.0
Plastics and rubber products  Other manufacturing (non-NAICS)	1133,5111	3.68 1.50	-2.8	8	-3.5 -4.4	-26.6	1.0	-4.2 4.1	3 7	1.1 1	-1.5 2.1	7 7	.7 9	-1.0	-2.0 -8.1
	ŕ														
Mining Utilities	21 2211,2	14.12 10.54	10.0	5.8 4.3	3.0	2.2	4.0 15.5	-1.1 -6.5	5 .7	.8 9	7 9	3 .3	.9 -1.7	-2.3 6.0	-1.2 9.0
Electric	2211	9.04	.4	2.6	.6	3	17.6	-5.8	.8	7	-1.4	.6	-1.0	4.7	7.8
Natural gas	2212	1.49	-2.4	14.7	-6.4	15.1	3.6	-10.9	.1	-2.4	1.7	-1.5	-6.2	13.9	16.1
			1			I			I						I

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/G17/20240215/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
Fourth quarter to

ercent change, seasonarry adjusted				rth quart											, ,
Item		2023	for	urth quar	ter	2023	nnual rat	te	2023		Month	ly rate		2024	Jan. '23 to
Item		proportion	2021	2022	2023	Q2	Q3 <sup>r</sup>	Q4 <sup>r</sup>	Aug. <sup>r</sup>	Sept.r	Oct.r	Nov. <sup>r</sup>	Dec.r	Jan. <sup>p</sup>	Jan. '24
Total industry		100.00	3.8	1.8	1	.8	1.5	-2.3	1	.1	8	.3	.0	1	.0
Energy		27.43	7.6	5.0	1.8	2.5	9.1	-2.7	.5	.0	8	.0	2	.6	3.4
Consumer products		6.03	6.4	3.1	8	6.0	10.6	-3.7	1.1	7	-1.4	1.3	9	2.7	7.5
Commercial products Oil and gas well drilling	213111	2.82	6.1	5.5 11.8	1.0 -9.4	1.7	10.9	-1.4 -7.0	1.5	.3 1.2	3 1.0	6 -4.0	-1.0 6	.0 -2.9	3.3 -11.1
Converted fuel	213111	5.24	4.2	2.7	2.9	7.4	13.5	-3.7	-2.0	1	-1.6	1.4	7	2.9	9.8
Primary energy		12.82	8.6	6.2	3.0	3	7.3	-2.0	.4	.3	3	-1.0	.5	-1.1	2
Non-energy		72.57	2.8	.5	7	.1	8	-2.1	3	.1	8	.4	.1	4	-1.1
Selected high-technology industries		1.88	7.0	1.8	14.1	27.4	20.9	14.3	1.1	1.0	1.3	1.1	.9	1.3	19.8
Computers and peripheral equipment	3341	.25	18.4	12.2	12.6	20.2	15.4	9.5	2.5	.6	1	2.2	-1.1	1	10.5
Communications equipment	3342	.39	18.5	10.8	9.6	25.2	30.5	9.0	1.9	1.1	.4	.4	.3	.1	15.6
Semiconductors and related															
electronic components	3344	1.25	2.1	-2.7	15.9	29.5	19.1	17.0	.6	1.1	1.8	1.1	1.5	1.9	23.1
Excluding selected high-technology industries		70.68	2.7	.5	-1.1	6	-1.4	-2.6	3	.1	9	.4	.1	4	-1.6
Motor vehicles and parts	3361-3	5.35	-5.2	7.0	.7	31.4	-1.2	-20.2	-5.0	3	-9.1	7.2	3.2	2	4.4
Motor vehicles	3361	2.57	-10.4	13.1	1	39.4	-2.6	-26.9	-7.7	3	-14.0	12.8	5.8	.2	6.1
Motor vehicle parts	3363	2.24	-3.8	8.0	2.0	23.1	1.6	-15.0	-3.4	6	-4.9	3.5	.8	.0	3.1
Excluding motor vehicles and parts		65.33	3.5	.0	-1.2	-2.9	-1.4	9	.1	.1	2	1	2	4	-2.1
Consumer goods		18.85	2.1	.3	-1.5	-4.7	-3.6	1.1	.4	1	.6	6	1	.0	-2.4
Business equipment		7.32	4.6	6.9	-2.8	-4.1	5	-3.2	.2	-1.1	.2	1	9	.1	-3.3
Construction supplies		5.22 7.42	5.4	-1.3 3	-1.5	-3.8 -6.2	-2.2 -1.5	2 6	6	.9 4	1 .2	2 1	5	9	-4.1 -3.2
Business supplies Materials		24.80	3.9	3 -1.9	-2.6 8	-0.2	-1.5	-2.7	.4 2	.7	-1.1	.1	4 .0	5 9	-3.2 -1.9
Measures excluding selected high-technology industries															
Total industry		98.12	3.8	1.8	3	.3	1.4	-2.6	1	.1	9	.3	.0	1	3
Manufacturing <sup>1</sup>		73.46	3.4	.5	9	2	-1.0	-2.3	1	.1	9	.4	.1	6	-1.4
Durable		35.14	3.2	2.6	-1.1	2.6	3	-5.0	6	.1	-1.8	1.1	2	.0	8
Measures excluding motor vehicles and parts															
Total industry		94.65	4.5	1.6	.0	7	2.0	-1.1	.2	.1	3	1	2	1	1
Manufacturing <sup>1</sup> Durable		70.00 31.68	4.3 5.1	.1 1.8	6 5	-1.7 3	4 1.1	3 -1.0	.3 .3	.1 .2	2 3	1 .1	1 6	6 .1	-1.3 5
Measures excluding selected high-technology industries															
and motor vehicles and parts															
Total industry		92.77	4.4	1.5	3	-1.2	1.6	-1.5	.2	.1	4	1	2	1	5
Manufacturing <sup>1</sup>		68.11	4.2	.0	-1.0	-2.4	-1.0	7	.3	.1	2	1	2	6	-1.8
Stage-of-process components of non-energy materials, measures of the input to Finished processors		9.24	1.8	.6	.8	5.8	1.4	-3.3	2	.4	-1.7	1.3	3	.1	1.3
Primary and semifinished processors		18.27	3.8	-2.0	4	.0	8	-3.2	6	.7	-1.2	.0	.3	-1.2	-1.7

Table 3 MOTOR VEHICLE ASSEMBLIES

Millions of units, seasonally adjusted annua											
	2023	2023				2023					2024
Item	average	Q1	Q2	Q3	Q4	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
T-4-1	10.61	10.25	11.02	11.10	10.20	10.76	10.70	0.10	10.45	10.07	11.05
Total	10.61	10.25	11.23	11.10	10.20	10.76	10.79	9.19	10.45	10.97	11.05
Autos	1.75	1.77	1.76	1.79	1.69	1.83	1.74	1.62	1.71	1.73	1.84
Trucks	8.87	8.48	9.46	9.31	8.52	8.93	9.05	7.57	8.74	9.24	9.22
Light	8.54	8.17	9.12	8.96	8.20	8.57	8.72	7.29	8.43	8.88	8.92
Medium and heavy	.33	.31	.34	.35	.32	.36	.33	.28	.32	.35	.30
Memo											
Autos and light trucks	10.28	9.93	10.89	10.75	9.89	10.40	10.46	8.91	10.14	10.61	10.76

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

or, roo, seasonary adjusted		2023	2023								2024
Item		proportion	May	June	July	Aug.r	Sept. <sup>r</sup>	Oct.r	Nov. <sup>r</sup>	Dec.r	Jan. <sup>p</sup>
Total IP		100.00	102.9	102.3	103.2	103.1	103.2	102.4	102.7	102.7	102.6
MARKET GROUPS											
Final products and nonindustrial supplies		54.43	101.3	100.4	101.3	101.3	101.1	100.5	100.9	100.8	101.0
Consumer goods		27.70	102.8	101.1	102.4	102.3	102.1	101.2	101.9	102.0	102.6
Durable		5.96	109.2	105.4	109.0	106.3	107.3	101.9	105.2	107.3	107.6
Automotive products		3.26	114.5	108.9	115.3	110.2	110.8	101.0	108.2	112.1	112.6
Home electronics		.14	172.9	178.1	179.9	182.4	183.1	183.7	185.7	183.4	185.6
Appliances, furniture, carpeting		.90	84.2	81.1	81.8	84.2	88.1	87.3	86.3	84.9	84.3
Miscellaneous goods		1.66 21.74	109.6 101.0	108.5 99.8	108.5 100.6	107.0 101.2	106.9 100.6	106.6 100.9	105.4	106.6	106.8 101.2
Nondurable Non-energy		15.71	101.0	100.1	99.9	101.2	99.8	100.9	100.9 100.2	100.5 100.0	101.2
Foods and tobacco		9.51	99.2	97.3	97.4	97.8	97.1	98.5	98.0	97.9	98.0
Clothing		.17	93.7	90.2	90.6	87.6	85.6	85.8	83.2	83.2	83.3
Chemical products		4.88	110.0	109.7	108.5	109.3	109.1	108.8	108.7	108.5	108.4
Paper products		.76	79.4	79.9	79.7	79.0	79.0	80.2	79.4	79.0	78.7
Energy		6.03	99.4	98.5	101.7	102.8	102.1	100.7	102.0	101.1	103.9
		0.50	06.2	064	07.0	060	0.5.0	0.4.0	0.5.5	0.7.4	0.5.0
Business equipment		8.59	96.2	96.1	97.0	96.8	95.8	94.9	95.7	95.4	95.3
Transit Information processing		1.72 1.70	74.4 107.3	73.2 109.0	76.1 110.2	74.5 110.1	74.3 108.7	70.4 110.1	73.7 110.4	75.5 109.3	75.0 109.6
Information processing Industrial and other		5.17	107.3	109.0	10.2	10.1	108.7	10.1	102.8	109.3	109.6
Defense and space equipment		1.71	118.4	120.8	122.3	123.4	123.3	124.7	126.0	127.0	128.8
		1,,1	110.7	120.0	100.3	123.7	123.3	1201.7	120.0	127.0	120.0
Construction supplies		5.23	101.8	101.2	101.1	100.5	101.4	101.3	101.1	100.6	99.6
Business supplies		10.61	99.3	99.2	99.5	100.2	100.1	100.2	100.0	99.5	99.2
Materials		45.57	104.9	104.6	105.5	105.4	105.8	104.6	104.8	104.9	104.5
Non-energy		27.51	97.6	97.3	97.6	97.1	97.7	96.4	96.8	96.9	96.2
Durable		16.68	98.1	98.1	98.5	97.8	98.2	96.5	97.2	97.3	97.0
Consumer parts		2.90	95.2	93.6	96.6	94.9	95.2	90.8	93.4	94.9	94.8
Equipment parts		4.46	102.6	102.5	102.8	103.0	102.5	102.8	103.1	101.7	102.6
Other		9.32	96.9	97.5	97.0	96.2	97.1	95.4	95.7	96.0	95.1
Nondurable		10.83	96.8	96.2	96.0	95.9	96.8	96.0	95.9	96.1	94.8
Textile		.32	83.8	80.7	85.1	82.8	82.2	82.4	80.4	79.8	79.7
Paper		1.56	84.1	82.5	80.6	82.2	84.8	82.9	84.4	83.6	82.4
Chemical Energy		5.52 18.06	97.9 116.3	98.1 115.9	97.9 118.4	97.9 118.7	98.9 119.0	97.7 118.1	97.3 117.8	97.4 118.0	95.3 118.1
Energy		18.00	110.5	113.9	110.4	110.7	119.0	110.1	117.0	110.0	110.1
INDUSTRY GROUPS											
Manufacturing		75.35	99.8	99.1	99.5	99.4	99.5	98.7	99.1	99.1	98.6
Manufacturing (NAICS)	31–33	73.84	100.4	99.6	100.0	99.9	100.0	99.2	99.6	99.7	99.2
Durable manufacturing	221	36.88	101.8	101.2	102.0	101.5	101.7	100.0	101.1	101.0	101.1
Wood products	321	1.69	95.7	94.8	94.1	95.0	96.9	94.7	96.2	95.0	94.3
Nonmetallic mineral products Primary metals	327 331	2.36 2.87	109.5 95.3	107.5 96.2	107.2 94.4	107.4 94.0	107.9 96.0	108.8 93.0	107.3 93.9	107.3 94.7	106.2 93.8
Fabricated metal products	332	6.07	99.6	99.8	99.4	98.8	99.0	99.0	98.8	98.1	98.5
Machinery	333	5.53	101.1	99.4	100.2	101.3	100.9	99.6	99.9	98.4	97.7
Computer and electronic products	334	4.27	111.6	112.6	114.7	114.9	114.3	115.9	116.6	116.2	117.2
Electrical equip., appliances,											
and components	335	2.11	104.3	103.9	102.7	102.7	101.8	103.0	102.8	101.3	102.8
Motor vehicles and parts	3361-3	5.35	113.3	108.1	114.8	109.0	108.7	98.8	106.0	109.3	109.2
Aerospace and miscellaneous											
transportation equipment	3364–9	3.02	87.9	89.2	89.5	90.2	90.0	90.1	90.9	91.0	92.4
Furniture and related products Miscellaneous	337 339	1.03 2.58	83.5 106.6	83.6 109.3	81.8 108.8	82.6 109.6	81.6 110.9	80.5 111.0	79.9 110.0	79.1 108.8	79.2 108.1
Miscerialicous	339	2.36	100.0	109.5	100.0	109.0	110.9	111.0	110.0	100.0	100.1
Nondurable manufacturing		36.96	98.9	98.1	98.0	98.4	98.5	98.4	98.1	98.4	97.3
Food, beverage, and tobacco products	311,2	12.05	101.0	99.0	99.2	99.2	98.6	99.8	99.4	99.6	99.5
Textile and product mills	313,4	.55	84.8	82.3	86.8	84.5	84.6	84.2	81.8	80.8	80.2
Apparel and leather	315,6	.19	94.9	91.7	92.5	89.2	87.4	88.0	84.9	85.0	85.2
Paper Printing and support	322	2.31	87.2	86.6	85.1	86.5	88.4	87.7	88.4	87.9	86.3
Printing and support Petroleum and coal products	323 324	1.28 4.72	85.5 90.2	82.2 88.9	82.9 90.3	83.8 91.6	81.8 92.2	81.1 92.4	81.5 92.9	80.9 93.7	82.2 90.3
Chemicals	324	12.19	103.5	104.1	103.1	103.5	103.6	102.7	102.4	102.7	101.4
Plastics and rubber products	326	3.68	98.9	99.4	99.4	99.0	100.1	98.7	98.0	98.7	97.7
Other manufacturing (non-NAICS)	1133,5111	1.50	78.9	79.3	79.7	79.1	79.0	80.7	80.1	79.4	79.2
Mining	21	14.12	118.4	119.1	120.0	119.4	120.4	119.5	119.1	120.1	117.3
MIIIII											
Utilities	2211,2	10.54	103.7	102.0	107.0	107.7	106.7	105.7	106.1	104.3	110.5
		10.54 9.04 1.49	103.7 102.4 111.7	102.0 100.0	107.0 105.8	107.7 106.6	106.7 105.9	105.7 104.4	106.1 105.1	104.3 104.1	110.5 109.0 119.4

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

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

2017 = 100, seasonally adjusted

2017 = 100, scasonarry adjusted											
ν.		2023	2023		Y 1	A F	G . I	0.1	N.T	ъ г	2024
Item		proportion	May	June	July	Aug.r	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>r</sup>	Dec. <sup>r</sup>	Jan. <sup>p</sup>
Total industry		100.00	102.9	102.3	103.2	103.1	103.2	102.4	102.7	102.7	102.6
Energy		27.43	111.2	110.7	113.2	113.8	113.8	112.9	112.9	112.6	113.3
Consumer products		6.03	99.4	98.5	101.7	102.8	102.1	100.7	102.0	101.1	103.9
Commercial products		2.82	106.9	106.6	108.2	109.8	110.1	109.7	109.1	108.0	108.1
Oil and gas well drilling	213111	.53	104.5	101.5	100.6	98.5	99.7	100.7	96.7	96.1	93.3
Converted fuel		5.24	109.3	107.9	112.4	112.5	112.5	110.6	112.2	111.4	114.7
Primary energy		12.82	118.5	118.6	120.1	120.5	120.9	120.5	119.3	119.9	118.6
Non-energy		72.57	99.8	99.2	99.6	99.3	99.4	98.6	99.0	99.1	98.8
Selected high-technology industries		1.88	136.6	137.5	141.5	143.1	144.6	146.5	148.1	149.4	151.3
Computers and peripheral equipment	3341	.25	155.0	159.7	159.7	163.7	164.7	164.6	168.3	166.4	166.3
Communications equipment	3342	.39	166.4	171.8	176.1	179.5	181.5	182.4	183.0	183.6	183.8
Semiconductors and related											
electronic components	3344	1.25	124.9	124.2	128.7	129.5	130.9	133.3	134.7	136.7	139.4
Excluding selected high-technology											
industries		70.68	98.8	98.2	98.5	98.2	98.3	97.4	97.8	97.9	97.5
Motor vehicles and parts	3361-3	5.35	113.3	108.1	114.8	109.0	108.7	98.8	106.0	109.3	109.2
Motor vehicles	3361	2.57	128.1	119.2	130.3	120.2	119.9	103.1	116.3	123.0	123.3
Motor vehicle parts	3363	2.24	103.6	102.2	105.6	102.1	101.4	96.5	99.8	100.6	100.6
Excluding motor vehicles and parts		65.33	97.7	97.4	97.3	97.4	97.5	97.3	97.2	97.0	96.6
Consumer goods		18.85	101.0	99.8	99.8	100.2	100.1	100.7	100.1	100.0	100.0
Business equipment		7.32	91.8	92.1	92.2	92.4	91.3	91.5	91.5	90.6	90.7
Construction supplies		5.22	101.6	101.1	101.0	100.4	101.3	101.1	100.9	100.4	99.5
Business supplies		7.42	95.6	95.7	95.4	95.7	95.4	95.6	95.5	95.1	94.5
Materials		24.80	95.8	95.7	95.5	95.3	95.9	94.8	94.9	94.9	94.1
Measures excluding selected high-technology											
industries		98.12	102.3	101.6	102.5	102.4	102.5	101.6	101.9	101.9	101.8
Total industry						98.3		97.6		98.0	97.4
Manufacturing <sup>1</sup> Durable		73.46 35.14	98.8 100.0	98.1 99.3	98.5 100.0	98.3 99.4	98.4 99.4	97.6 97.7	97.9 98.7	98.0 98.6	97.4 98.5
Measures excluding motor vehicles and parts		33.14	100.0	99.3	100.0	99.4	99.4	91.1	90.7	96.0	96.3
Total industry		94.65	102.4	102.0	102.7	102.9	103.0	102.7	102.6	102.4	102.3
Manufacturing <sup>1</sup>		70.00	98.8	98.4	98.4	98.7	98.9	98.7	98.6	98.5	97.9
Durable		31.68	100.0	100.1	100.0	100.3	100.5	100.2	100.3	98.3 99.7	97.9
Measures excluding selected high-technology		31.00	100.0	100.1	100.0	100.3	100.5	100.2	100.3	22.1	22.1
industries and motor vehicles and parts											
Total industry		92.77	101.7	101.3	101.9	102.1	102.2	101.8	101.7	101.5	101.4
Manufacturing <sup>1</sup>		68.11	97.8	97.4	97.3	97.6	97.7	97.5	97.3	97.2	96.6
Stage-of-process components of non-energy											
materials, measures of the input to											
Finished processors		9.24	96.4	95.4	96.3	96.1	96.4	94.8	96.0	95.6	95.8
Primary and semifinished processors		18.27	98.4	98.6	98.4	97.8	98.5	97.4	97.4	97.7	96.6
,											

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.
1011	Van	100.	111111	p	11111	o une	vary	1146.	Dept.	000.	11011	200.
One month earlier												
2021	63.5	28.7	71.6	53.7	62.8	54.4	59.8	54.4	45.6	60.8	57.8	45.3
2022	42.2	62.5	59.1	57.4	44.6	49.3	58.8	40.2	54.7	52.0	41.9	32.8
2023	66.6	50.0	42.2	56.4	50.7	43.6	56.8	48.6	51.7	48.6	47.3	52.5
Three months earlier												
2021	67.9	44.3	57.8	52.0	65.2	57.8	57.4	59.8	53.0	57.1	59.5	60.8
2022	50.7	57.3	63.8	69.3	54.1	52.0	53.7	52.0	56.8	52.4	48.3	32.1
2023	43.6	47.3	56.1	50.7	52.0	47.6	50.3	47.6	56.1	44.6	43.6	48.6
Six months earlier												
2021	77.0	56.1	67.2	60.5	60.1	58.4	53.4	65.2	58.4	63.9	68.2	64.2
2022	59.1	62.8	67.6	65.5	59.7	57.0	63.2	52.7	51.0	50.7	50.0	42.9
2023	42.6	48.0	39.2	46.3	49.0	53.0	49.0	46.6	51.0	42.6	43.9	47.6

Note. The diffusion indexes are calculated as the percentage of series that increased over the indicated span (one, three, or six months) plus one-half the percentage that were unchanged.

<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

			1972-	1994-										
Item		2023	2023	95	2009	2023			2023					2024
10.11		proportion	ave.	high	low	O2	O3 <sup>r</sup>	O4 <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov.r	Dec.r	Jan. <sup>p</sup>
		proportion	4,0,		1011	χ-	- V	Ψ.	1145	Sept.		11011		
Total industry		100.00	79.6	85.0	66.6	79.4	79.4	78.7	79.4	79.4	78.6	78.8	78.7	78.5
y						,,,,,			,,,,,					
Manufacturing <sup>1</sup>		76.01	78.2	84.6	63.4	78.0	77.7	77.0	77.6	77.6	76.9	77.1	77.1	76.6
Manufacturing (NAICS)	31-33	74.49	78.2	84.7	63.3	78.1	77.7	77.0	77.6	77.6	76.8	77.1	77.1	76.5
manufacturing (1 miles)	01 00	,,	70.2	0	00.0	, 0.1		,,,,	,,,,	,,,,	70.0	,,,,	,,,,	70.0
Durable manufacturing		38.38	76.8	83.7	58.2	76.1	75.9	74.8	75.7	75.7	74.4	75.1	75.0	74.9
Wood products	321	1.63	76.9	86.6	48.4	79.5	79.4	79.3	79.1	80.7	78.9	80.1	79.1	78.5
Nonmetallic mineral products	327	2.24	73.6	82.4	43.8	82.0	81.1	81.3	81.1	81.4	82.1	81.0	81.0	80.1
Primary metals	331	3.21	77.6	95.1	49.4	71.0	70.4	69.7	69.8	71.2	69.1	69.7	70.3	69.5
Fabricated metal products	332	6.05	78.0	83.7	63.5	78.2	77.8	77.4	77.6	77.8	77.7	77.5	77.0	77.3
Machinery	333	5.31	78.0	87.5	58.6	81.3	80.9	79.4	81.3	80.9	79.7	79.8	78.6	77.9
Computer and electronic products	334	4.97	77.0	84.5	69.9	69.1	69.8	69.9	70.0	69.3	70.0	70.1	69.6	69.9
Electrical equip., appliances,														
and components	335	2.12	81.7	92.4	66.5	78.4	76.7	76.4	76.9	76.2	77.0	76.7	75.5	76.6
Motor vehicles and parts	3361-3	5.73	74.9	87.6	33.0	77.3	76.8	72.3	75.5	75.2	68.3	73.2	75.4	75.2
Aerospace and miscellaneous			,											
transportation equipment	3364-9	3.48	73.8	72.0	72.2	68.9	70.6	71.2	70.9	70.7	70.8	71.3	71.4	72.5
Furniture and related products	337	1.13	77.3	82.8	53.4	72.0	70.7	68.8	71.1	70.4	69.4	68.9	68.2	68.5
Miscellaneous	339	2.52	77.1	81.0	68.1	80.6	81.2	80.3	81.1	81.7	81.5	80.4	79.1	78.1
17110CONTAINCOUD	007	2.02	,,,,,	01.0	00.1	00.0	01.2	00.5	01.11	0117	01.0	0011	,,,,	7011
Nondurable manufacturing		36.11	80.0	86.1	68.7	80.2	79.5	79.2	79.5	79.5	79.3	79.1	79.2	78.2
Food, beverage, and tobacco products	311,2	12.05	80.3	85.3	75.3	78.6	76.9	77.0	77.0	76.5	77.3	76.8	76.9	76.7
Textile and product mills	313,4	.63	78.1	91.7	54.1	68.6	70.1	68.0	69.4	69.7	69.5	67.7	67.0	66.7
Apparel and leather	315,6	.20	75.7	87.3	58.6	74.7	70.7	67.7	70.3	68.9	69.3	66.8	66.9	67.1
Paper	322	2.19	86.6	92.7	72.7	81.7	81.9	83.5	81.8	83.7	83.1	83.9	83.4	81.9
Printing and support	323	1.24	79.5	85.4	58.8	81.0	79.8	78.5	80.7	78.9	78.4	78.9	78.4	79.6
Petroleum and coal products	324	4.04	85.4	91.1	75.9	87.6	89.1	90.8	89.3	89.9	90.2	90.7	91.4	88.1
Chemicals	325	12.05	76.6	82.1	64.9	80.1	79.4	78.3	79.5	79.4	78.5	78.1	78.3	77.0
Plastics and rubber products	326	3.71	82.0	93.2	56.9	77.6	77.5	76.3	77.1	77.9	76.6	76.0	76.4	75.3
Other manufacturing (non-NAICS)	1133,5111	1.52	79.6	83.3	64.3	76.4	77.4	79.2	77.3	77.5	79.5	79.3	78.9	79.0
<del>-</del> '														
Mining	21	12.23	86.5	88.6	78.9	92.9	94.0	94.0	93.6	94.5	93.9	93.6	94.5	92.2
Utilities	2211,2	11.76	84.4	93.2	78.1	71.0	73.0	71.1	73.4	72.5	71.6	71.6	70.2	74.2
Selected high-technology industries		2.06	77.3	86.3	71.3	74.4	76.1	76.7	76.1	76.2	76.6	76.7	76.8	76.9
Computers and peripheral equipment	3341	.26	76.7	86.8	82.7	77.1	78.5	78.8	78.9	78.9	78.4	79.7	78.3	78.2
Communications equipment	3342	.45	75.4	86.1	77.3	69.6	72.6	72.4	72.8	73.0	72.7	72.4	72.0	71.3
Semiconductors and related														
electronic components	3344	1.35	79.0	92.4	63.0	75.4	76.5	77.4	76.4	76.5	77.1	77.3	77.7	78.1
Measures excluding selected														
high-technology industries														
Total industry		97.94	79.8	84.9	66.3	79.5	79.6	78.8	79.5	79.5	78.7	78.9	78.8	78.6
Manufacturing <sup>1</sup>		73.95	78.3	84.5	62.9	78.1	77.7	77.1	77.7	77.7	76.9	77.2	77.2	76.6
~														
STAGE-OF-PROCESS GROUPS														
Crude		16.26	85.7	90.0	76.9	90.6	91.6	91.6	91.3	92.1	91.2	91.3	92.2	90.1
Primary and semifinished		47.05	80.2	87.8	63.6	76.8	77.2	76.5	77.2	77.2	76.6	76.7	76.3	76.7
Finished		36.69	76.7	80.7	66.3	76.9	76.2	75.2	76.2	75.8	75.1	75.3	75.2	75.1

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
	1	Average ar	nnual rate		Fourth	quarter to	o fourth o	quarter		Annua	ıl rate		rate
Item	1972-	1980-	1989-	1995-					2023			2024	2024
	79	88	94	2024	2021	2022	2023	2024	Q2	Q3	Q4	Q1	Jan.
Total industry	3.1	1.9	2.3	1.6	-2.0	.9	1.5	1.7	1.6	1.4	1.3	1.4	.1
Manufacturing <sup>1</sup>	3.3	2.2	2.6	1.4	-1.0	.7	1.3	1.7	1.3	1.3	1.3	1.5	.1
Mining Utilities	.7 4.4	.1 2.2	7 1.8	.9 1.8	-9.9 2.3	1.9 3.1	4 3.5	.7 3.6	3 3.5	9 3.5	-1.0 3.4	2 3.5	.0
Selected high-technology industries	18.6	16.7	16.0	15.8	3.7	6.5	10.5	13.4	10.5	10.8	10.7	12.6	1.1
Manufacturing <sup>1</sup> ex. selected high-technology industries	2.6	1.3	1.6	.4	-1.2	.6	1.1	1.4	1.1	1.1	1.1	1.2	.1
STAGE-OF-PROCESS GROUPS Crude	1.5	.5	5	.7	-8.1	1.2	4	.8	3	9	-1.0	.0	.1
Primary and semifinished	3.0	1.4	2.5	1.6	8	1.1	1.4	1.8	1.4	1.4	1.3	1.6	.2
Finished	3.9	3.2	2.8	1.5	.1	1.3	2.2	2.2	2.2	2.2	2.2	2.3	.2

<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, season	nany adjusted										
			2023			2023					2024
Item	2012	2023	Q2	Q3 <sup>r</sup>	Q4 <sup>r</sup>	Aug. <sup>r</sup>	Sept.r	Oct.r	Nov. <sup>r</sup>	Dec.r	Jan. <sup>p</sup>
Final products and nonindustrial											
supplies	4,005.8	4,174.1	4,183.0	4,194.2	4,167.7	4,194.6	4,187.3	4,142.2	4,174.4	4,186.4	4,183.4
supplies	1,005.0	1,171.1	1,105.0	1,171.2	1,107.7	1,171.0	1,107.5	1,1 12.2	1,17 1.1	1,100.1	1,105.1
Final products	2,986.7	3,098.2	3,111.6	3,117.7	3,092.9	3,117.3	3,107.0	3,063.6	3,099.2	3,115.9	3,121.3
Consumer goods	2,189.9	2,344.7	2,357.7	2,357.8	2,341.0	2,356.2	2,352.0	2,319.0	2,345.0	2,359.1	2,365.3
Durable	431.0	546.7	559.1	558.1	538.7	551.3	554.0	517.5	542.4	556.2	560.0
Automotive products	284.6	392.9	406.7	405.2	385.2	399.1	398.8	362.0	389.5	404.0	408.0
Other durable goods	146.4	154.6	153.7	154.1	154.1	153.4	156.1	155.1	153.7	153.6	153.4
Nondurable	1,758.9	1,794.2	1,794.9	1,795.9	1,798.5	1,801.1	1,794.2	1,797.6	1,798.8	1,799.3	1,801.8
Equipment, total	796.8	765.6	766.0	772.1	763.9	773.3	767.0	756.5	766.3	768.9	768.0
Business and defense	761.5	744.2	744.2	750.7	742.9	752.1	745.4	734.9	745.6	748.2	747.9
Business	632.8	605.9	608.2	609.9	599.5	610.9	604.3	593.0	602.0	603.6	601.4
Defense and space	128.8	138.9	136.1	141.7	145.2	142.1	142.2	143.7	145.3	146.4	148.9
Nonindustrial supplies	1.019.1	1.076.5	1,072.1	1,077.2	1,075.3	1.078.0	1,080.9	1.079.0	1.075.8	1.071.3	1,063.0
Construction supplies	243.9	270.2	270.0	268.7	268.6	267.5	269.9	269.3	269.1	267.4	265.0
Business supplies	775.2	805.4	801.0	808.2	806.3	810.6	810.7	809.4	806.1	803.6	797.6
Commercial energy products	273.7	312.6	309.4	318.8	316.2	320.8	321.4	319.1	315.5	314.0	311.4

r Revised. p Preliminary.

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

Percent change, seasonally adjusted														
		Fou	rth quart	er to										
		fo	urth quar	ter	A	Annual r	ate			Month	ly rate			Jan. '23
Item	2023				2023			2023					2024	to
	gross value <sup>1</sup>	2021	2022	2023	Q2	Q3 <sup>r</sup>	Q4 <sup>r</sup>	Aug.r	Sept.r	Oct.r	Nov.r	Dec.r	Jan. <sup>p</sup>	Jan. '24
Finished	2,398.6	1.4	4.0	9	2.7	-1.8	-4.5	8	6	-1.4	1.2	.5	2	-1.0
Semifinished	1,978.6	2.7	1.5	8	1.2	1.6	-2.4	2	.5	-1.2	.7	2	1.0	1.1
Primary	1,803.8	7.3	6	.7	3.1	5.9	-1.4	.8	1	6	.1	1	2	3.2
Crude	949.0	5.8	4	3.4	1.1	2.8	.3	4	1.1	-1.0	.1	1.2	-2.3	.1

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																	
hange) <sup>1</sup>																	
2002	.7	.0	.7	.5	.4	.8	.0	1	.1	3	.5	6	3.0	6.3	2.5	2	.3
2003	.8	.1	3	6	.0	.1	.5	2	.7	.1	.7	.0	2.5	-2.9	2.7	3.9	1.3
2004	.2	.6	4	.4	.7	8	.7	.1	.1	.9	.2	.8	2.9	2.3	2.3	5.8	2.7
2005 2006	.4	.7	1 .2	.2	.1	.4	3 1	.3	-1.9 2	1.2	1.1	.5 1.0	5.7 3.9	2.3	-1.7 1.6	3.7 1.0	3.4 2.3
	.2	.0										1.0					
2007 2008	4 1	1.0	.2 3	.7 7	.0 6	.0 3	2 4	.2 -1.6	.2 -4.4	3 1.0	.6 -1.3	.1 -2.8	4.2 -1.0	4.7 -5.9	.3 -12.5	1.3 -16.0	2.6 -3.5
2009	-2.5	6	-1.6	8	-1.0	3	1.2	1.1	.9	.2	.4	.3	-20.7	-10.6	7.0	6.4	-11.4
2010	1.1	.3	.7	.4	1.4	.2	.4	.4	.3	3	.1	1.0	7.8	8.0	5.4	1.7	5.5
2011	2	4	1.1	4	.1	.3	.5	.6	1	.7	.0	.5	2.2	1.6	4.5	4.2	3.1
2012	.6	.3	5	.7	.2	.0	.2	4	1	.3	.4	.3	4.1	2.5	1	2.0	3.1
2013	.0	.5	.4	1	.1	.2	3	.6	.5	1	.2	.2	3.1	1.8	1.6	2.7	2.0
014	4	.8	1.0	.1	.4	.3	.2	2	.3	.0	.6	.0	2.8	5.6	2.3	2.4	3.0
015	8	7	3	6	5	3	.6	2	3	5	7	5	-4.4	-5.5	.3	-5.4	-1.4
2016	.5	5	7	.3	2	.5	.1	1	1	.1	4	.7	-2.7	-1.5	1.1	2	-2.2
2017	2	4	.6	1.0	.1	.2	2	4	.1	1.2	.3	.2	.3	5.7	-1.2	5.7	1.3
2018 2019	1	.4	.5	1.1	9	.8	.1 5	.7	.0	2 9	.1	.0	2.2	4.7	3.4	.5	3.2
2019	6 5	5 .3	.0 -3.9	6 -13.4	.2 1.6	.1 6.5	5 3.8	.7 .9	2 .0	9	.5 .4	3 1.2	-3.7 -6.3	-2.4 -42.2	.2 43.2	-2.2 6.4	7 -7.2
020	5	-3.5	2.9	-13.4	.9	.4	.6	.0	-1.1	1.3	.9	3	1.4	6.5	3.2	4.2	4.4
2022	.1	.6	.8	.3	.0	1	.4	.1	.3	1	3	-1.5	3.7	4.1	2.1	-2.5	3.4
2023	1.0	.0	.0	.5	2	6	.9	1	.1	1	3	-1.5	3	.8	1.5	-2.3	.2
024	1		.1	.5	2	0		-,1	.1	0			5	.0	1.5	2.3	
<b>P</b> (2017=100)																	
022	101.0	101.7	102.5	102.8	102.8	102.7	103.1	103.2	103.5	103.4	103.1	101.5	101.7	102.8	103.3	102.7	102.6
023	102.5	102.6	102.7	103.2	102.9	102.3	103.2	103.1	103.2	102.4	102.7	102.7	102.6	102.8	103.2	102.6	102.8
024	102.6																
Capacity																	
percent of																	
017 output)																	
022	127.2	127.2	127.3	127.4	127.5	127.6	127.7	127.9	128.1	128.2	128.4	128.6	127.2	127.5	127.9	128.4	127.8
.023 .024	128.8 130.6	128.9	129.1	129.3	129.4	129.6	129.7	129.9	130.0	130.2	130.3	130.4	128.9	129.4	129.9	130.3	129.6
	130.0																
U <b>tilization</b> percent)																	
2002	74.1	74.0	74.4	74.7	75.0	75.5	75.5	75.4	75.5	75.3	75.7	75.3	74.1	75.1	75.4	75.4	75.0
2003	76.0	76.1	75.9	75.5	75.5	75.6	76.0	75.8	76.3	76.4	77.0	77.0	76.0	75.5	76.1	76.8	76.1
2004	77.2	77.6	77.4	77.7	78.3	77.7	78.2	78.3	78.4	79.1	79.2	79.8	77.4	77.9	78.3	79.4	78.2
005	80.0	80.5	80.4	80.4	80.4	80.7	80.3	80.5	78.8	79.6	80.4	80.7	80.3	80.5	79.9	80.2	80.2
006	80.7	80.6	80.7	80.8	80.7	80.8	80.6	80.8	80.5	80.2	80.0	80.6	80.7	80.7	80.6	80.3	80.6
	80.1	90.7	80.7	81.1	81.0	80.8	80.6	80.7	80.9	80.6	81.1	81.1	80.5	81.0	80.7	80.9	80.8
		80.7								75.0	73.9	717	000	79.8	77.1	72.5	77.8
800	81.1	80.8	80.6	80.1	79.7	79.5	79.1	77.8	74.3	75.0		71.7	80.8		77.1	73.5	
008 009	81.1 69.8	80.8 69.3	80.6 68.1	80.1 67.5	66.8	66.6	67.3	68.1	68.8	69.0	69.4	69.7	69.1	66.9	68.1	69.4	68.4
008 009 010	81.1 69.8 70.6	80.8 69.3 71.0	80.6 68.1 71.6	80.1 67.5 72.0	66.8 73.2	66.6 73.5	67.3 73.9	68.1 74.3	68.8 74.7	69.0 74.5	69.4 74.7	69.7 75.5	69.1 71.1	66.9 72.9	68.1 74.3	69.4 74.9	68.4 73.3
008 009 010 011	81.1 69.8 70.6 75.3	80.8 69.3 71.0 75.0	80.6 68.1 71.6 75.8	80.1 67.5 72.0 75.5	66.8 73.2 75.6	66.6 73.5 75.7	67.3 73.9 76.0	68.1 74.3 76.4	68.8 74.7 76.2	69.0 74.5 76.6	69.4 74.7 76.5	69.7 75.5 76.8	69.1 71.1 75.4	66.9 72.9 75.6	68.1 74.3 76.2	69.4 74.9 76.6	68.4 73.3 76.0
008 009 010 011	81.1 69.8 70.6 75.3	80.8 69.3 71.0 75.0	80.6 68.1 71.6 75.8 76.6	80.1 67.5 72.0 75.5	66.8 73.2 75.6 77.1	66.6 73.5 75.7 76.9	67.3 73.9 76.0	68.1 74.3 76.4 76.5	68.8 74.7 76.2 76.4	69.0 74.5 76.6	69.4 74.7 76.5 76.7	69.7 75.5 76.8	69.1 71.1 75.4 77.0	66.9 72.9 75.6 77.0	68.1 74.3 76.2 76.6	69.4 74.9 76.6	68.4 73.3 76.0 76.8
2008 2009 2010 2011 2012 2013	81.1 69.8 70.6 75.3 77.1 76.7	80.8 69.3 71.0 75.0 77.2 76.9	80.6 68.1 71.6 75.8 76.6 77.1	80.1 67.5 72.0 75.5 77.1 77.0	66.8 73.2 75.6 77.1 77.0	66.6 73.5 75.7 76.9 77.0	67.3 73.9 76.0 77.0 76.7	68.1 74.3 76.4 76.5 77.1	68.8 74.7 76.2 76.4 77.5	69.0 74.5 76.6 76.5 77.3	69.4 74.7 76.5 76.7 77.5	69.7 75.5 76.8 76.8 77.6	69.1 71.1 75.4 77.0 76.9	66.9 72.9 75.6 77.0 77.0	68.1 74.3 76.2 76.6 77.1	69.4 74.9 76.6 76.6 77.4	68.4 73.3 76.0 76.8 77.1
2008 2009 2010 2011 2012 2013 2014	81.1 69.8 70.6 75.3 77.1 76.7 77.2	80.8 69.3 71.0 75.0 77.2 76.9 77.8	80.6 68.1 71.6 75.8 76.6 77.1 78.5	80.1 67.5 72.0 75.5 77.1 77.0 78.5	66.8 73.2 75.6 77.1 77.0 78.7	66.6 73.5 75.7 76.9 77.0 78.9	67.3 73.9 76.0 77.0 76.7 79.0	68.1 74.3 76.4 76.5 77.1 78.8	68.8 74.7 76.2 76.4 77.5 79.0	69.0 74.5 76.6 76.5 77.3 78.9	69.4 74.7 76.5 76.7 77.5 79.4	69.7 75.5 76.8 76.8 77.6 79.3	69.1 71.1 75.4 77.0 76.9 77.8	66.9 72.9 75.6 77.0 77.0 78.7	68.1 74.3 76.2 76.6 77.1 78.9	69.4 74.9 76.6 76.6 77.4 79.2	68.4 73.3 76.0 76.8 77.1 78.7
0008 0009 0010 0011 0012 0013 0014	81.1 69.8 70.6 75.3 77.1 76.7	80.8 69.3 71.0 75.0 77.2 76.9	80.6 68.1 71.6 75.8 76.6 77.1	80.1 67.5 72.0 75.5 77.1 77.0	66.8 73.2 75.6 77.1 77.0	66.6 73.5 75.7 76.9 77.0	67.3 73.9 76.0 77.0 76.7	68.1 74.3 76.4 76.5 77.1	68.8 74.7 76.2 76.4 77.5	69.0 74.5 76.6 76.5 77.3	69.4 74.7 76.5 76.7 77.5	69.7 75.5 76.8 76.8 77.6	69.1 71.1 75.4 77.0 76.9	66.9 72.9 75.6 77.0 77.0	68.1 74.3 76.2 76.6 77.1	69.4 74.9 76.6 76.6 77.4	68.4 73.3 76.0 76.8 77.1 78.7 77.1
008 009 010 011 012 013 014 015 016	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4
008 009 010 011 012 013 014 015 016	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4
008 009 010 011 012 013 014 015 016	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1 76.6 79.2	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4 76.8 79.8	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4 76.4 80.4	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3 76.6 80.4	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3 77.7 80.3	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4 76.6 80.3	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4 76.6 79.7
008 009 010 011 012 013 014 015 016 017 018 019	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0 77.9 80.3	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5 78.2 80.2	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6 75.4 78.6	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2 76.6 79.6	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3 77.9 80.3	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4 76.6 79.7 78.6
0008 0009 0010 0011 0012 0013 0014 0015 0016 0017 0018 0019	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0 75.4 78.2 79.7	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.1 78.6 79.2	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1 75.6 79.0	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1 76.6 79.2 78.7	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4 76.8 79.8 78.7	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5 76.7 79.9 78.2	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4 76.4 80.4 78.7	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3 76.6 80.4 78.5	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3 77.7 80.3 77.7	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0 77.9 80.3 78.1	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5 78.2 80.2 77.8	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6 75.4 78.6 79.3	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2 76.6 79.6 78.7	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4 76.6 80.3 78.5	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3 77.9 80.3 77.9	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4 76.6 79.7 78.6
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0 75.4 78.2 79.7	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.1 78.6 79.2 77.6	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1 75.6 79.0 79.1 74.5	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3 76.4 79.9 78.6 64.6 76.5	66.8 73.2 75.6 77.1 77.0 78.7 77.0 75.1 76.6 79.2 78.7 65.6 77.4	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4 76.8 79.8 78.7 70.0 77.8	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5 76.7 79.9 78.2 72.7 78.4	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4 80.4 78.7 73.4 78.5	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3 76.6 80.4 78.5 73.5 77.8	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3 77.7 80.3 77.7 74.1 78.8	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0 77.9 80.3 78.1 74.6	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5 78.2 80.2 77.8 75.6	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6 75.4 78.6 79.3 76.5	72.9 75.6 77.0 77.0 78.7 77.0 75.2 76.6 79.6 78.7 66.7	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4 76.6 80.3 78.5 73.2	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3 77.9 80.3 77.9 74.8	68.4
2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2020	81.1 69.8 70.6 75.3 77.1 76.7 77.2 78.6 76.0 75.4 78.2 79.7 77.4 76.4	80.8 69.3 71.0 75.0 77.2 76.9 77.8 78.1 75.6 75.1 78.6 79.2 77.6 73.9	80.6 68.1 71.6 75.8 76.6 77.1 78.5 77.8 75.1 75.6 79.0 79.1 74.5 76.2	80.1 67.5 72.0 75.5 77.1 77.0 78.5 77.3 75.3 76.4 79.9 78.6 64.6	73.2 75.6 77.1 77.0 78.7 77.0 75.1 76.6 79.2 78.7 65.6	66.6 73.5 75.7 76.9 77.0 78.9 76.7 75.4 76.8 79.8 78.7 70.0	67.3 73.9 76.0 77.0 76.7 79.0 77.2 75.5 76.7 79.9 78.2 72.7	68.1 74.3 76.4 76.5 77.1 78.8 77.1 75.4 76.4 80.4 78.7 73.4	68.8 74.7 76.2 76.4 77.5 79.0 76.9 75.3 76.6 80.4 78.5 73.5	69.0 74.5 76.6 76.5 77.3 78.9 76.6 75.3 77.7 80.3 77.7 74.1	69.4 74.7 76.5 76.7 77.5 79.4 76.0 75.0 77.9 80.3 78.1 74.6 79.5	69.7 75.5 76.8 76.8 77.6 79.3 75.6 75.5 78.2 80.2 77.8 75.6 79.3	69.1 71.1 75.4 77.0 76.9 77.8 78.2 75.6 75.4 78.6 79.3 76.5 75.5	66.9 72.9 75.6 77.0 77.0 78.7 77.0 75.2 76.6 79.6 78.7 66.7 77.2	68.1 74.3 76.2 76.6 77.1 78.9 77.1 75.4 76.6 80.3 78.5 73.2 78.2	69.4 74.9 76.6 76.6 77.4 79.2 76.1 75.3 77.9 80.3 77.9 74.8 79.2	68.4 73.3 76.0 76.8 77.1 78.7 77.1 75.4 76.6 79.7 78.6 72.8 77.6

<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 1
Seasonally adjusted

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annu
IP (percent																	
hange) <sup>2</sup>																	
2002	.7	.0	.7	.3	.5	1.0	1	.1	.1	3	.5	6	3.6	5.8	3.2	4	
2003 2004	.8	1 .8	.1 .0	8	.1 .7	.4 7	.3 .9	5 .5	.8 .0	.1 .9	.9 .0	1 .8	2.1 2.6	-2.2 3.4	2.5 4.0	4.4	1 3
2004	1	.8	5	.4 .4	.7	.2	4	.5	-1.1	1.4	.0	.8	6.4	2.6	6	5.5 6.1	4
2006	.8	3	.0	.3	2	.3	3	.7	.1	4	.1	1.5	3.9	.7	1.1	1.6	2
2007	3	.3	.8	.6	1	.3	1	3	.3	2	.5	.2	4.7	5.5	.1	1.3	2
2008	2	7	4	-1.0	6	7	-1.1	-1.3	-3.4	6	-2.5	-3.4	-2.0	-8.4	-14.0	-22.0	-4
2009	-3.2	1	-1.8	7	-1.0	2	1.6	1.1	1.0	.1	1.0	2	-24.7	-10.3	9.1	7.1	-13
2010	1.0	1	1.3	.8	1.3	.0	.5	.1	.1	.1	.1	.5	6.6	10.4	4.3	1.6	5
2011	.1	.1	.6	6	.0	.1	.6	.4	.3	.5	2	.7	3.0	2	4.2	3.9	2
2012 2013	.9 2	.4 .4	5 1	.5 3	4 .3	.3 .2	2 8	1 .9	2 .1	2 .1	.6 .0	.7 2	5.5 2.8	.5 .1	-1.2 .2	1.0 1.6	2
2014	-1.1	.9	.9	.0	.3	.3	.4	6	.0	1	.7	2	-1.1	4.8	1.4	.3	]
2015	6	8	.4	.0	.0	4	.7	3	3	1	3	3	-3.4	6	.8	-2.7	
2016	.4	4	1	2	1	.2	.0	3	.2	.1	1	.0	6	-1.2	.0	.5	-
2017	.2	1	4	1.1	1	.0	4	2	.0	1.1	.1	2	1	3.0	-2.0	4.0	
2018 2019	4 9	1.0 5	1 3	.7 6	9 .0	.6 .4	.0 7	.3 .7	.0 6	5 9	3 .9	.3 .1	.4 -4.6	2.3 -3.2	1.6 6	-1.7 -2.1	-2
2019	9	5 .2	3 -4.6	-15.5	4.4	7.7	3.6	1.5	0	9	.6	.6	-4.6 -5.0	-3.2 -44.0	53.9	-2.1 8.0	
2021	1.0	-3.9	3.0	.1	1.1	1	1.0	3	9	1.3	.9	1	1	5.9	3.4	4.9	5
2022	6	1.2	.8	.1	4	4	.2	.2	.2	.1	7	-2.1	3.0	2.7	.1	-3.3	2
2023	1.7	.3	8	.9	2	7	.4	1	.1	8	.4	.1	2	.4	7	-1.9	-
2024	5																
<b>P</b> (2017=100)	00.7	00.0	100.6	100.0	100.4	100.0	100.2	100.4	100 (	100.0	100.0	07.0	00.7	100.4	100.4	00.6	100
2022 2023	98.7 99.5	99.8 99.9	100.6 99.1	100.8	100.4 99.8	100.0 99.1	100.2 99.5	100.4 99.4	100.6 99.5	100.8 98.7	100.0 99.1	97.9 99.1	99.7 99.5	100.4 99.6	100.4 99.4	99.6 98.9	100
2024	98.6	99.9	99.1	99.9	99.0	99.1	99.3	99.4	99.3	90.7	99.1	99.1	99.3	99.0	99.4	90.9	99
Capacity (percent of 2017 output)																	
2022	125.9	125.9	126.0	126.1	126.1	126.2	126.3	126.4	126.6	126.7	126.8	126.9	125.9	126.1	126.4	126.8	126
2023 2024	127.1 128.8	127.2	127.3	127.5	127.6	127.8	127.9	128.0	128.2	128.3	128.5	128.6	127.2	127.6	128.0	128.5	127
Utilization																	
(percent)																	
2002	72.1		70 F	70 (	<b>70.0</b>	72.7	72 (	73.6	73.7	73.5	72.0	72.4		73.1	<b>50</b> (	70 f	73
2003	72.1	72.0	72.5	72.6	73.0	73.7	73.6	15.0	,		73.8	73.4	72.2	13.1	73.6	73.5	, , ,
	74.0	73.9	74.0	73.4	73.5	73.8	74.1	73.7	74.4	74.5	75.1	75.1	73.9	73.6	74.1	74.9	74
2004	74.0 75.1	73.9 75.7	74.0 75.7	73.4 76.0	73.5 76.5	73.8 76.0	74.1 76.7	73.7 77.0	74.4 77.0	74.5 77.7	75.1 77.6	75.1 78.1	73.9 75.5	73.6 76.2	74.1 76.9	74.9 77.8	74
2004 2005	74.0	73.9	74.0	73.4	73.5	73.8	74.1	73.7	74.4	74.5	75.1	75.1	73.9	73.6	74.1	74.9	74 76 78
2004 2005 2006	74.0 75.1 78.5 79.5	73.9 75.7 79.0 79.2	74.0 75.7 78.5 79.0	73.4 76.0 78.7 79.1	73.5 76.5 78.8 78.8	73.8 76.0 78.8 78.9	74.1 76.7 78.4 78.5	73.7 77.0 78.6 78.9	74.4 77.0 77.6 78.8	74.5 77.7 78.6 78.3	75.1 77.6 79.1 78.2	75.1 78.1 79.0 79.2	73.9 75.5 78.7 79.2	73.6 76.2 78.8 79.0	74.1 76.9 78.2 78.8	74.9 77.8 78.9 78.6	74 76 78 78
2004 2005 2006	74.0 75.1 78.5 79.5 78.7	73.9 75.7 79.0 79.2 78.8	74.0 75.7 78.5 79.0 79.2	73.4 76.0 78.7 79.1 79.5	73.5 76.5 78.8 78.8 79.3	73.8 76.0 78.8 78.9 79.3	74.1 76.7 78.4 78.5 79.1	73.7 77.0 78.6 78.9	74.4 77.0 77.6 78.8 78.8	74.5 77.7 78.6 78.3 78.5	75.1 77.6 79.1 78.2 78.8	75.1 78.1 79.0 79.2 78.9	73.9 75.5 78.7 79.2 78.9	73.6 76.2 78.8 79.0 79.4	74.1 76.9 78.2 78.8 78.9	74.9 77.8 78.9 78.6 78.8	74 76 78 78
004 005 006 007 008	74.0 75.1 78.5 79.5	73.9 75.7 79.0 79.2	74.0 75.7 78.5 79.0	73.4 76.0 78.7 79.1	73.5 76.5 78.8 78.8	73.8 76.0 78.8 78.9	74.1 76.7 78.4 78.5	73.7 77.0 78.6 78.9	74.4 77.0 77.6 78.8	74.5 77.7 78.6 78.3	75.1 77.6 79.1 78.2	75.1 78.1 79.0 79.2	73.9 75.5 78.7 79.2	73.6 76.2 78.8 79.0	74.1 76.9 78.2 78.8	74.9 77.8 78.9 78.6	74 76 78 79
004 005 006 007 008 009 010	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7	74.0 75.7 78.5 79.0 79.2 77.8	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4	74.1 76.7 78.4 78.5 79.1 75.4	73.7 77.0 78.6 78.9 78.7 74.5	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7	75.1 78.1 79.0 79.2 78.9 67.7	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0	73.6 76.2 78.8 79.0 79.4 76.6	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1	74.9 77.8 78.9 78.6 78.8 69.8	74 70 78 78 79 74
004 005 006 007 008 009 010	74.0 75.1 78.5 79.5 78.7 78.7 65.6	73.9 75.7 79.0 79.2 78.8 78.2 65.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4	73.4 76.0 78.7 79.1 79.5 77.1 64.1	73.5 76.5 78.8 78.8 79.3 76.7 63.5	73.8 76.0 78.8 78.9 79.3 76.2 63.4	74.1 76.7 78.4 78.5 79.1 75.4 64.5	73.7 77.0 78.6 78.9 78.7 74.5 65.3	74.4 77.0 77.6 78.8 78.8 72.0 66.1	74.5 77.7 78.6 78.3 78.5 71.6 66.2	75.1 77.6 79.1 78.2 78.8 69.9 66.9	75.1 78.1 79.0 79.2 78.9 67.7 66.9	73.9 75.5 78.7 79.2 78.9 78.2 65.2	73.6 76.2 78.8 79.0 79.4 76.6 63.7	74.1 76.9 78.2 78.8 78.9 74.0 65.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7	72 76 78 78 79 72 65 70
004 005 006 007 008 009 010 011	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9	74 76 78 78 79 74 65 70
004 005 006 007 008 009 010 011 012 013	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9	74 76 75 75 74 74 6. 70 74
0004 0005 0006 0007 0008 0009 0010 0011 0012 0013	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 74.4 75.3	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 76.7	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 76.6	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7	74 76 78 78 79 74 65 70 74 74
004 005 006 007 008 009 010 011 012 013 014 015	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9	7. 7. 7. 7. 7. 7. 6. 7. 7. 7.
004 005 006 007 008 009 010 011 012 013 014 015 016	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 74.4 75.3 76.1 75.5	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3 75.6 76.2 75.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.9 75.3	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 76.6 75.7	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 76.4 75.9	7. 7. 7. 7. 7. 6. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.
004 005 006 007 008 009 010 011 012 013 014 015 016	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7 75.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 75.3 76.1 75.5	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3 75.6 76.2 75.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0 75.4	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3 76.3 78.8	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.9 75.3	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 75.7 75.4 77.3	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0 75.7	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4 76.3 78.3	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 76.4 75.9 75.4 77.3 78.4	7. 77 77 77 76 77 77 77 77
004 005 006 007 008 009 010 011 012 013 014 015 016 017	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7 75.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 75.3 76.1 75.5 75.3 77.9 77.3	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4 76.3 78.5 76.9	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3 75.6 76.2 75.3 76.3 77.9	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0 75.4 76.4 78.4 77.3	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4 76.2 78.5 76.8	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1 76.2 78.8 77.4	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3 78.8 76.9	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4 77.2 78.5 76.2	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.9 75.3 77.4 78.3 76.9	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 75.4 77.3 78.5 77.1	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0 75.7 75.5 77.6	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4 76.3 78.3 77.1	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3 76.2 78.7 77.1	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 76.4 75.9 75.4 77.3 78.4 76.7	7.7777.
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7 75.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 75.3 76.1 75.5	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3 75.6 76.2 75.3	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0 75.4	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3 76.3 78.8	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.9 75.3	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 75.7 75.4 77.3	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0 75.7	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4 76.3 78.3	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 76.4 75.9 75.4 77.3 78.4	7. 7. 7. 7. 7. 6. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2019 2019 2020	74.0 75.1 78.5 79.5 78.7 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0 75.5 77.1 77.9 76.9	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7 75.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 75.3 76.1 75.5 75.3 77.9 77.3 73.6 76.0	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 74.3 75.6 76.2 75.3 76.3 77.9 77.0 65.0	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0 75.4 76.4 78.4 77.1	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4 76.2 78.5 76.8 72.7 78.0	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1 76.2 78.8 77.8	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3 76.3 78.8 76.9 77.1	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4 77.2 78.5 76.2 74.6 78.2	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.3 77.4 78.3 76.9 75.2 78.9	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 75.7 75.4 77.3 78.5 77.1 75.7 78.8	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0 75.7 75.5 77.6 77.6 75.9 75.4	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4 76.3 78.3 77.1 65.8 76.8	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3 76.2 78.7 77.1 73.5 77.6	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 75.4 75.9 75.4 77.3 78.4 76.7 75.2 78.6	7.777.77.77.77.77.77.77.77.77.77.77.77.
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023	74.0 75.1 78.5 79.5 78.7 65.6 67.7 72.2 74.7 74.2 73.9 76.2 76.0	73.9 75.7 79.0 79.2 78.8 78.2 65.6 67.7 72.4 74.9 74.5 74.6 75.7 75.6	74.0 75.7 78.5 79.0 79.2 77.8 64.4 68.7 72.9 74.4 75.3 76.1 75.5 75.3 77.9 77.3	73.4 76.0 78.7 79.1 79.5 77.1 64.1 69.3 72.6 74.7 74.1 75.3 76.2 75.4 76.3 78.5 76.9 62.2	73.5 76.5 78.8 78.8 79.3 76.7 63.5 70.3 72.6 74.3 75.6 76.2 75.3 76.3 77.9 77.0 65.0	73.8 76.0 78.8 78.9 79.3 76.2 63.4 70.4 72.7 74.5 74.5 75.9 76.0 75.4 76.4 78.4 77.3	74.1 76.7 78.4 78.5 79.1 75.4 64.5 70.9 73.1 74.2 73.9 76.3 76.6 75.4 76.2 78.5 76.8 72.7	73.7 77.0 78.6 78.9 78.7 74.5 65.3 71.1 73.4 74.1 74.5 76.0 76.4 75.1 76.2 78.8 77.4 73.8	74.4 77.0 77.6 78.8 78.8 72.0 66.1 71.3 73.5 73.8 74.6 76.1 76.2 75.3 76.3 78.8 76.9	74.5 77.7 78.6 78.3 78.5 71.6 66.2 71.5 73.9 73.6 74.7 76.0 76.1 75.4 77.2 78.5 76.2 74.6	75.1 77.6 79.1 78.2 78.8 69.9 66.9 71.7 73.7 74.0 74.7 75.9 75.3 77.4 78.3 76.9 75.2	75.1 78.1 79.0 79.2 78.9 67.7 66.9 72.1 74.1 74.5 74.6 76.6 75.7 75.4 77.3 78.5 77.1	73.9 75.5 78.7 79.2 78.9 78.2 65.2 68.0 72.5 74.7 74.4 74.6 76.0 75.7 75.5 77.6 77.6	73.6 76.2 78.8 79.0 79.4 76.6 63.7 70.0 72.6 74.5 74.3 75.6 76.1 75.4 76.3 78.3 77.1 65.8	74.1 76.9 78.2 78.8 78.9 74.0 65.3 71.1 73.3 74.0 74.4 76.1 76.4 75.3 76.2 78.7 77.1	74.9 77.8 78.9 78.6 78.8 69.8 66.7 71.8 73.9 74.0 74.7 76.4 75.9 75.4 77.3 78.4 76.7	74 76 78

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>																	
2002	.8	1	.7	.5	.4	.8	1	2	.1	3	.5	6	2.7	6.0	1.9	8	.3
2003	.8	1	4	8	2	.0	.3	4	.6	.0	.6	.0	1.5	-4.6	.8	2.6	.2
2004	.1	.6 .6	4 2	.4	.7	8	.8	.0	.1 -2.2	.9 1.2	.2	.7	1.9	2.2	2.0 -2.9	5.3	1.8
2005 2006	.1	.0	.2	.1	1	.4	4 1	.2	-2.2	1	1.1 1	1.0	3.3	1.7	-2.9	2.5	2.6
2000		.0										1.0	0.0	117	.0		111
2007	4	.9	.0	.5	.1	.1	2	.1	.1	5	.4	1	3.3	3.8	.3	5	1.8
2008	2	5	5 -1.7	8	7 -1.1	3	4	-1.6	-4.5	1.2	-1.1	-2.7	-2.3	-6.9	-12.5	-14.9	-4.3
2009 2010	-2.5 1.0	7 .2	-1.7 .6	9 .3	1.4	3 .2	1.2	1.1	.8 .3	.2 3	.3	.3 .9	-20.6 6.7	-11.5 7.4	6.7 5.1	5.8 1.1	-11.4 4.9
2011	3	5	1.1	4	.1	.3	.5	.6	1	.7	.0	.5	1.6	1.6	4.4	4.2	2.8
2012				_	_		_			2		2	2.5	2.1	_		2.0
2012 2013	.6 .0	.3 .5	6 .4	.7 2	.2 .1	.0 .2	.2 4	4 .6	1 .5	.3 2	.4 .2	.3 .2	3.7 3.0	2.1 1.4	2 1.3	1.7 2.5	2.8 1.8
2014	4	.7	1.0	.0	.4	.3	.2	2	.3	.0	.6	.0	2.6	5.3	2.2	2.3	2.8
2015	8	7	3	6	5	3	.7	2	3	5	7	5	-4.5	-5.7	.3	-5.5	-1.5
2016	.5	6	8	.3	2	.5	.1	1	2	.0	4	.7	-2.9	-1.7	.8	7	-2.4
2017	2	1	6	.9	1	.2	2	1	.1	1.2	.2	2	.2	5.5	-1.2	5.5	1.1
2017	2 1	4 .4	.6 .5	1.1	.1 -1.0	.8	2	4 .7	.0	2	.1	.2	2.2	4.6	3.1	5.5	3.0
2019	6	6	.0	6	.2	.1	5	.7	2	9	.5	3	-3.9	-2.5	.1	-2.3	8
2020	5	.3	-4.0	-13.6	1.7	6.6	3.8	.9	1	.6	.4	1.2	-6.4	-42.8	44.1	6.2	-7.4
2021	.8	-3.5	2.9	.1	.9	.4	.7	.0	-1.1	1.3	.9	3	1.2	6.2	3.5	4.1	4.3
2022	.1	.6	.8	.3	.0	1	.4	.1	.3	1	4	-1.5	3.8	4.2	2.0	-2.5	3.4
2023	1.1	.0	.1	.4	2	6	.9	1	.1	9	.3	.0	2	.3	1.4	-2.6	.1
2024	1																
<b>IP</b> (2017=100)																	
2022	100.5	101.1	101.9	102.3	102.3	102.1	102.6	102.7	103.0	102.8	102.5	100.9	101.2	102.2	102.7	102.1	102.1
2023	102.0	102.0	102.1	102.5	102.3	101.6	102.5	102.4	102.5	101.6	101.9	101.9	102.0	102.1	102.5	101.8	102.1
2024	101.8																
Capacity																	
(percent of																	
2017 output)																	
2022 2023	126.4 127.8	126.4 128.0	126.5 128.1	126.6 128.3	126.7 128.4	126.8 128.6	126.9 128.7	127.1 128.8	127.2 128.9	127.4 129.1	127.5 129.2	127.7 129.3	126.4 128.0	126.7 128.4	127.1 128.8	127.5 129.2	126.9 128.6
2023	127.8	126.0	120.1	120.3	120.4	126.0	120.7	120.0	126.9	129.1	129.2	129.3	120.0	120.4	120.0	129.2	126.0
Utilization																	
(percent) 2002	75.3	75.2	75.7	76.0	76.3	76.9	76.9	76.7	76.8	76.6	77.1	76.6	75.4	76.4	76.8	76.8	76.4
2003	77.3	77.3	77.1	76.5	76.5	76.5	76.8	76.5	77.0	77.0	77.5	77.5	77.2	76.5	76.8	77.4	77.0
2004	77.6	78.1	77.8	78.1	78.7	78.1	78.8	78.8	78.9	79.6	79.8	80.4	77.8	78.3	78.8	79.9	78.7
2005	80.6	81.0	80.9	80.9	80.9	81.1	80.7	80.8	79.0	79.8	80.6	80.8	80.8	81.0	80.2	80.4	80.6
2006	80.8	80.7	80.7	80.8	80.6	80.7	80.5	80.7	80.3	80.0	79.8	80.5	80.7	80.7	80.5	80.1	80.5
2007	80.1	80.7	80.6	81.0	81.0	81.1	81.0	81.1	81.3	80.9	81.3	81.3	80.5	81.0	81.1	81.2	81.0
2008	81.2	80.9	80.5	80.0	79.4	79.2	78.8	77.5	73.9	74.7	73.8	71.6	80.9	79.5	76.8	73.4	77.6
2009	69.7	69.2	67.9	67.3	66.5	66.3	67.1	67.9	68.6	68.8	69.2	69.5	68.9	66.7	67.9	69.2	68.2
2010	70.4	70.7	71.3	71.8	72.9	73.3	73.7	74.1	74.4	74.3	74.4	75.2	70.8	72.7	74.1	74.7	73.0
2011	75.1	74.8	75.6	75.4	75.5	75.7	76.0	76.4	76.2	76.7	76.6	76.9	75.2	75.5	76.2	76.7	75.9
2012	77.2	77.3	76.8	77.2	77.2	77.1	77.1	76.7	76.5	76.6	76.8	77.0	77.1	77.1	76.8	76.8	77.0
2013	76.9	77.2	77.4	77.2	77.2	77.3	76.9	77.4	77.7	77.6	77.7	77.8	77.1	77.2	77.3	77.7	77.4
2014	77.5	78.0	78.8	78.7	79.0	79.1	79.2	79.0	79.2	79.1	79.5	79.5	78.1	78.9	79.1	79.4	78.9
2015 2016	78.8 76.2	78.2 75.8	77.9 75.2	77.4 75.4	77.1 75.2	76.8 75.6	77.3 75.6	77.2 75.6	77.0 75.4	76.7 75.4	76.2 75.1	75.8 75.6	78.3 75.7	77.1 75.4	77.2 75.5	76.2 75.4	77.2 75.5
2010	70.2	13.0	10.4	75.4	13.2	13.0	75.0	15.0	75.7	75.4	75.1	13.0	'3.7	75.4	15.5	75.4	75.5
l l	755	75.2	75.7	76.5	76.6	76.8	76.7	76.5	76.6	77.7	77.9	78.1	75.5	76.6	76.6	77.9	76.7
2017	75.5	70.7		79.9	79.2	79.8	79.9	80.4	80.5 78.5	80.3 77.7	80.3 78.1	80.3 77.8	78.6 79.4	79.6 78.7	80.3	80.3 77.9	79.7
2018	78.2	78.5	79.0			707	70.2					//X	1 /94				78.6
2018 2019	78.2 79.7	79.2	79.2	78.6	78.7	78.7 69.9	78.3 72.7	78.8 73.5							78.5 73.2		72.8
2018	78.2					78.7 69.9 77.8	78.3 72.7 78.4	78.8 73.5 78.6	73.5 77.8	74.1 78.8	74.6 79.6	75.6 79.4	76.5 75.5	66.6 77.2	73.2 78.3	74.8 79.3	72.8 77.6
2018 2019 2020 2021	78.2 79.7 77.4 76.4	79.2 77.6 73.9	79.2 74.5 76.2	78.6 64.4 76.5	78.7 65.5 77.3	69.9 77.8	72.7 78.4	73.5 78.6	73.5 77.8	74.1 78.8	74.6 79.6	75.6 79.4	76.5 75.5	66.6 77.2	73.2 78.3	74.8 79.3	77.6
2018 2019 2020 2021 2022	78.2 79.7 77.4 76.4 79.5	79.2 77.6 73.9 80.0	79.2 74.5 76.2 80.6	78.6 64.4 76.5 80.8	78.7 65.5 77.3 80.7	69.9 77.8 80.6	72.7 78.4 80.8	73.5 78.6 80.8	73.5 77.8 80.9	74.1 78.8 80.7	74.6 79.6 80.4	75.6 79.4 79.0	76.5 75.5 80.0	66.6 77.2 80.7	73.2 78.3 80.9	74.8 79.3 80.1	77.6 80.4
2018 2019 2020 2021	78.2 79.7 77.4 76.4	79.2 77.6 73.9	79.2 74.5 76.2	78.6 64.4 76.5	78.7 65.5 77.3	69.9 77.8	72.7 78.4	73.5 78.6	73.5 77.8	74.1 78.8	74.6 79.6	75.6 79.4	76.5 75.5	66.6 77.2	73.2 78.3	74.8 79.3	77.6

<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<sup>2</sup>

Seasonally adjusted Year Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Q1 Q2 Q3 Q4 Annual IP (percent change)3 2002 2.6 -1.1 .4 -.7 3.4 -.9 .4 2003 .7 -.3 .7 -.1 .7 .3 -.1 .9 -.2 .7 .8 1.5 .0. .0 .1 -.7 .7 .8 -4.22.7 9 - 1 49 2.0 2004 - 1 4 -.1 33 3.8 2005 .5 .3 .2 -.5 .4 -1.4 1.4 .8 .0 5.1 1.4 -2.1 4.7 3.1 .7 -.6 2006 .8 .2 1.5 3.2 1.5 -.4 .6 .0 .6 .0 2007 2 0 5 3 3 7 43 0 -10 1.8 - 4 6 4 - 1 - 4 - 1 - 4 2008 -.3 -.9 -.6 1.2 -.7 -.8 -1.01.3 -3.5 -.4 -2.3-3.2 -3.9-9.8 14.1 20.8 -5.9 -3.3 2009 -.2 -2.0 1.2 1.0 .9 -.2 -24.8 8.9 -13.9 -.8 -1.1 -.3 1.6 .0 -11.5 6.4 9.6 2010 .9 .8 .0 0. 0. .4 5.0 3.8 .9 5.1 1.2 1.3 .5 .1 .0 2.2 4.0 3.9 2.5 2011 .0 .1 .7 -.6 .0 .6 .4 .3 .6 -.2 .6 -.3 2012 .8 -.3 5.0 -1.5 2.3 -.6 2013 -.3 .4 -.1 -.4 .3 .2 -.9 .9 .1 .1 -.1 -.2 2.6 -.4 1.3 .5 -.4 2014 1.1 .9 1.2 .9 -.1 .2 .3 .4 -.6 .0 -.1 .7 -.2 -1.4 4.3 .8 2015 .0 -.2 .9 -.7 -.8 .4 -.3 -.3 -.3 -3.6-2.8 -.6 -.1 -.4 .8 -.1 -.8 .2 .0 2016 .4 .0 -.4 -.1 -.4 -1.0-.4 -.1 -.2 -.1 .1 .1 -.8 -1.4-.1 2017 1.1 1.0 -.3 -.1 2.7 -2.1 3.7 2018 -.4 -.9 .0 .0 .3 2.1 1.1 .7 -.2 1.1 -1.7 1.1 -.1 .6 -.9 .8 2019 -.7 .7 -1.0 .1 -5.0 -3.4 -2.3 -2.2 -.5 -.3 -.6 .1 -.6 -.8 .4 2020 48 15.9 7.9 44.7 - 2. 2 4.6 3.6 1.5 .0 .8 .6 .6 -5.1 55 5 7.7 -6.8 2021 1.0 -4.1 3.1 .0 1.1 .0 1.1 -.3 -.9 1.4 .8 .0 -.5 5.5 3.8 4.8 4.8 2022 -.6 1.2 .8 .2 -.4 -.5 .2 .2 .2 .2 -.8 -2.1 3.0 2.8 -.1 -3.4 2.7 2023 -2.3 1.7 .9 .8 -.2 -.7 .4 -.1 -.9 -.2 -1.0 -.8 2024 -.6 **IP** (2017=100) 2022 97.9 99.0 99.9 100.0 99.6 99.2 99.4 99.6 99.8 99.9 99.2 97.1 98.9 99.6 99.6 98.7 99.2 2023 98.8 99.1 98.2 99.0 98.8 98.5 98.3 98.4 97.6 97.9 98.7 98.6 97.8 98.4 98.1 98.0 98.4 97.4 2024 Capacity (percent of 2017 output) 2022 124.8 124.9 124.9 125.0 125.0 125.1 125.2 125.3 125.4 125.5 125.6 125.7 124.9 125.0 125.3 125.6 125.2 2023 125.8 125.9 126.0 126.1 126.2 126.5 126.6 126.7 126.8 126.9 125.9 126.2 126.6 126.9 126.4 127.0 126.4 2024 127.2 Utilization (percent) 2002 73.4 73.3 73.8 75.1 75.0 75.0 74.8 73.5 74.5 75.1 75.0 74.5 2003 75.4 75.2 75.2 74.5 74.5 74.7 74.4 75.0 75.0 75.7 75.6 75.2 74.6 75.4 75.0 74.9 74.8 75.5 2004 76.0 76.0 76.4 77.0 76.4 77.2 77.5 77.5 78.2 78.1 78.7 75.8 76.6 77.4 78.3 77.1 79.2 2005 79.0 79.5 79.0 79.2 79.3 793 78.8 79.0 77.8 78.7 79 2 79.1 79.2 78.5 79.0 79.0 2006 79.6 79.2 79.0 79.1 78.7 78.7 78.3 78.7 78.5 78.0 77.9 79.0 79.2 78.8 78.5 78.3 78.7 78.5 79.1 79.2 79.5 79.2 79.0 79.0 79.1 2007 78.7 793 79.6 79 1 78.8 78.8 79.4 79 2 78 9 2008 78.8 77.6 76.2 75.6 74.9 74.0 71.4 71.2 69.6 67.4 78.1 76.2 73.4 69.4 74.3 78.1 76.7 65.3 65.2 64.0 63.6 63.0 62.9 64.1 64 9 65.7 65.8 66.6 66.5 64.8 63.2 64 9 66.3 64.8 2010 67.3 67.2 68.2 68.869.9 70.0 70.5 70.7 70.9 71.1 71.2 71.6 67.5 69.6 70.7 71.3 69.8 2011 71.8 72.0 72.6 72.5 72.9 74.1 72.1 72.3 72.9 72.3 72.3 73.2 73.5 73.9 73.7 73.2 73.9 2012 74 7 75.0 74.5 74 5 74 3 74 2 73 9 73.7 74 6 74 1 74 4 74 8 744 74 1 747 74.5 74 1 2013 74.6 74.6 74.8 74.6 74.6 74 4 747 74 3 74 9 75.0 75.0 749 74 5 75.0 74 7 74 7 74 1 2014 74.1 74.9 75.6 75.6 75.8 76.1 76.5 76.1 76.2 76.2 76.8 76.7 74.8 75.8 76.3 76.6 75.9 2015 76.4 75.8 76.2 76.3 76.3 76.1 76.7 76.6 76.4 76.3 76.1 75.9 76.1 76.2 76.6 76.1 76.3 2016 76.1 75.8 75.7 75.6 75.5 75.6 75.6 75.3 75.4 75.5 75.4 75.5 75.9 75.6 75.5 75.5 75.6 2017 76.3 75.7 76.3 76.3 76.4 76.3 76.2 76.3 77.2 77.4 77.2 76.4 77.3 76.4 2018 77.0 77.9 77.9 78.5 77.8 78.4 78.4 78.7 78.8 78.4 78.3 78.6 77.6 78.2 78.6 78.4 78.2 2019 77.9 77.5 77.3 76.9 77.0 77.3 76.8 77.4 76.2 77.0 77.6 77.1 77.0 76.7 77.1 76.9 76.9 2020 76.9 61.9 72.5 77.2 73.6 64.8 70.0 72.7 73.9 74.0 74.6 75.2 75.7 75.9 65.6 73.5 75.2 2021 76.6 73.6 76.0 76.1 77.0 77.178.0 77.877.178.278.9 78.9 75.4 76.7 77.678.7 77.1 2022 78.4 79.3 79.9 80.1 79.7 79.3 79.4 79.5 79.6 79.7 79.0 77.2 79.2 79.7 79.5 78.6 79.3 2023 78.5 78.7 77.9 78.5 78.3 77.6 77.9 76.9 77.2 77.2 78.4 78.1 77.8 77.7 77.7 77.7 77.1 2024 76.6

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

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

<sup>3.</sup> Quarterly percentage changes are at annual rates. Annual percentage changes are calculated from annual averages.

Table 15
INDUSTRIAL PRODUCTION: RELIABILITY ESTIMATES
Seasonally adjusted Annualized

	Annua										_			
	cha	nge	2017=100						Percent change					
	2023		2023					2024	2023					2024
Item	Q3	Q4	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total index														
85th percentile	1.56	-1.51	103.11	103.26	102.48	102.86	103.01	102.98	07	.14	71	.45	.30	.22
Current estimate	1.48	-2.30	103.11	103.21	102.37	102.67	102.67	102.57	07	.09	81	.29	.00	10
15th percentile	1.42	-3.00	103.11	103.16	102.27	102.49	102.39	102.14	07	.04	91	.17	24	46
Manufacturing (SIC)														
85th percentile	61	-1.29	99.35	99.53	98.77	99.25	99.42	99.00	10	.17	72	.51	.27	25
Current estimate	70	-1.89	99.35	99.46	98.66	99.05	99.14	98.61	10	.11	81	.40	.09	53
15th percentile	77	-2.68	99.35	99.41	98.54	98.83	98.84	98.09	10	.05	92	.26	09	85
Mining														
85th percentile	4.12	.93	119.35	120.50	119.80	119.64	121.43	118.83	54	.96	47	.11	1.80	-1.40
Current estimate	3.98	-1.14	119.35	120.36	119.47	119.09	120.12	117.30	54	.84	74	31	.86	-2.34
15th percentile	3.77	-3.29	119.35	120.19	119.09	118.49	118.85	115.59	54	.71	-1.03	70	.12	-3.28
Electric and gas utilities														
85th percentile	15.53	-3.15	107.72	106.72	105.79	106.65	106.22	112.54	.70	93	86	.90	.08	7.84
Current estimate	15.51	-6.50	107.72	106.71	105.72	106.06	104.26	110.46	.70	94	92	.32	-1.70	5.95
15th percentile	15.50	-8.37	107.72	106.69	105.64	105.85	102.99	109.23	.70	96	-1.01	.10	-3.12	4.21

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 76 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 86 percent for estimates in the second month that the estimate is published, 94 percent in the third month, 98 percent in the fourth month, 98 percent in the fifth month, and 98 percent in the sixth month. Data availability by data type in 2022 is summarized in the table below:

**Availability of Monthly IP Data in Publication Window** (Percent of value added in 2022; the numbers may not sum because of rounding.)

	Month of estimate									
Type of data	1st	2nd	3rd	4th	5th	6th				
Physical product	35	44	53	56	57	57				
Production-worker hours	42	42	42	42	42	42				
IP data received	76	86	94	98	98	98				
IP data estimated	24	14	6	2	2	2				

The physical product group includes series based on either monthly or quarterly data. As can be seen in the first row of the table, in the first month, a physical product indicator is available for more than one-half of the series (in terms of value added) that ultimately are based on physical product data (35 percent out of a total of 57 percent). Of the 35 percent, about two-thirds (24 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 February 2023; for other series, the factors were estimated with data through at least December 2022. 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

0.30 percent during the 1987–2022 period. The average revision to the percent change in total IP, without regard to sign, from the first to the fourth estimates was 0.24 percentage point during the 1987–2022 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 26 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 64 percent of total industry capacity. In the absence of utilization data for a few mining and petroleum series, capacity is based on trends through peaks in production (roughly 10 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the

Board's website (www.federalreserve.gov/releases/G17/Meth/MethCap.htm).

Aggregation Methodology. Monthly capacity aggregates are calculated in three steps: (1) utilization aggregates are calculated on an annual basis through the most recent full year as capacity-weighted aggregates of individual utilization rates; (2) the annual aggregate capacity is derived from the corresponding production and utilization aggregates; (3) the monthly capacity aggregate is obtained by interpolating with a Fisher index of its constituent monthly capacity series. Utilization rates for the individual series and aggregates are calculated by dividing the pertinent monthly production index by the related capacity index.

Consistency. A major aim is that the Federal Reserve utilization rates be consistent over time so that, for example, a rate of 85 percent means about the same degree of tightness that it meant in the past. A major task for the Federal Reserve in developing reasonable and consistent time series of capacity and utilization is dealing with

inconsistencies between the movements of the industrial production index and the survey-based utilization rates. The McGraw-Hill/DRI Survey, now discontinued, was the primary source of manufacturing utilization rates for many years. This survey of large companies reported, on average, higher utilization rates than those reported by establishments covered by the annual Survey of Plant Capacity (the primary source of factory operating rates through 2006, after which it was discontinued) for the fourteen years they overlapped. Adjustments have been made to keep the industry utilization rates currently reported by the Federal Reserve (now based on the QSPC) roughly in line with rates formerly reported by McGraw-Hill. As a consequence, the rates reported by the Federal Reserve tend to be higher than the rates reported in the Census utilization surveys.

**Perspective.** Over the 1972–2022 period, the average total industry utilization rate was 79.7 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 March 28, 2023, 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:

2024: January 17, February 15, March 15, April 16, May 16, June 18, July 17, August 15, September 17, October 17, November 15, December 17.

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