FEDERAL RESERVE statistical release



G.17 (419)

For release at 9:15 a.m. (EDT) July 15, 2020

Percent change

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Total industrial production rose 5.4 percent in June after increasing 1.4 percent in May; even so, it remained 10.9 percent below its pre-pandemic February level. For the second quarter as a whole, the index fell 42.6 percent at an annual rate, its largest quarterly decrease since the industrial sector retrenched after

(over)

Industrial Production and Capacity Utilization: Summary

Seasonally adjusted

	2020						2020						June '19 to
Industrial production	Jan. ^r	Feb. ^r	Mar. ^r	Apr.r	May	June ^p	Jan. ^r	Feb.r	Mar. ^r	Apr.r	May	June ^p	June '20
Total index	109.2	109.3	104.5	91.2	92.5	97.5	4	.1	-4.4	-12.7	1.4	5.4	-10.8
Previous estimates	109.2	109.4	104.4	91.3	92.6		4	.1	-4.6	-12.5	1.4		
Major market groups													
Final Products	101.9	102.7	96.7	82.0	85.2	92.9	-1.4	.8	-5.9	-15.3	3.9	9.1	-10.2
Consumer goods	104.6	105.8	99.9	87.2	90.2	98.3	9	1.2	-5.5	-12.7	3.4	9.0	-6.8
Business equipment	98.4	98.0	90.3	69.2	74.3	83.1	-2.8	4	-7.9	-23.4	7.4	11.8	-18.2
Nonindustrial supplies	109.5	109.8	104.5	92.0	93.7	96.5	.8	.3	-4.8	-11.9	1.8	3.0	-10.7
Construction	120.4	120.2	115.3	101.4	104.2	105.5	2.4	2	-4.1	-12.0	2.7	1.3	-9.8
Materials	115.3	114.7	111.1	99.1	98.3	101.4	.0	5	-3.1	-10.8	8	3.1	-11.4
Major industry groups								_					
Manufacturing (see note below)	105.0	104.9	99.6	83.8	87.0	93.3	1	.0	-5.1	-15.9	3.8	7.2	-11.2
Previous estimates	105.0	105.0	99.4	84.0	87.2		1	.0	-5.3	-15.5	3.8		
Mining	135.2	133.2	130.7	121.7	114.4	111.0	1.0	-1.5	-1.9	-6.8	-6.1	-2.9	-16.9
Utilities	98.6	102.2	99.1	101.0	97.4	101.5	-4.7	3.6	-3.1	1.9	-3.5	4.2	.6
					Damaa	nt of som	a aitre						Capacity
	Avianaga	1988-	1990-	1994-	Perce	nt of cap	acity						growth
	Average 1972-	89	91	95	2009	2019	2020						June '19 to
Capacity utilization	2019	high	low	high	low	June	Jan. ^r	Feb. ^r	Mar. ^r	Apr. ^r	May	June ^p	June '20
Capacity utilization	2019	IIIgii	IOW	IIIgii	IOW	Julie	Jaii.	reu.	iviai.	Apr.	Iviay	Julie	Julie 20
Total industry	79.8	85.1	78.8	85.0	66.7	77.7	76.9	76.9	73.5	64.2	65.1	68.6	1.0
Previous estimates	77.0	03.1	70.0	05.0	00.7	'''	76.8	76.8	73.2	64.0	64.8	00.0	1.0
1 revious estimates							70.0	70.0	73.2	01.0	01.0		
Manufacturing (see note below)	78.2	85.5	77.3	84.6	63.7	75.7	75.2	75.2	71.3	60.0	62.3	66.9	.6
Previous estimates	70.2	03.5	77.5	0 1.0	05.7	/5.7	75.1	75.1	71.1	60.0	62.2	00.7	.0
Mining	87.2	86.3	84.3	88.6	78.3	91.3	90.5	89.2	87.6	81.8	77.0	75.0	1.1
Utilities	85.2	93.2	84.7	93.2	78.2	73.9	71.1	73.5	71.1	72.3	69.5	72.3	2.8
Cinties	05.2	75.2	0 1.7	73.2	70.2	75.7	71.1	75.5	71.1	72.3	07.5	72.5	2.0
Stage-of-process groups													
Crude	86.2	87.8	84.7	90.0	76.4	88.7	88.7	87.7	86.1	80.4	77.1	76.4	.9
Primary and semifinished				87.8	63.9		74.6	74.9	71.3	62.7	63.1	66.5	
Primary and semifinished Finished	80.3 76.7	86.4 83.3	78.1 77.3	87.8 80.6	63.9 66.5	75.2 75.2	74.6 73.8	74.9 74.0	71.3 70.1	62.7 58.5	63.1 61.7	66.5 67.3	.9 1.0

r Revised. p Preliminary.

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

World War II. Manufacturing output climbed 7.2 percent in June, as all major industries posted increases. The largest gain—105.0 percent—was registered by motor vehicles and parts, while factory production elsewhere rose 3.9 percent. Mining production fell 2.9 percent, and the output of utilities increased 4.2 percent. At 97.5 percent of its 2012 average, the level of total industrial production was 10.8 percent lower in June than it was a year earlier. Capacity utilization for the industrial sector increased 3.5 percentage points to 68.6 percent in June, a rate that is 11.2 percentage points below its long-run (1972–2019) average but 1.9 percentage points above its trough during the Great Recession.

Market Groups

The major market groups posted broad-based gains in June, but each still remained below its pre-pandemic level. The jump in the output of motor vehicles and parts contributed to the largest gains among the market groups: Consumer durables, business equipment, and durable materials posted increases of 36.6 percent, 11.8 percent, and 7.4 percent, respectively. The indexes for business supplies and for defense and space equipment each rose more than 4 percent. The only decline among the major market groups was posted by energy materials, held down by further reductions in oil extraction.

Industry Groups

Manufacturing output increased 7.2 percent in June, but it was still 11.1 percent below its pre-pandemic February level; factory output fell 47.0 percent at an annual rate in the second quarter. The index for durable manufacturing rose 11.6 percent in June. Despite substantial gains in the past two months, the output of motor vehicles and parts remained nearly 25 percent below its February level. The index for nondurables rose 3.4 percent, with sizable gains for apparel and leather and for plastics and rubber products. The output of other manufacturing (publishing and logging) increased 2.2 percent.

The output of utilities rose 4.2 percent in June, as both gas and electric utilities posted gains. Mining output fell 2.9 percent, with declines in nearly all categories. The index for oil and gas well drilling fell 18.0 percent in June and was about 70 percent below its year-earlier level. For the second quarter, mining output declined 42.7 percent at an annual rate.

Capacity utilization for manufacturing in June was 66.9 percent, 4.6 percentage points higher than in May and 3.2 percentage points above its recession trough of June 2009. The operating rate for durable manufacturing increased 6.7 percentage points in June to 64.3 percent, 5.9 percentage points above its 2009 low. Capacity utilization for nondurables rose 2.4 percentage points to 70.6 percent, 1.8 percentage points above its 2009 low. The operating rate for mining fell to 75.0 percent, somewhat below its low in 2016 but slightly above its historical low in 1986.

Note: Revised Estimates of Industrial Capacity

The estimates for industrial capacity for 2020 were revised for this release. The revisions reflect updated measures of physical capacity from various government and private sources as well as updated estimates of capital spending by industry. Measured from the fourth quarter of 2019 to the fourth quarter of 2020, capacity for the industrial sector is now expected to be flat, whereas previously it was estimated to rise 1.3 percent. Manufacturing capacity is estimated to edge down 0.2 percent, a downward revision of 1.0 percentage point. Mining capacity also revised down and is now expected to decline 2.1 percent; it had been expected to expand 2.9 percent. This downward revision primarily reflects a reduction in capacity for oil and gas extraction. The gain in capacity for utilities, at 3.2 percent, is only 0.1 percentage point lower than previously estimated.

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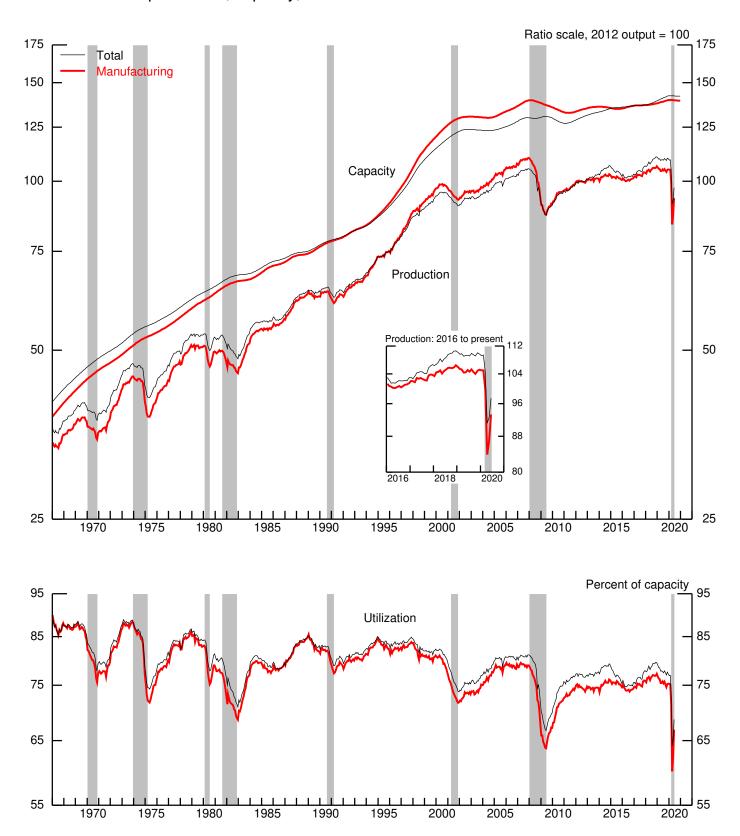
Further detail is available on the Board's website (www.federalreserve.gov/releases/G17/).

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 in the second half of 2020. New annual benchmark data for manufacturing for 2017 and 2018 will be incorporated, as well as other annual data, including information on the mining of metallic and nonmetallic minerals (except fuels). The weights for market-group splits of the industry-level indexes will be updated with information from the 2012 benchmark input-output accounts from the U.S. Bureau of Economic Analysis. 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.

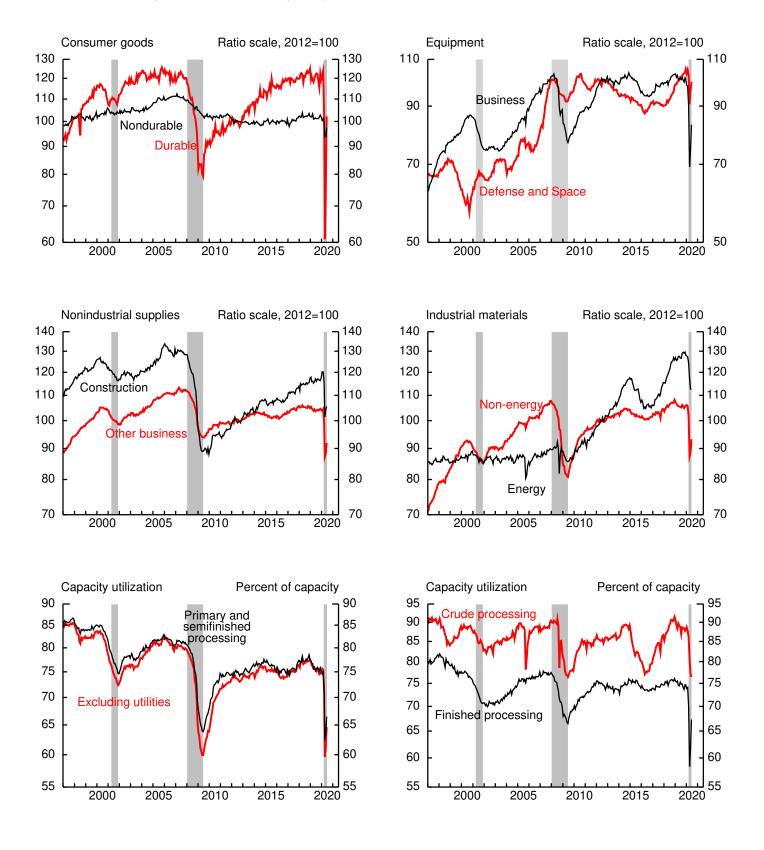
Capacity and capacity utilization will be revised to incorporate data for manufacturing through the fourth quarter of 2019 from the U.S. Census Bureau's Quarterly Survey of Plant Capacity Utilization, along with new data on capacity from the U.S. Geological Survey, the U.S. Department of Energy, and other organizations.

1. Industrial production, capacity, and utilization



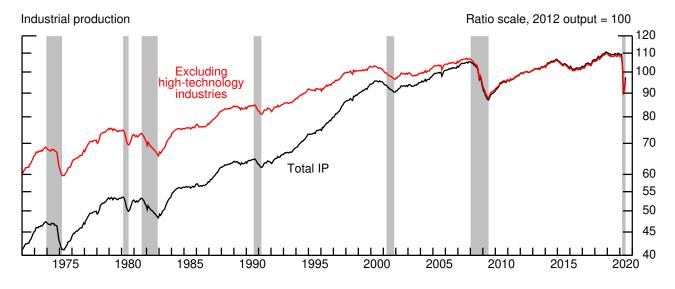
Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

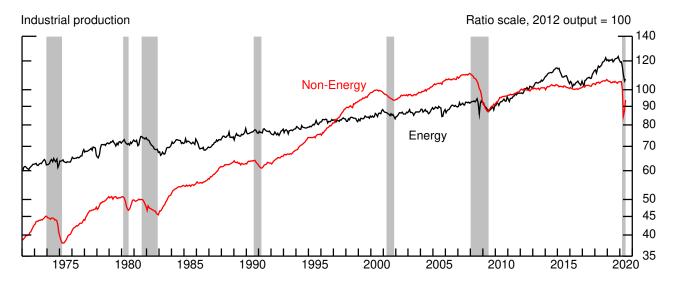
2. Industrial production and capacity utilization

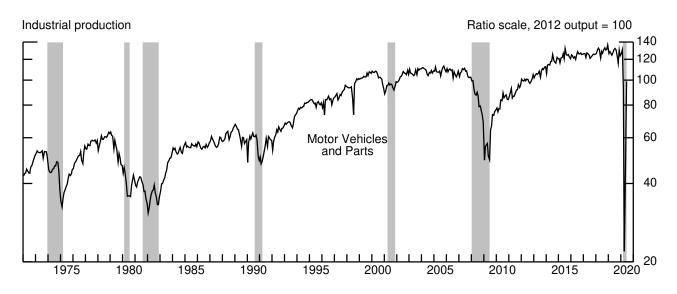


Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

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				th quart											
T		2010	fou	ırth quai	ter		nnual ra	te	2020		Montl	hly rate			June '19
Item		2019 proportion ¹	2017	2018	2019	2019 Q4	2020 Q1 ^r	Q2 ^p	Jan.r	Feb.r	Mar.r	Apr.r	May ^r	June ^p	to June '20
Total IP		100.00	3.6	4.0	7	.4	-6.8	-42.6	4	.1	-4.4	-12.7	1.4	5.4	-10.8
MARKET GROUPS															
Final products and nonindustrial supplie	es	54.17	2.7	2.1	-1.0	.6	-8.3	-43.9	8	.7	-5.6	-14.4	3.4	7.4	-10.3
Consumer goods		27.53	1.7	1.5	-1.3	1.4	-8.1	-37.6	9	1.2	-5.5	-12.7	3.4	9.0	-6.8
Durable		6.22	.7	3.0	-3.6	-6.6	-11.3	-77.9	1.4	2.2	-17.5	-40.4	22.9	36.6	-16.0
Automotive products		3.22	.6	3.5	-5.0	-11.1	-19.5	-92.9	2.5	3.7	-28.8	-68.6	77.7	91.5	-22.4
Home electronics Appliances, furniture, carpeting		.13 .83	1.3	5.7 -1.6	8.4 -3.2	-2.3	-11.3 -5.8	-27.4 -49.8	-1.1	5 1.1	-1.3 -5.5	-6.6 -21.3	-2.4 12.5	4.5 6.2	-8.9 -10.0
Miscellaneous goods		2.04	1.4	4.0	-2.4	-1.4	-5.8	-45.0	1.4	.5	-4.8	-15.7	3.8	8.5	-8.6
Nondurable		21.31	1.9	1.0	5	3.9	-7.1	-19.7	-1.5	.8	-1.9	-5.7	.3	3.6	-4.1
Non-energy		16.29	1.6	1	2	1.3	.5	-24.6	3	.4	-1.1	-8.0	1.2	3.3	-5.0
Foods and tobacco		9.26	2.5	2	1.6	7.7	.1	-28.4	-1.1	.1	-1.7	-8.9	1.5	3.3	-6.4
Clothing		.17	-10.5	-5.0	-8.6	-8.2	-12.5	-57.4	-1.8	1.8	-6.4	-27.6	17.7	10.9	-15.5
Chemical products		5.45	2.1	1.2	-1.5	-5.9	1.5	-12.2	.3	.4	1.2	-5.3	.5	3.0	1
Paper products		1.00	-4.5	-5.4	-7.9	-12.8	6.4	-35.3	3.9	3.4	-4.9	-7.7	-1.6	1.2	-13.0
Energy		5.02	3.0	4.7	-1.7	12.9	-28.7	7	-5.6	2.5	-4.9	2.7	-2.6	4.7	9
Business equipment		9.51	4.8	3.9	-2.0	5	-19.6	-61.0	-2.8	4	-7.9	-23.4	7.4	11.8	-18.2
Transit		2.30	.2	3.6	-8.4	-10.4	-60.2	-95.8	-11.1	-4.1	-25.8	-65.5	48.3	64.5	-48.4
Information processing		2.22	4.1	3.6	5.6	3.6	9.8	-16.7	.9	2.2	-1.8	-5.2	-1.6	7.4	3.2
Industrial and other		5.00	7.6	4.2	-2.2	2.4	-7.7	-51.5	9	1	-3.9	-19.5	7.3	4.7	-13.8
Defense and space equipment		2.32	8	6.7	8.4	7.2	-2.3	-28.5	-1.9	1.7	-2.2	-11.8	5.5	4.5	-2.0
Construction supplies Business supplies		5.45 8.71	4.1 2.3	2.5	.6 -1.0	.3 .6	6.6 -6.8	-41.6 -42.8	2.4	2 .6	-4.1 -5.3	-12.0 -11.9	2.7 1.2	1.3 4.1	-9.8 -11.3
Materials		45.83	4.8	6.1	3	.1	-5.0	-41.1	.0	5	-3.1	-10.8	8	3.1	-11.4
Non-energy		27.85	2.7	3.2	-2.0	8	-3.4	-45.6	.2	6	-3.7	-14.1	1.5	5.2	-11.5
Durable		16.49	2.7	3.9	-2.3	-2.3	-5.6	-55.6	1	1	-5.4	-19.0	3.1	7.4	-15.5
Consumer parts		2.86	.7	3.9	-8.7	-10.6	-15.3	-86.0	-1.0	.7	-15.2	-50.7	32.0	38.7	-24.9
Equipment parts		4.82	1.8	5.8	.6	.2	-7.0	-36.4	9	1	-2.9	-9.9	1	3.6	-10.4
Other		8.81	4.0	2.7	-1.8	9	-1.7	-50.8	.6	3	-3.5	-15.0	.2	2.8	-15.2
Nondurable Textile		11.35 .37	2.7	2.2 5.4	-1.4	1.4	.0 -3.1	-28.5 -68.6	1.6	-1.3 -1.0	-1.3 -5.2	-7.3 -28.7	5 11.2	2.6 4.6	-5.6 -22.1
Paper		1.76	-3.6	3	3 -3.7	5.6	1.8	-35.6	2.0	-1.0	-2.6	-28.7 -6.6	-4.7	3.5	-6.0
Chemical		6.12	4.9	4.3	-1.6	.9	-1.3	-23.8	.7	-1.2	-2.0	-5.8	-4.7	1.6	-4.9
Energy		17.99	8.2	10.4	2.3	1.7	-7.5	-33.5	3	5	-2.1	-5.7	-4.0	1	-11.2
INDUSTRY GROUPS															
Manufacturing		75.34	2.5	2.2	-1.2	5	-5.5	-47.0	1	.0	-5.1	-15.9	3.8	7.2	-11.2
Manufacturing (NAICS)	31–33	73.58	2.7	2.5	-1.1	2	-5.6	-47.0	2	.0	-5.1	-16.0	3.9	7.4	-11.0
Durable manufacturing		38.16	2.6	4.1	-1.3	-1.5	-9.7	-58.1	6	.2	-7.7	-21.9	6.8	11.6	-14.3
Wood products	321	1.44	5.4	9	3.0	6.5	4.0	-39.1	2.4	8	-2.9	-11.2	1.7	1.7	-7.1
Nonmetallic mineral products	327	2.27	5.3	1.9	5	-1.3	9.6	-42.7	3.7	6	-5.5	-15.4	8.1	4.4	-6.1
Primary metals	331	2.93	4.4	6.2	-4.1	.6	-8.7	-71.7	4	-3.6	-3.9	-22.1	-5.1	2.5	-27.3
Fabricated metal products	332	5.79	3.0	4.9	-1.3	-1.1	-2.9	-39.4	.1	1.1	-4.1	-11.6	2.4	1.7	-11.3
Machinery Computer and electronic products	333 334	5.41 4.90	9.3	5.8 4.5	-4.0	1.1	-10.0	-53.4	-2.2	4 1.2	-2.8 -1.4	-19.4 -5.0	3.7	6.4 5.6	-15.8
Electrical equip., appliances,	334	4.90	3.3	4.3	6.3	6.2	6.1	-17.5	.5	1.4	-1.4	-5.0	-1.5	5.0	2.0
and components	335	1.83	.0	3.5	-2.1	-8.0	3.1	-32.4	.0	2.2	-4.0	-6.5	-2.5	1.7	-10.1
Motor vehicles and parts	3361–3	5.50	3	5.5	-6.8	-15.3	-20.7	-94.5	2.2	3.1	-29.4	-76.3	120.0	105.0	-24.6
Aerospace and miscellaneous															
transportation equipment	3364-9	4.18	9	2.7	.5	3.9	-38.1	-59.8	-8.9	-1.6	-6.1	-22.3	8.8	4.5	-23.7
Furniture and related products	337	1.20	-1.7	1.6	7	2.3	-5.3	-58.3	3	.8	-6.0	-24.5	13.0	5.3	-14.0
Miscellaneous	339	2.72	-1.2	2.2	.6	-3.6	-10.8	-49.1	.0	-1.3	-5.6	-18.4	6.7	10.2	-11.3
Nondurable manufacturing		35.43	2.7	.9	8	1.2	-1.0	-33.2	.3	3	-2.3	-10.0	1.4	3.4	-7.4
Food, beverage, and tobacco products	311,2	11.27	3.1	.2	1.7	6.3	.4	-27.3	9	.0	-1.5	-8.6	1.3	3.6	-5.8
Textile and product mills	313,4	.63	.2	.9	-3.6	-1.2	-4.6	-57.8	1.3	7	-5.0	-24.0	12.5	4.7	-17.0
Apparel and leather	315,6	.18	-10.0	-5.2	-8.5	-8.0	-11.2	-56.1	-1.6	1.9	-6.1	-26.7	16.8	10.3	-14.9
Paper	322	2.37	-2.6	.0	-2.6	4.2	4.9	-23.5	1.8	-1.6	1	-3.5	-5.4	3.4	-1.8
Printing and support	323	1.26	-1.3	-2.7	-3.2	.3	-2.3	-65.2	1.7	2.0	-8.8	-24.7	9.8	3.7	-19.4
Petroleum and coal products	324	3.25	2.7	-1.2	-1.6	-6.5	5	-57.1	2.7	-1.7	-7.3	-16.7	2.1	4.3	-16.7
Chemicals Plastics and rubber products	325 326	12.97 3.49	4.3	2.9	-1.5 -2.6	-1.3 1.3	-2.4 -2.5	-19.0 -56.8	.2	5 .5	5 -5.7	-5.8 -20.5	.9 4.4	1.8 8.7	-3.5 -15.2
Other manufacturing (non-NAICS)	1133,5111	1.75	-3.5	-10.0	-8.0	-11.2	-4.0	-45.7	2.1	1.3	-5.7	-10.9	-1.5	2.2	-18.0
Mining	21	14.24	11.3	13.9	2.3	1.9	9	-42.7	1.0	-1.5	-1.9	-6.8	-6.1	-2.9	-16.9
Utilities	2211,2	10.42	3.1	2.6	-1.0	4.7	-22.6	.0	-4.7	3.6	-3.1	1.9	-3.5	4.2	.6
Electric	2211	8.68	2.0	.8	9	-1.6	-17.3	-5.1	-4.0	1.8	1	-1.9	-2.1	4.6	.9
Natural gas	2212	1.74	10.1	12.8	-2.1	43.6	-44.6	31.0	-8.3	13.1	-17.4	24.2	-9.7	2.1	9
			1			1			1						1

r Revised. p Preliminary.

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

Note. Under the industry groups, the figures to the right of the series descriptions are 2012 North American Industry Classification System (NAICS) codes. The abbreviation pt denotes part of a NAICS code. Additional industry detail is available on the Board's website (www.federalreserve.gov/releases/G17/20200715/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

Percent change, seasonally adjusted			-												
			1	ırth quart				4-			Manie	1.1			I 110
Item		2019	10	urth qua	rier	2019	nnual ra 2020	ie	2020		Mont	hly rate			June '19 to
Item		proportion	2017	2018	2019	Q4	Q1 ^r	Q2 ^p	Jan. ^r	Feb.r	Mar.r	Apr.r	May	June ^p	June '20
		1 1													
Total industry		100.00	3.6	4.0	7	.4	-6.8	-42.6	4	.1	-4.4	-12.7	1.4	5.4	-10.8
Energy		25.94	7.0	8.7	.8	2.9	-12.5	-31.1	-1.5	.3	-3.0	-4.8	-4.2	1.2	-10.4
Consumer products		5.02	3.0	4.7	-1.7	12.9	-28.7	7	-5.6	2.5	-4.9	2.7	-2.6	4.7	9
Commercial products		2.38	2.1	2.6	1	3.1	-13.6	-40.8	-2.2	1.1	-6.2	-8.2	-3.6	5.6	-9.7
Oil and gas well drilling	213111	.55	37.2	19.3	-22.1	-40.0	-7.1	-93.1	.0	.6	-1.3	-27.8	-36.9	-18.0	-70.1
Converted fuel		4.71	2.4	3.2	-1.6	-3.0	-14.7	-21.6	-1.4	1.7	9	-7.6	.0	5.7	-2.0
Primary energy		13.27	10.5	12.8	3.6	3.5	-4.8	-37.2	.1	-1.2	-2.6	-5.0	-5.4	-2.2	-14.3
Non-energy		74.06	2.5	2.2	-1.2	5	-4.7	-46.2	1	.1	-4.9	-15.5	3.6	7.0	-10.9
Non-energy		74.00	2.3	2.2	-1.2	3	-4./	-40.2	1	.1	-4.9	-13.3	3.0	7.0	-10.9
Selected high-technology industries		1.83	1.9	5.4	6.9	9.7	-2.6	-10.9	6	-1.4	.2	-2.8	4	1.8	1.8
Computers and peripheral equipment	3341	.31	12.2	1.5	1	1.7	9.9	-26.1	.8	.5	.2	-6.3	-3.9	3.7	-3.3
Communications equipment	3342	.47	-5.1	7.0	8.2	1.7	-15.7	-2.2	-2.5	-1.6	7	1	.5	.7	-2.2
Semiconductors and related															
electronic components	3344	1.06	2.4	5.9	8.4	15.7	1	-9.7	1	-1.9	.6	-3.0	.2	1.7	5.1
Excluding selected high-technology															
industries		72.23	2.6	2.1	-1.4	7	-4.8	-47.0	1	.1	-5.1	-15.8	3.7	7.1	-11.2
mustries		12.23	2.0	2.1	-1.4	/	-4.0	-47.0	1	.1	-5.1	-13.0	3.1	7.1	-11.2
Motor vehicles and parts	3361-3	5.50	3	5.5	-6.8	-15.3	-20.7	-94.5	2.2	3.1	-29.4	-76.3	120.0	105.0	-24.6
Motor vehicles	3361	2.70	-5.4	9.5	-7.7	-21.7	-21.6	-98.0	4.2	4.3	-37.9	-97.3	1297.7	209.6	-27.4
Motor vehicle parts	3363	2.34	2.6	4.4	-5.6	-8.3	-19.8	-88.9	.4	1.8	-21.3	-62.4	65.2	66.3	-19.4
Excluding motor vehicles and parts		66.74	2.8	1.8	9	.6	-3.4	-39.6	2	1	-3.0	-12.1	1.8	3.6	-10.1
Consumer goods		19.69	1.7	.3	7	.7	7	-30.4	3	.5	-1.9	-10.1	2.1	4.0	-6.4
Business equipment		7.96	5.8	2.8	-1.4	3.3	-19.2	-53.3	-3.6	7	-4.8	-18.8	4.8	6.6	-16.5
Construction supplies		5.44	4.2	2.5	.5	.3	6.7	-41.7	2.4	1	-4.1	-12.1	2.7	1.3	-9.8
Business supplies		6.08	2.4	-1.2	-1.8	-1.1	-4.3	-44.6	.5	.5	-5.2	-13.7	3.2	3.7	-12.6
Materials		25.21	2.9	3.0	-1.8	5	-2.3	-40.9	.2	7	-2.6	-11.2	3	2.9	-11.1
Measures excluding selected															
high-technology industries		00.17	2.7	2.0	0		()	40.1		2	4.5	10.0	1.4	~ ~	110
Total industry		98.17	3.7	3.9	8	.2	-6.9	-43.1	4	.2	-4.5	-12.9	1.4	5.5	-11.0
Manufacturing ¹		73.50	2.5	2.1	-1.4	7	-5.6	-47.7	1	.0	-5.2	-16.2	3.9	7.4	-11.5
Durable		36.50	2.7	4.0	-1.6	-2.0	-10.0	-59.9	6	.3	-8.0	-23.0	7.2	12.2	-15.2
Measures excluding motor vehicles															
and parts															
Total industry		94.50	3.9	3.9	3	1.4	-6.0	-36.9	6	.0	-2.9	-9.9	.0	2.9	-10.0
Manufacturing ¹		69.84	2.7	1.9	8	.8	-4.3	-40.0	3	3	-3.2	-12.3	1.9	3.9	-10.1
Durable		32.84	3.2	3.9	2	1.1	-7.8	-46.7	-1.1	3	-3.9	-15.0	2.7	4.5	-12.6
Measures excluding selected															
high-technology industries															
and motor vehicles and parts															
Total industry		92.67	3.9	3.8	5	1.2	-6.0	-37.3	6	.0	-3.0	-10.1	.0	2.9	-10.2
Manufacturing ¹		68.01	2.8	1.8	-1.0	.6	-4.3	-40.6	3	2	-3.2	-12.5	2.0	3.9	-10.4
Stage-of-process components															
of non-energy materials,															
measures of the input to															
Finished processors		9.81	.3	4.1	-3.0	-2.1	-7.8	-57.1	3	1	-6.5	-20.7	4.5	10.9	-14.3
Primary and semifinished processors		18.03	4.2	2.7	-1.4	1	9	-38.6	.5	8	-2.2	-10.7	.1	2.5	-9.9

Table 3 MOTOR VEHICLE ASSEMBLIES

illions of units, seasonally adjusted allitua	rate										
	2019	2019		2020		2020					
Item	average	Q3	Q4	Q1	Q2	Jan.	Feb.	Mar.	Apr.	May	June
	10.00	44.00									0.44
Total	10.88	11.08	10.51	9.80	3.73	10.82	11.39	7.19	.11	2.65	8.44
Autos	2.51	2.57	2.43	2.37	.79	2.61	2.70	1.80	.02	.64	1.72
Trucks	8.36	8.51	8.07	7.43	2.94	8.20	8.70	5.38	.09	2.02	6.71
Light	8.02	8.16	7.77	7.16	2.84	7.90	8.39	5.18	.05	1.92	6.54
Medium and heavy	.35	.35	.31	.27	.10	.31	.31	.20	.03	.09	.17
Memo											
Autos and light trucks	10.53	10.73	10.20	9.53	3.63	10.51	11.08	6.99	.08	2.56	8.27

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

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

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

012 = 100, seasonally adjusted											
Item		2019 proportion	2019 Oct.	Nov.	Dec.	2020 Jan. ^r	Feb.r	Mar. ^r	Apr.r	May ^r	June ^p
Total IP		100.00	109.0	110.0	109.7	109.2	109.3	104.5	91.2	92.5	97.5
Market Groups											
Final products and nonindustrial supplies		54.17	103.8	105.3	104.7	103.8	104.5	98.7	84.5	87.3	93.8
Consumer goods		27.53	104.7	106.7	105.5	104.6	105.8	99.9	87.2	90.2	98.3
Durable		6.22	115.4	122.5	119.3	121.0	123.7	102.0	60.8	74.8	102.2
Automotive products		3.22	123.4	138.5	130.9	134.1	139.1	99.0	31.0	55.2	105.6
Home electronics		.13 .83	127.6 103.1	126.8 104.5	125.0 106.6	123.7 104.3	123.1 105.5	121.4 99.7	113.4 78.5	110.7 88.3	115.7 93.8
Appliances, furniture, carpeting Miscellaneous goods		2.04	109.3	104.3	100.0	110.6	111.1	105.8	89.2	92.5	100.4
Nondurable		21.31	101.9	102.7	102.0	100.4	101.3	99.3	93.7	93.9	97.3
Non-energy		16.29	99.2	99.0	99.9	99.6	100.0	98.9	91.0	92.1	95.0
Foods and tobacco		9.26	107.2	107.2	109.8	108.6	108.7	106.9	97.3	98.8	102.1
Clothing Chemical products		.17 5.45	62.9 93.2	62.0 93.0	61.9 92.3	60.8 92.6	61.9 92.9	57.9 94.0	41.9 89.0	49.4 89.4	54.7 92.1
Paper products		1.00	75.6	73.2	71.3	74.1	76.6	72.9	67.3	66.2	67.0
Energy		5.02	110.5	115.0	108.2	102.2	104.8	99.7	102.3	99.6	104.3
Business equipment		9.51	99.7	101.8	101.3	98.4	98.0	90.3	69.2	74.3	83.1
Transit		2.30	100.5	107.1	101.3	92.8	89.0	66.0	22.8	33.8	55.7
Information processing		2.22	114.4	115.3	115.9	116.9	119.5	117.3	111.1	109.4	117.5
Industrial and other		5.00	93.8	94.3	94.4	93.6	93.5	89.9	72.3	77.6	81.3
Defense and space equipment		2.32	103.6	104.1	105.4	103.4	105.1	102.8	90.7	95.6	99.9
Construction supplies		5.45	116.4	116.3	117.5	120.4	120.2	115.3	101.4	104.2	105.5
Business supplies		8.71	104.1	104.5	104.1	103.8	104.5	98.9	87.2	88.2	91.8
Materials		45.83	114.9	115.3	115.2	115.3	114.7	111.1	99.1	98.3	101.4
Non-energy		27.85	104.8	105.3	105.9	106.1	105.5	101.6	87.3	88.6	93.2
Durable		16.49	105.8	107.0	107.2	107.1	107.0	101.3	82.0	84.6	90.8
Consumer parts Equipment parts		2.86 4.82	100.1 110.6	106.2 111.1	105.6 111.2	104.6 110.1	105.3 110.0	89.3 106.7	44.1 96.2	58.2 96.1	80.7 99.6
Other		8.81	105.0	104.9	105.6	106.2	105.9	100.7	86.7	87.0	89.4
Nondurable		11.35	103.3	102.7	103.8	104.6	103.3	101.9	94.4	94.0	96.4
Textile		.37	98.7	99.5	99.2	100.7	99.8	94.6	67.5	75.0	78.4
Paper		1.76	89.7	89.1	89.6	91.4	90.3	87.9	82.1	78.3	81.1
Chemical Energy		6.12 17.99	105.2 129.1	104.3 129.5	105.5 128.1	106.3 127.8	104.4 127.2	103.3 124.4	97.3 117.4	97.2 112.7	98.7 112.6
INDUSTRY CROWNS											
INDUSTRY GROUPS Manufacturing		75.34	103.9	104.9	105.1	105.0	104.9	99.6	83.8	87.0	93.3
Manufacturing (NAICS)	31-33	73.58	105.1	106.1	106.4	106.2	106.1	100.7	84.6	88.0	94.4
Durable manufacturing		38.16	106.6	108.8	108.5	107.9	108.1	99.8	77.9	83.2	92.9
Wood products Nonmetallic mineral products	321	1.44 2.27	129.9	128.7 118.0	129.5	132.7 124.9	131.5 124.1	127.7 117.3	113.4 99.2	115.4 107.3	117.3 112.1
Primary metals	327 331	2.27	119.5 94.9	96.4	120.4 98.4	98.0	94.4	90.8	70.7	67.1	68.7
Fabricated metal products	332	5.79	103.1	103.1	102.7	102.9	104.0	99.8	88.2	90.3	91.9
Machinery	333	5.41	90.9	91.5	92.3	90.3	89.9	87.4	70.4	73.0	77.7
Computer and electronic products	334	4.90	128.9	130.1	130.8	131.5	133.0	131.1	124.6	122.8	129.6
Electrical equip., appliances, and components	335	1.83	101.4	102.8	103.0	103.0	105.3	101.2	94.6	92.3	93.8
Motor vehicles and parts	3361–3	5.50	116.2	130.4	123.9	126.7	130.7	92.3	21.9	48.2	98.8
Aerospace and miscellaneous				/ -					**		
transportation equipment	3364–9	4.18	102.0	102.3	102.9	93.8	92.2	86.6	67.3	73.2	76.5
Furniture and related products Miscellaneous	337 339	1.20 2.72	106.0 100.8	106.9 101.7	107.0 101.1	106.7 101.1	107.6 99.8	101.2 94.2	76.4 76.9	86.3 82.0	90.9 90.4
	557										
Nondurable manufacturing	211.2	35.43	103.4	103.2	104.0	104.3	104.0	101.6 109.6	91.4	92.8	95.9
Food, beverage, and tobacco products Textile and product mills	311,2 313,4	.63	109.8 97.1	109.7 97.1	112.2 96.6	111.2 97.9	97.2	92.4	100.1 70.2	101.4 78.9	105.0 82.6
Apparel and leather	315,6	.18	63.9	63.1	63.0	62.0	63.2	59.3	43.4	50.7	56.0
Paper	322	2.37	93.6	93.0	94.0	95.7	94.2	94.1	90.8	85.9	88.8
Printing and support	323	1.26	93.4	93.7	92.7	94.3	96.2	87.7	66.0	72.5	75.2
Petroleum and coal products	324	3.25	104.8	104.3	105.7	108.6	106.8	99.0	82.4	84.2	87.8
Chemicals Plastics and rubber products	325 326	12.97 3.49	100.6	100.3 108.1	100.0 107.8	100.2 108.8	99.7 109.3	99.2 103.1	93.4 81.9	94.3 85.5	96.0 92.9
Other manufacturing (non-NAICS)	1133,5111	1.75	72.2	70.3	69.1	70.5	71.5	67.4	60.1	59.2	60.5
Mining	21	14.24	133.4	132.6	133.8	135.2	133.2	130.7	121.7	114.4	111.0
		10.42	106.5	109.7	103.4	98.6	102.2	99.1	101.0	97.4	101.5
Utilities	2211,2										
Utilities Electric Natural gas	2211,2 2211 2212	8.68 1.74	104.0	104.8	101.5	97.5 107.0	99.2 121.1	99.2	97.3 124.2	95.2 112.2	99.6

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

Table 5
INDUSTRIAL PRODUCTION INDEXES: SPECIAL AGGREGATES

2012 = 100, seasonally adjusted

712 = 100, scasonary adjusted											
Item		2019 proportion	2019 Oct.	Nov.	Dec.	2020 Jan. ^r	Feb. ^r	Mar. ^r	Apr.r	May ^r	June ^p
Total industry		100.00	109.0	110.0	109.7	109.2	109.3	104.5	91.2	92.5	97.5
Energy		25.94	122.0	123.2	120.7	119.0	119.3	115.6	110.1	105.5	106.8
Consumer products		5.02	110.5	115.0	108.2	102.2	104.8	99.7	102.3	99.6	104.3
Commercial products		2.38	111.8	112.5	111.9	109.5	110.8	103.9	95.4	91.9	97.1
Oil and gas well drilling	213111	.55	63.0	60.5	60.1	60.0	60.4	59.6	43.0	27.1	22.3
Converted fuel		4.71	102.7	105.2	98.9	97.5	99.1	98.2	90.8	90.7	95.9
Primary energy		13.27	137.7	137.1	138.1	138.2	136.6	133.1	126.4	119.6	117.0
Non-energy		74.06	104.1	105.0	105.2	105.2	105.3	100.1	84.6	87.6	93.7
Selected high-technology industries		1.83	156.1	159.1	159.5	158.6	156.3	156.7	152.2	151.6	154.3
Computers and peripheral equipment	3341	.31	128.6	135.1	134.1	135.2	135.9	136.2	127.7	122.8	127.3
Communications equipment	3342	.47	137.0	137.2	136.1	132.8	130.7	129.7	129.6	130.3	131.2
Semiconductors and related											
electronic components	3344	1.06	173.3	176.5	178.1	177.9	174.4	175.5	170.3	170.7	173.6
Evaluding salested high technology											
Excluding selected high-technology industries		72.23	102.5	102.4	102.7	102.6	102.9	00.5	82.9	96.0	92.1
industries		12.23	102.5	103.4	103.7	103.6	103.8	98.5	82.9	86.0	92.1
Motor vehicles and parts	3361-3	5.50	116.2	130.4	123.9	126.7	130.7	92.3	21.9	48.2	98.8
Motor vehicles	3361	2.70	110.4	133.5	123.3	128.5	133.9	83.1	2.2	31.1	96.4
Motor vehicle parts	3363	2.34	121.7	128.5	125.7	126.1	128.4	101.1	38.0	62.8	104.4
Excluding motor vehicles and parts		66.74	101.6	101.6	102.3	102.0	101.9	98.8	86.9	88.4	91.6
Consumer goods		19.69	100.6	100.4	101.2	100.9	101.3	99.4	89.4	91.2	94.9
Business equipment		7.96	97.4	98.0	98.4	94.8	94.1	89.6	72.7	76.3	81.3
Construction supplies		5.44	116.3	116.3	117.5	120.3	120.2	115.3	101.3	104.1	105.4
Business supplies		6.08	97.4	97.6	97.2	97.7	98.2	93.1	80.4	83.0	86.1
Materials		25.21	102.0	101.9	102.7	103.0	102.2	99.6	88.4	88.1	90.7
Measures excluding selected high-technology											
industries											
Total industry		98.17	108.0	109.0	108.6	108.2	108.3	103.4	90.1	91.4	96.4
Manufacturing ¹		73.50	102.5	103.4	103.6	103.5	103.5	98.0	82.2	85.4	91.7
Durable		36.50	103.9	106.0	105.7	105.1	105.4	96.9	74.6	80.0	89.8
Measures excluding motor vehicles and parts											
Total industry		94.50	108.7	109.1	109.0	108.4	108.3	105.1	94.7	94.7	97.5
Manufacturing ¹		69.84	103.1	103.2	103.8	103.5	103.3	100.0	87.7	89.4	92.9
Durable		32.84	105.4	105.9	106.5	105.4	105.1	101.0	85.8	88.2	92.1
Measures excluding selected high-technology											
industries and motor vehicles and parts		92.67	107.7	108.0	107.9	107.3	107.2	104.0	93.5	93.6	96.3
Total industry			107.7	108.0	107.9	107.3	107.2	98.3	93.5 86.0	93.6 87.7	96.3
Manufacturing ¹		08.01					101.0	70.5	00.0	07.7	71.2
Manufacturing ¹		68.01	101.5	101.0							
Stage-of-process components of non-energy		68.01	101.5								
Stage-of-process components of non-energy materials, measures of the input to											
Stage-of-process components of non-energy		9.81 18.03	102.9	104.7 105.5	104.7 106.5	104.4 107.0	104.2 106.2	97.5 103.8	77.3 92.7	80.8 92.8	89.6 95.2

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Table 6
DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

Percent												
Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One month earlier												
2018	50.8	63.5	45.8	60.2	44.1	62.2	56.5	56.2	55.2	52.5	49.2	54.8
2019	45.8	43.5	47.8	43.5	50.5	53.2	47.2	59.2	47.8	39.1	57.5	50.5
2020	55.5	51.5	19.1	8.4	58.0							
Three months earlier												
2018	52.5	63.2	53.8	68.2	47.2	55.2	53.8	64.9	55.5	54.5	50.2	58.5
2019	48.5	44.1	43.8	38.8	41.8	51.2	49.2	55.9	48.5	49.8	48.5	50.5
2020	63.2	54.5	24.4	6.4	7.7							
Six months earlier												
2018	58.2	66.6	61.2	62.5	54.5	60.9	63.2	60.2	58.5	53.5	60.5	57.5
2019	51.2	45.2	42.5	35.8	40.1	43.1	37.8	47.8	46.5	46.2	50.2	49.2
2020	54.5	52.8	24.7	10.0	8.7							

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

^{1.} 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		2019	2019	95	2009	2019	2020		2020					
nem		proportion	ave.	high	low	O4	O1 ^r	$O2^p$	Jan. ^r	Feb.r	Mar. ^r	Apr.r	May ^r	June ^p
		proportion	avc.	mgn	IOW	Q+	ŲI	Q2	Jan.	100.	ıvıaı.	Apr.	iviay	June
Total industry		100.00	79.8	85.0	66.7	77.2	75.8	66.0	76.9	76.9	73.5	64.2	65.1	68.6
Manufacturing ¹		77.21	78.2	84.6	63.7	75.0	73.9	63.1	75.2	75.2	71.3	60.0	62.3	66.9
Manufacturing (NAICS)	31–33	74.92	78.1	84.7	63.5	75.6	74.4	63.5	75.7	75.7	71.3	60.3	62.7	67.4
Waliufacturing (NATCS)	31-33	74.92	/0.1	04.7	03.3	73.0	/4.4	05.5	13.1	13.1	/1.0	00.5	02.7	07.4
Durable manufacturing		39.11	76.8	83.7	58.4	74.9	72.9	58.6	74.7	74.9	69.1	54.0	57.6	64.3
Wood products	321	1.45	76.7	86.6	47.8	76.7	77.1	68.0	78.4	77.7	75.3	66.9	68.0	69.1
Nonmetallic mineral products	327	2.60	73.8	82.5	46.5	66.7	68.1	59.1	69.7	69.2	65.4	55.3	59.8	62.4
Primary metals	331	3.11	77.9	94.1	48.7	71.3	69.8	51.1	72.4	69.8	67.2	52.4	49.8	51.1
Fabricated metal products	332	5.51	77.7	84.8	62.0	80.3	80.0	70.8	80.4	81.3	78.1	69.2	70.9	72.3
Machinery	333	5.42	77.5	87.3	59.8	77.0	75.1	62.2	76.0	75.7	73.6	59.3	61.6	65.5
Computer and electronic products	334	5.34	77.2	84.2	70.1	72.5	72.9	68.9	72.9	73.5	72.3	68.5	67.3	70.9
Electrical equip., appliances,					, , , , ,	7 = 15	, = ,,		, =,,		, = 15			
and components	335	1.90	81.7	92.8	67.0	73.4	74.1	67.4	73.9	75.6	72.7	68.0	66.4	67.6
Motor vehicles and parts	3361–3	5.59	75.2	87.6	33.7	74.0	69.7	33.6	75.8	78.1	55.2	13.1	28.8	59.0
Aerospace and miscellaneous						,								
transportation equipment	3364-9	4.29	74.3	70.9	72.7	75.7	67.1	53.5	69.3	68.1	63.9	49.7	54.1	56.6
Furniture and related products	337	1.21	77.0	82.8	56.4	76.4	75.6	61.1	76.6	77.3	72.8	55.1	62.4	65.9
Miscellaneous	339	2.69	76.7	81.1	67.9	76.6	73.9	62.1	76.1	74.9	70.6	57.6	61.3	67.5
Tribectiane out	557	2.07	, 0.,	0111	07.5	7 0.0	,,,,	02.1	, 0.1	,	, 0.0	57.0	01.0	07.0
Nondurable manufacturing		35.84	80.0	86.1	68.8	76.2	75.9	68.7	76.7	76.4	74.6	67.2	68.2	70.6
Food, beverage, and tobacco products	311,2	11.65	80.3	85.3	75.6	75.5	75.3	69.5	75.8	75.7	74.5	68.1	69.0	71.4
Textile and product mills	313,4	.70	78.6	91.8	53.9	68.8	68.0	54.9	69.5	69.0	65.6	49.8	56.0	58.7
Apparel and leather	315,6	.22	75.8	87.0	56.6	61.2	60.0	49.5	60.3	61.7	58.1	42.8	50.1	55.5
Paper	322	2.16	86.6	92.7	72.9	85.3	86.4	81.0	87.3	86.0	85.9	83.0	78.6	81.3
Printing and support	323	1.38	79.5	85.4	58.8	70.4	70.4	54.5	71.4	73.0	66.7	50.3	55.4	57.7
Petroleum and coal products	324	3.22	84.9	91.2	76.1	79.0	79.0	64.0	81.9	80.5	74.7	62.2	63.5	66.3
Chemicals	325	13.00	76.7	82.0	64.7	76.1	75.6	71.8	76.0	75.6	75.2	70.8	71.5	72.9
Plastics and rubber products	326	3.50	81.9	93.2	57.6	75.5	74.9	60.9	76.1	76.5	72.1	57.4	60.0	65.2
Other manufacturing (non-NAICS)	1133,5111	2.29	79.4	83.3	68.0	57.1	56.9	49.4	57.4	58.3	55.1	49.3	48.7	50.0
Maria -	21	12.27	97.3	00.6	70.2	00.2	00.1	70.0	00.5	00.2	97.6	01.0	77.0	75.0
Mining Utilities	21	12.37	87.2 85.2	88.6	78.3	89.3	89.1	78.0	90.5 71.1	89.2	87.6	81.8	77.0	75.0
Utilities	2211,2	10.41	85.2	93.2	78.2	77.2	71.9	71.4	/1.1	73.5	71.1	72.3	69.5	72.3
Selected high-technology industries		2.04	77.2	86.2	71.1	73.0	71.5	68.7	72.5	71.1	71.0	68.7	68.2	69.2
Computers and peripheral equipment	3341	.34	77.7	86.8	82.9	73.1	74.7	69.2	74.5	74.8	74.9	70.2	67.5	69.9
Communications equipment	3342	.60	75.8	86.1	77.1	60.5	56.7	55.3	57.8	56.5	55.7	55.3	55.3	55.4
Semiconductors and related														
electronic components	3344	1.11	78.6	92.0	62.9	79.9	78.9	76.1	80.1	78.2	78.4	75.8	75.7	76.7
Measures excluding selected high-technology industries														
Total industry		97.96	79.9	84.9	66.5	77.3	75.9	65.9	77.0	77.1	73.6	64.1	65.0	68.6
Manufacturing ¹		75.17	78.3	84.5	63.3	75.1	74.0	62.9	75.3	75.3	71.3	59.8	62.2	66.8
ivianuiactuinig		75.17	10.3	04.3	05.5	73.1	74.0	02.9	13.3	15.5	/1.3	37.0	02.2	00.0
STAGE-OF-PROCESS GROUPS														
Crude		16.66	86.2	90.0	76.4	88.0	87.5	78.0	88.7	87.7	86.1	80.4	77.1	76.4
Primary and semifinished		44.99	80.3	87.8	63.9	75.3	73.6	64.1	74.6	74.9	71.3	62.7	63.1	66.5
Finished		38.38	76.7	80.6	66.5	74.3	72.6	62.5	73.8	74.0	70.1	58.5	61.7	67.3

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

Table 8 INDUSTRIAL CAPACITY

Percent change

												Monthly
A	Average ar	nnual rate		Fourth	quarter to	o fourth o	quarter		Annua	al rate		rate
1972-	1980-	1989-	1995-					2019		2020		2020
79	88	94	2020	2017	2018	2019	2020	Q3	Q4	Q1	Q2	June
3.0	1.9	2.3	1.9	.3	1.5	2.1	.0	2.1	2.1	.6	1	.0
3.2	2.2	2.6	1.9	.3	.7	1.4	2	1.4	1.4	.4	2	.0
.7 4.4	.1 2.2	7 1.8	1.3 1.7	.5 1.4	7.4 1.7	5.8 2.5	-2.1 3.2	5.0 2.6	4.9 2.5	2 2.9	-2.3 3.2	3 .3
18.6	16.7	16.1	16.8	3.9	3.0	7.1	4.7	7.6	7.6	5.8	4.8	.4
2.6	1.3	1.6	.7	.2	.6	1.2	3	1.3	1.3	.2	3	.0
1.5 3.0 3.9	.4 1.4 3.3	5 2.5 2.8	1.2 2.0 1.8	.5 1 1.1	5.3 .8 1.0	4.4 1.6 1.6	-1.7 .3 .3	3.9 1.7 1.7	3.8 1.6 1.7	1 .7 .8	-1.8 .3 .4	2 .0 .0
	1972- 79 3.0 3.2 .7 4.4 18.6 2.6	1972- 1980- 79 88 3.0 1.9 3.2 2.2 .7 .1 4.4 2.2 18.6 16.7 2.6 1.3	79 88 94 3.0 1.9 2.3 3.2 2.2 2.6 .7 .17 4.4 2.2 1.8 18.6 16.7 16.1 2.6 1.3 1.6 1.5 .45 3.0 1.4 2.5	1972- 79 1980- 88 1989- 94 1995- 2020 3.0 1.9 2.3 1.9 3.2 2.2 2.6 1.9 .7 .1 7 1.3 4.4 2.2 1.8 1.7 18.6 16.7 16.1 16.8 2.6 1.3 1.6 .7 1.5 .4 5 1.2 3.0 1.4 2.5 2.0	1972- 79 1980- 88 1989- 94 1995- 2020 2017 3.0 1.9 2.3 1.9 .3 3.2 2.2 2.6 1.9 .3 .7 .1 7 1.3 .5 4.4 2.2 1.8 1.7 1.4 18.6 16.7 16.1 16.8 3.9 2.6 1.3 1.6 .7 .2 1.5 .4 5 1.2 .5 3.0 1.4 2.5 2.0 1	1972- 1980- 1989- 1995- 79 88 94 2020 2017 2018 3.0 1.9 2.3 1.9 .3 1.5 3.2 2.2 2.6 1.9 .3 .7 .7 .1 7 1.3 .5 7.4 4.4 2.2 1.8 1.7 1.4 1.7 18.6 16.7 16.1 16.8 3.9 3.0 2.6 1.3 1.6 .7 .2 .6 1.5 .4 5 1.2 .5 5.3 3.0 1.4 2.5 2.0 1 .8	1972- 79 1980- 88 1989- 94 1995- 2020 2017 2018 2019 3.0 1.9 2.3 1.9 .3 1.5 2.1 3.2 2.2 2.6 1.9 .3 .7 1.4 .7 .1 7 1.3 .5 7.4 5.8 4.4 2.2 1.8 1.7 1.4 1.7 2.5 18.6 16.7 16.1 16.8 3.9 3.0 7.1 2.6 1.3 1.6 .7 .2 .6 1.2 1.5 .4 5 1.2 .5 5.3 4.4 3.0 1.4 2.5 2.0 1 .8 1.6	1972- 79 1980- 88 1989- 94 1995- 2020 2017 2018 2019 2020 3.0 1.9 2.3 1.9 .3 1.5 2.1 .0 3.2 2.2 2.6 1.9 .3 .7 1.4 2 .7 .1 7 1.3 .5 7.4 5.8 -2.1 4.4 2.2 1.8 1.7 1.4 1.7 2.5 3.2 18.6 16.7 16.1 16.8 3.9 3.0 7.1 4.7 2.6 1.3 1.6 .7 .2 .6 1.2 3 1.5 .4 5 1.2 .5 5.3 4.4 -1.7 3.0 1.4 2.5 2.0 1 .8 1.6 .3	1972- 1980- 1989- 1995- 2018 2019 2020 Q3 3.0 1.9 2.3 1.9 .3 1.5 2.1 .0 2.1 3.2 2.2 2.6 1.9 .3 .7 1.4 2 1.4 .7 .1 7 1.3 .5 7.4 5.8 -2.1 5.0 4.4 2.2 1.8 1.7 1.4 1.7 2.5 3.2 2.6 18.6 16.7 16.1 16.8 3.9 3.0 7.1 4.7 7.6 2.6 1.3 1.6 .7 .2 .6 1.2 3 1.3 1.5 .4 5 1.2 .5 5.3 4.4 -1.7 3.9 3.0 1.4 2.5 2.0 1 .8 1.6 .3 1.7	1972- 1980- 1989- 1995- 2017 2018 2019 2020 Q3 Q4 3.0 1.9 2.3 1.9 .3 1.5 2.1 .0 2.1 2.1 3.2 2.2 2.6 1.9 .3 .7 1.4 2 1.4 1.4 .7 .1 7 1.3 .5 7.4 5.8 -2.1 5.0 4.9 4.4 2.2 1.8 1.7 1.4 1.7 2.5 3.2 2.6 2.5 18.6 16.7 16.1 16.8 3.9 3.0 7.1 4.7 7.6 7.6 2.6 1.3 1.6 .7 .2 .6 1.2 3 1.3 1.3 1.5 .4 5 1.2 .5 5.3 4.4 -1.7 3.9 3.8 3.0 1.4 2.5 2.0 1 .8 1.6 .3 1.7	1972- 1980- 1989- 1995- 2017 2018 2019 2020 Q3 Q4 Q1 3.0 1.9 2.3 1.9 .3 1.5 2.1 .0 2.1 2.1 .6 3.2 2.2 2.6 1.9 .3 .7 1.4 2 1.4 1.4 .4 .7 .1 7 1.3 .5 7.4 5.8 -2.1 5.0 4.9 2 4.4 2.2 1.8 1.7 1.4 1.7 2.5 3.2 2.6 2.5 2.9 18.6 16.7 16.1 16.8 3.9 3.0 7.1 4.7 7.6 7.6 5.8 2.6 1.3 1.6 .7 .2 .6 1.2 3 1.3 1.3 .2 1.5 .4 5 1.2 .5 5.3 4.4 -1.7 3.9 3.8 1 3.0 1.	1972- 1980- 1989- 1995- 2019 2020 2019 2020 2019 2020 Q3 Q4 Q1 Q2 3.0 1.9 2.3 1.9 .3 1.5 2.1 .0 2.1 2.1 .6 1 3.2 2.2 2.6 1.9 .3 .7 1.4 2 1.4 1.4 .4 2 .7 .1 7 1.3 .5 7.4 5.8 -2.1 5.0 4.9 2 -2.3 4.4 2.2 1.8 1.7 1.4 1.7 2.5 3.2 2.6 2.5 2.9 3.2 18.6 16.7 16.1 16.8 3.9 3.0 7.1 4.7 7.6 7.6 5.8 4.8 2.6 1.3 1.6 .7 .2 .6 1.2 3 1.3 1.3 .2 3 1.5 .4 5 1.2 <t< td=""></t<>

^{1.} 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

illions of 2012 dollars at allitual fate, seaso	many adjusted										
			2019	2020		2020					
Item	2012	2019	Q4	Q1 ^r	Q2 ^p	Jan. ^r	Feb.r	Mar. ^r	Apr.r	May ^r	June ^p
Final products and panindustrial											
Final products and nonindustrial supplies	4,020.4	4,297.7	4,300.0	4,196.2	3,533.3	4,286.3	4,304.3	3,998.2	3,306.9	3,470.6	3,822.3
supplies	4,020.4	4,271.1	4,500.0	7,170.2	3,333.3	7,200.3	4,504.5	3,770.2	3,300.7	3,470.0	3,022.3
Final products	3,059.0	3,242.3	3,240.2	3,143.0	2,623.9	3,214.8	3,233.7	2,980.6	2,416.6	2,567.2	2,887.8
Consumer goods	2,238.8	2,422.0	2,426.7	2,372.7	2,035.0	2,419.9	2,439.1	2,259.0	1,887.0	1,987.9	2,230.1
Durable	436.9	533.4	527.8	509.6	319.0	540.6	554.4	433.7	217.7	292.4	446.7
Automotive products	272.6	354.6	349.6	332.2	165.8	361.4	373.9	261.2	73.2	140.0	284.2
Other durable goods	164.3	179.0	178.3	177.4	152.4	179.5	180.7	172.0	143.1	151.4	162.6
Nondurable	1,801.9	1,887.2	1,898.5	1,863.4	1,730.3	1,877.1	1,881.4	1,831.7	1,691.5	1,711.6	1,787.9
Equipment, total	820.2	824.5	818.2	776.2	597.4	800.4	800.5	727.7	538.3	587.4	666.5
Business and defense	784.9	796.5	792.6	750.9	581.8	775.1	774.6	703.0	519.8	572.6	652.9
Business	654.7	664.3	656.6	615.8	456.9	640.8	638.0	568.8	401.6	446.9	522.3
Defense and space	130.2	131.9	135.6	134.3	123.3	133.8	136.0	133.1	116.5	124.1	129.3
Nonindustrial supplies	961.4	1,055.6	1,060.0	1,053.4	909.5	1.071.7	1.070.8	1.017.7	890.4	903.5	934.7
Construction supplies	274.1	318.6	320.0	324.7	283.3	329.6	329.1	315.3	276.7	284.5	288.6
Business supplies	687.3	734.9	737.9	725.0	622.3	738.4	738.1	698.4	610.0	614.2	642.6
Commercial energy products	264.8	288.6	292.2	282.6	232.9	290.5	288.6	268.6	232.4	225.4	241.0

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

Percent change, seasonally adjusted

		Fou	rth quarte	er to										
		fo	urth quar	ter		Annual r	ate			Month	nly rate			June '19
Item	2019				2019	2020		2020						to
	gross value1	2017	2018	2019	Q4	Q1 ^r	$Q2^p$	Jan. ^r	Feb.r	Mar.r	Apr.r	Mayr	June ^p	June '20
Finished	2,395.2	2.3	2.8	-1.1	-1.3	-8.5	-54.4	6	.7	-7.6	-21.2	7.2	13.9	-11.6
Semifinished	2,039.3	2.2	2.2	-1.4	9	-6.8	-45.8	6	.6	-4.9	-15.7	3.5	8.0	-10.1
Primary	1,923.8	2.7	2.3	-2.3	-2.5	-11.3	-45.0	.1	-1.2	-5.3	-11.7	.2	4.4	-13.1
Crude	1,040.2	6.4	7.8	.2	4.2	-1.4	-34.3	.9	-1.1	-2.2	-7.0	-2.4	.6	-9.7

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^{1.} Billions of 2012 dollars.

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

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent																	
change) ¹																	
1998	.5	.1	.1	.4	.6	6	3	2.1	2	.8	1	.4	4.6	2.7	3.0	5.9	5.8
1999	.5	.5	.2	.3	.7	2	.6	.4	4	1.3	.5	.8	4.5	3.9	3.6	7.3	4.4
2000	.0 6	.3 6	.4 2	.7 3	.2 6	.1 6	2 6	3 1	.4	3 4	.0 5	3 .0	4.1 -5.2	4.9 -5.0	4 -5.4	8	3.9
2001 2002	6	.0	2	3 .4	0 .4	1.0	0	.0	4 .1	4	5 .5	5	3.0	6.4	2.4	-4.1 1	-3.1 .4
2003	.8	.1	2	7	.0	.2	.4	1	.6	.1	.8	1	2.5	-3.0	2.7	4.0	1.3
2004	.3	.6	5	.5	.8	8	.8	.1	.1	1.0	.2	.7	2.8	2.3	2.2	5.8	2.7
2005	.5	.7	2	.2	.1	.4	3	.3	-1.9	1.3	1.0	.6	5.9	2.0	-1.8	3.9	3.3
2006	.1	.0	.2	.4	1	.4	.0	.4	2	1	1	1.0	3.8	2.4	1.5	.9	2.3
2007	5	1.0	.2	.7	.0	.0	.0	.2	.4	4	.6	.0	3.6	5.0	1.1	1.2	2.5
2008 2009	3 -2.4	3 6	2 -1.6	8 8	6 -1.0	2 4	5 1.1	-1.5 1.1	-4.3 .8	1.0	-1.3 .4	-2.9 .3	-1.5 -20.6	-5.8 -10.9	-12.5 6.1	-16.0 6.4	-3.5 -11.5
2010	1.2	0	-1.0	6	1.5	4	.4	.3	.2	3	.0	1.0	8.1	8.1	5.3	1.3	5.5
2011	1	4	1.0	4	.2	.3	.5	.6	.0	.7	1	.6	2.3	1.6	4.8	4.0	3.1
2012	.6	.2	5	.8	.2	.0	.3	5	.0	.2	.5	.4	3.9	2.6	.0	2.1	3.0
2013	1	.6	.4	2	.1	.2	4	.7	.5	2	.3	.3	3.2	1.7	1.4	2.8	2.0
2014	4	.8	1.0	.0	.4	.4	.2	1	.3	.0	.8	1	3.1	5.5	2.4	2.7	3.1
2015 2016	5 .8	5 7	3 8	6 .1	4 1	3 .4	.6	2 1	4	4	7 2	6 .9	-3.0 -2.1	-5.3 -2.3	1 1.8	-5.1 1.3	-1.0 -2.0
2017	.1	4	.7	.9	.1	.2	.0	5	.0	1.5	.5	.3	2.4	5.6	8	7.5	2.3
2018	3	.4	.6	.9	8	.8	.4	.8	.1	.2	.5	.0	2.3	4.6	5.2	3.9	3.9
2019	4	5	.1	6	.2	.0	2	.7	3	4	.9	4	-1.9	-2.3	1.1	.4	.8
2020	4	.1	-4.4	-12.7	1.4	5.4							-6.8	-42.6			
IP (2012=100)																	
2018	106.3	106.6	107.3	108.2	107.4	108.2	108.7	109.5	109.7	109.9	110.5	110.6	106.7	107.9	109.3	110.3	108.6
2019 2020	110.1 109.2	109.6 109.3	109.7 104.5	109.0 91.2	109.2 92.5	109.3 97.5	109.1	109.9	109.5	109.0	110.0	109.7	109.8 107.7	109.2 93.7	109.5	109.6	109.4
Capacity (percent of 2012 output) 2018 2019	136.9 139.4	137.0 139.6	137.2 139.9	137.3 140.2	137.5 140.4	137.7 140.6	137.9 140.9	138.1 141.1	138.4 141.4	138.6 141.6	138.9 141.9	139.1 142.1	137.0 139.6	137.5 140.4	138.2 141.1	138.9 141.9	137.9 140.8
2020	142.0	142.1	142.1	142.1	142.0	142.0							142.1	142.0			
Utilization (percent)																	
1998	84.5	84.0	83.5	83.3	83.3	82.3	81.5	82.8	82.2	82.4	82.0	81.9	84.0	83.0	82.2	82.1	82.8
1999	81.9	82.0	81.8	81.7	81.9	81.5	81.7	81.7	81.1	81.9	82.0	82.3	81.9	81.7	81.5	82.1	81.8
2000	82.1	82.0	82.0	82.3	82.2	82.0	81.6	81.1	81.2	80.7	80.4	80.0	82.0	82.2	81.3	80.4	81.5
2001 2002	79.2 74.0	78.4 73.9	78.0 74.4	77.6 74.6	76.9 74.9	76.2 75.5	75.6 75.3	75.3 75.3	74.8 75.4	74.3 75.2	73.8 75.6	73.7 75.2	78.6 74.1	76.9 75.0	75.2	74.0	76.2
															75.3	75.3	74.9
2003	75.8	75.9	75.8	75.3	75.3	75.5	75.8	75.8	76.2	76.3	76.9	76.9	75.9	75.4	75.9	76.7	76.0
2004 2005	77.1 80.0	77.6 80.5	77.2 80.3	77.6 80.3	78.2 80.3	77.6 80.5	78.2 80.2	78.2 80.3	78.3 78.7	79.0 79.6	79.1 80.3	79.7 80.7	77.3 80.2	77.8 80.4	78.2 79.7	79.3 80.2	78.2 80.1
2006	80.7	80.5	80.5	80.8	80.5	80.8	80.2	80.8	80.5	80.2	80.0	80.7	80.2	80.7	80.6	80.2	80.6
2007	80.0	80.6	80.6	81.0	80.9	80.8	80.6	80.7	81.0	80.6	81.1	81.1	80.4	80.9	80.8	80.9	80.8
2008	80.9	80.7	80.6	80.0	79.6	79.5	79.0	77.8	74.4	75.0	74.0	71.7	80.8	79.7	77.1	73.6	77.8
2009	70.0	69.4	68.3	67.7	67.0	66.7	67.4	68.2	68.8	69.1	69.5	69.9	69.2	67.1	68.2	69.5	68.5
2010	70.8	71.2	71.8	72.3	73.5	73.8	74.2	74.6	74.9	74.8	74.9	75.6	71.3	73.2	74.6	75.1	73.5
2011 2012	75.6 77.2	75.3 77.2	76.0 76.7	75.7 77.2	75.8 77.2	75.9 77.0	76.2 77.1	76.6 76.6	76.4 76.5	76.8 76.6	76.6 76.8	76.9 77.0	75.6 77.1	75.8 77.1	76.4 76.7	76.8 76.8	76.1 76.9
2013	76.7	77.1	77.3	77.1	77.0	77.1	76.7	77.2	77.5	77.3	77.4	77.6	77.0	77.1	77.1	77.5	77.2
2013	77.2	77.1	78.5	78.4	78.6	78.8	78.9	78.7	78.8	78.7	79.2	79.0	77.8	78.6	78.8	79.0	78.6
2015	78.6	78.1	77.8	77.3	76.9	76.6	77.0	76.9	76.6	76.7	75.7	75.3	78.1	76.9	76.8	75.8	76.9
2016	75.9	75.3	74.7	74.7	74.6	74.9	75.1	75.0	74.9	75.0	74.9	75.5	75.3	74.8	75.0	75.1	75.0
2017	75.5	75.2	75.7	76.4	76.5	76.6	76.5	76.2	76.1	77.3	77.6	77.9	75.5	76.5	76.3	77.6	76.
2018	77.6	77.8	78.2	78.8	78.1	78.6	78.8	79.3	79.3	79.3	79.6	79.5	77.9	78.5	79.1	79.4	78.
2019	79.0 76.9	78.5	78.4	77.8	77.8	77.7	77.4	77.8	77.4	77.0	77.6	77.2	78.6	77.8	77.6	77.2	77.8
2020		76.9	73.5	64.2	65.1	68.6							75.8	66.0			i .

^{1.} 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

Year																	
TD /	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
IP (percent change) ²																	
1998	.8	.1	1	.5	.5	8	4	2.4	2	1.0	.2	.5	6.1	2.1	3.3	8.0	6.7
1999	.3	.8	1	.4	.9	3	.5	.6	4	1.5	.6	.7	5.1	4.5	3.2	8.7	5.1
2000	.1	.2	.6	.7	1	.2	.1	7	.4	3	3	6	4.5	4.8	4	-2.4	4.1
2001	6	6	2	3	6	7	5	5	2	6	3	.3	-6.0	-5.2	-5.8	-3.8	-3.7
2002	.6	.0	.8	.2	.5	1.1	3	.2	.1	4	.5	5	3.6	5.8	3.1	3	.5
2003 2004	.7	1 .8	.1 2	9 .4	.1 .8	.5 7	.2 .9	4 .5	.8	.1 1.0	1.0 1	2 .7	2.1 2.6	-2.2 3.3	2.5 4.0	4.4 5.5	1.3 3.1
2004	.7	.8	5	.4	.3	7	3	.5	-1.0	1.5	1	.2	6.6	2.3	7	6.4	4.1
2006	.8	3	.0	.5	.3 4	.4	3	.7	.1	4	.0	1.4	3.8	.8	1.0	1.5	2.6
2007	5	.4	.9	.7	1	.3	.1	3	.5	3	.6	.1	4.0	5.9	1.1	1.2	2.8
2008	4	6	3	-1.1	5	7	-1.2	-1.2	-3.5	6	-2.4	-3.5	-2.6	-8.2	-14.0	-21.9	-4.8
2009	-3.0	1	-1.9	7	-1.1	3	1.5	1.1	.9	.2	1.0	2	-24.4	-10.6	8.1	7.1	-13.8
2010	1.1	.0	1.2	.8	1.4	1	.6	.1	.0	.1	.0	.5	6.9	10.4	4.2	1.2	5.8
2011	.2	.1	.6	6	.1	.1	.6	.4	.3	.5	3	.7	3.1	1	4.5	3.8	2.9
2012	.8	.3	5	.5	4	.2	1	2	1	4	.7	.8	5.2	.6	-1.1	1.2	2.6
2013 2014	3 -1.1	.5 1.0	1 .8	4 2	.3	.2	9 .4	.9 5	.1 .0	.1 1	.0	.0 3	2.9	1 4.3	1 1.6	1.7	.9 1.1
2015	4	7	.3	1	.0	4	.7	3	4	.0	3	3	-2.9	-1.2	.2	-2.8	5
2016	.7	6	2	4	.0	.3	.3	4	.4	.3	.1	.3	3	-2.4	1.2	2.5	8
2017	.6	1	3	1.1	2	.1	2	3	2	1.3	.3	1	3.0	3.4	-1.6	5.3	2.0
2018	4	1.1	.0	.4	8	.7	.4	.4	.0	1	.2	.6	1.6	2.0	3.6	1.5	2.3
2019 2020	6 1	5 .0	1 -5.1	9 -15.9	3.8	.6 7.2	4	.6	6	6	.9	.2	-1.8 -5.5	-3.3 -47.0	.7	5	2
IP (2012=100)																	
2018	103.3	104.4	104.5	104.9	104.1	104.8	105.2	105.7	105.7	105.6	105.8	106.4	104.1	104.6	105.5	105.9	105.0
2019	105.8	105.3	105.2	104.3	104.4	105.0	104.6	105.7	104.5	103.9	104.9	105.1	105.5	104.6	104.8	104.6	104.8
2020	105.0	104.9	99.6	83.8	87.0	93.3	100	100.2	10	100.5	10	10011	103.2	88.0	10 110	10.10	10.10
Capacity (percent of																	
2012 output)																	
2012 output) 2018	136.8	136.8	136.9	136.9	137.0	137.1	137.2	137.3	137.4	137.5	137.6	137.7	136.8	137.0	137.3	137.6	
2012 output) 2018 2019	136.8 137.9 139.6	136.8 138.0 139.6	136.9 138.2 139.6	136.9 138.3 139.6	137.0 138.5 139.6	137.1 138.7 139.5	137.2 138.8	137.3 139.0	137.4 139.2	137.5 139.3	137.6 139.5	137.7 139.7	136.8 138.0 139.6	137.0 138.5 139.6	137.3 139.0	137.6 139.5	137.2 138.8
2012 output) 2018 2019 2020 Utilization	137.9	138.0	138.2	138.3	138.5	138.7							138.0	138.5			
2012 output) 2018 2019 2020 Utilization (percent)	137.9 139.6	138.0 139.6	138.2 139.6	138.3 139.6	138.5 139.6	138.7 139.5	138.8	139.0	139.2	139.3	139.5	139.7	138.0 139.6	138.5 139.6	139.0	139.5	138.8
2012 output) 2018 2019 2020 Utilization (percent) 1998	137.9 139.6	138.0 139.6	138.2 139.6	138.3 139.6	138.5 139.6 82.0	138.7 139.5	138.8 80.0	139.0 81.5	139.2 80.8	139.3 81.2	139.5 80.9	139.7 80.9	138.0 139.6	138.5 139.6 81.7	139.0	139.5 81.0	138.8 81.6
2012 output) 2018 2019 2020 Utilization (percent) 1998	137.9 139.6 83.6 80.7	138.0 139.6 83.1 81.0	138.2 139.6 82.4 80.5	138.3 139.6 82.2 80.5	138.5 139.6 82.0 80.8	138.7 139.5 80.8 80.2	80.0 80.2	81.5 80.4	80.8 79.7	81.2 80.6	80.9 80.7	80.9 80.9	138.0 139.6 83.0 80.7	138.5 139.6 81.7 80.5	139.0 80.8 80.1	81.0 80.7	138.8 81.6 80.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000	137.9 139.6	138.0 139.6	138.2 139.6	138.3 139.6	138.5 139.6 82.0	138.7 139.5	138.8 80.0	139.0 81.5	139.2 80.8	139.3 81.2	139.5 80.9	139.7 80.9	138.0 139.6	138.5 139.6 81.7	139.0	139.5 81.0	81.6 80.5 79.7
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001	137.9 139.6 83.6 80.7 80.7	138.0 139.6 83.1 81.0 80.5	138.2 139.6 82.4 80.5 80.7	138.3 139.6 82.2 80.5 80.9	138.5 139.6 82.0 80.8 80.5	138.7 139.5 80.8 80.2 80.3	80.0 80.2 80.1	81.5 80.4 79.3	80.8 79.7 79.3	81.2 80.6 78.8	80.9 80.7 78.3	80.9 80.9 77.6	138.0 139.6 83.0 80.7 80.6	138.5 139.6 81.7 80.5 80.6	80.8 80.1 79.6	81.0 80.7 78.2	81.6 80.5 79.7 73.8
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002	137.9 139.6 83.6 80.7 80.7 76.8 72.1	138.0 139.6 83.1 81.0 80.5 76.1 71.9	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8	82.2 80.5 80.9 75.2 72.5	82.0 80.8 80.5 74.5 72.9	80.8 80.2 80.3 73.6 73.7	80.0 80.2 80.1 73.3 73.4 73.9	81.5 80.4 79.3 72.8 73.5	80.8 79.7 79.3 72.5 73.6 74.2	81.2 80.6 78.8 71.9 73.3 74.3	80.9 80.7 78.3 71.6 73.6	80.9 80.9 77.6 71.7 73.3 75.0	83.0 80.7 80.6 76.2 72.1	81.7 80.5 80.6 74.5 73.0	80.8 80.1 79.6 72.9 73.5	81.0 80.7 78.2 71.8 73.4 74.8	81.6 80.5 79.7 73.8 73.0 74.0
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004	83.6 80.7 80.7 76.8 72.1 73.8 75.0	83.1 81.0 80.5 76.1 71.9 73.7 75.6	82.4 80.5 80.7 75.7 72.4 73.8 75.5	82.2 80.5 80.9 75.2 72.5 73.2 75.8	82.0 80.8 80.5 74.5 72.9 73.3 76.4	80.8 80.2 80.3 73.8 73.6 73.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6	81.5 80.4 79.3 72.8 73.5 73.6 76.9	80.8 79.7 79.3 72.5 73.6 74.2 76.9	81.2 80.6 78.8 71.9 73.3 74.3	80.9 80.7 78.3 71.6 73.6 75.1	80.9 80.9 77.6 71.7 73.3 75.0	83.0 80.7 80.6 76.2 72.1 73.8 75.4	81.7 80.5 80.6 74.5 73.0 73.4 76.1	80.8 80.1 79.6 72.9 73.5 73.9 76.8	81.0 80.7 78.2 71.8 73.4 74.8 77.7	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4	83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6	82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2	81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6	81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6	80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0	81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006	83.6 80.7 80.7 76.8 72.1 73.8 75.0	83.1 81.0 80.5 76.1 71.9 73.7 75.6	82.4 80.5 80.7 75.7 72.4 73.8 75.5	82.2 80.5 80.9 75.2 72.5 73.2 75.8	82.0 80.8 80.5 74.5 72.9 73.3 76.4	80.8 80.2 80.3 73.8 73.6 73.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6	81.5 80.4 79.3 72.8 73.5 73.6 76.9	80.8 79.7 79.3 72.5 73.6 74.2 76.9	81.2 80.6 78.8 71.9 73.3 74.3	80.9 80.7 78.3 71.6 73.6 75.1	80.9 80.9 77.6 71.7 73.3 75.0	83.0 80.7 80.6 76.2 72.1 73.8 75.4	81.7 80.5 80.6 74.5 73.0 73.4 76.1	80.8 80.1 79.6 72.9 73.5 73.9 76.8	81.0 80.7 78.2 71.8 73.4 74.8 77.7	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.8
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9	80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.8
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3	80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7	81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5,78.8 78.9
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1	81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3	80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9	81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.8 78.9 74.7 65.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7	81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9 74.1 65.5	81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.8 78.9 74.7 65.5 70.7
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9 68.0	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 78.1 65.9 68.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7 70.9	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4	81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7	81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 78.2 65.5 68.4	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0	139.0 80.8 80.1 79.6 72.9 73.5 76.8 78.0 78.7 78.9 74.1 65.5 71.6	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.9 74.7 65.5 70.7
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9 68.0 72.7 75.0	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 78.1 65.9 68.1 72.8 75.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7 72.9 75.0	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7 70.9 73.1 74.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4 73.5 74.5	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6 73.8 74.2	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6 71.8 66.5 71.9 74.3 73.8	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.0 74.2	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5 74.5 74.7	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 78.2 65.5 68.4 72.9 74.9	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0 70.5 73.0 74.8	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9 74.1 65.5 71.6 73.8 74.3	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1 74.3 74.2	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.8 78.9 74.7 65.5 70.7 73.5 74.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9 68.0 72.7 75.0 74.4 73.6	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 65.9 68.1 72.8 75.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7 72.9 75.0	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7 70.9 73.1 74.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4 73.5 74.5	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6 73.8 74.2	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1 74.5 75.5	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6 71.8 66.5 71.9 74.3 73.8	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.0 74.2 74.5 76.1	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5 74.5 74.7	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 65.5 68.4 72.9 74.9	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0 70.5 73.0 74.8	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9 74.1 65.5 71.6 73.8 74.3	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1 74.3 74.2 74.5 75.8	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.5 74.7 73.5 74.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 65.9 68.0 72.7 75.0 74.4 73.6 75.7	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 65.9 68.1 72.8 75.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7 74.5 75.0 75.5	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7 72.9 75.0	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6 74.4 75.2 75.5	138.7 139.5 80.8 80.2 80.3 73.8 73.6 75.9 78.6 78.9 79.2 76.2 63.7 70.9 73.1 74.7 74.5 75.5 75.2	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4 73.5 74.5 73.8 75.8 75.8	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6 73.8 74.2 74.4 75.5 75.5	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1 74.5 75.5 75.2	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.6 71.8 66.5 71.9 74.3 73.8 74.5 75.5 75.1	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.0 74.2 74.5 76.1 74.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5 74.5 74.7	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 65.5 68.4 72.9 74.9	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0 70.5 73.0 74.8 74.4 75.2	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9 74.1 65.5 71.6 73.8 74.3 74.2 75.6 75.5	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1 74.3 74.2 74.5 75.8 74.9	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.5 70.7 73.5 74.5
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9 68.0 72.7 75.0 74.4 73.6	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 65.9 68.1 72.8 75.1	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7 72.9 75.0	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6	138.7 139.5 80.8 80.2 80.3 73.8 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7 70.9 73.1 74.7	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4 73.5 74.5	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6 73.8 74.2	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1 74.5 75.5	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6 71.8 66.5 71.9 74.3 73.8	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.0 74.2 74.5 76.1	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5 74.5 74.7	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 65.5 68.4 72.9 74.9	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 78.9 79.3 76.6 64.0 70.5 73.0 74.8	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.0 78.7 78.9 74.1 65.5 71.6 73.8 74.3	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1 74.3 74.2 74.5 75.8	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 78.8 78.9 74.7 73.5 74.5 74.5 74.4
2012 output) 2018 2019 2020	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 65.9 68.0 72.7 75.0 74.4 73.6 75.7	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 78.1 65.9 68.1 72.8 75.1 74.7 74.4 75.2	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7 74.5 75.0 75.5 74.3	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 64.4 69.7 72.9 75.0 74.2 74.9 75.5 74.0	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6 74.4 75.2 75.5 73.9	138.7 139.5 80.8 80.2 80.3 73.6 73.7 75.9 78.6 78.9 79.2 63.7 70.9 73.1 74.7 74.5 75.5 75.2 74.0	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.5 79.1 75.4 64.7 71.4 73.5 74.5 73.8 75.8 75.8 74.1	139.0 81.5 80.4 79.3 73.5 73.6 76.9 78.4 78.9 78.7 74.6 65.6 71.6 73.8 74.2 74.4 75.5 73.8	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1 74.5 75.5 75.2 74.0	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6 71.9 74.3 73.8 74.5 75.5 75.1 74.1	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.0 74.2 74.5 76.1 74.9	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 67.8 67.2 72.5 74.5 74.7 74.5 75.9 74.6 74.4	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.7 78.7 78.2 65.5 68.4 72.9 74.9 74.5 74.3 75.5 74.7	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.9 79.3 76.6 64.0 70.5 73.0 74.8 74.4 75.2 75.4	139.0 80.8 80.1 79.6 72.9 73.5 73.9 76.8 78.7 78.9 74.1 65.5 71.6 73.8 74.3 74.2 75.6 75.5 74.0	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.5 78.8 69.9 66.9 72.1 74.3 74.2 74.5 75.8 74.9	
2012 output) 2018 2019 2020 Utilization (percent) 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	137.9 139.6 83.6 80.7 80.7 76.8 72.1 73.8 75.0 78.4 79.4 78.5 78.6 65.9 68.0 72.7 75.0 74.4 73.6 75.1 74.8	138.0 139.6 83.1 81.0 80.5 76.1 71.9 73.7 75.6 79.0 79.1 78.6 65.9 68.1 72.8 75.1 74.7 74.4 75.2 74.6 74.7	138.2 139.6 82.4 80.5 80.7 75.7 72.4 73.8 75.5 78.4 78.9 79.1 77.8 64.7 69.0 73.3 74.7 74.5 75.0 75.7 74.3	138.3 139.6 82.2 80.5 80.9 75.2 72.5 73.2 75.8 78.6 79.2 79.4 77.0 64.4 69.7 75.0 74.9 75.0 74.9 75.3	138.5 139.6 82.0 80.8 80.5 74.5 72.9 73.3 76.4 78.7 79.1 76.7 63.8 70.8 73.0 74.6 74.4 75.2 75.5 73.9	138.7 139.5 80.8 80.2 80.3 73.6 73.7 75.9 78.6 78.9 79.2 76.2 63.7 70.9 73.1 74.7 74.5 75.5 75.5 75.2	80.0 80.2 80.1 73.3 73.4 73.9 76.6 78.2 78.5 79.1 75.4 64.7 71.4 73.8 75.8 75.8 75.8 75.1	139.0 81.5 80.4 79.3 72.8 73.5 73.6 76.9 78.4 78.7 74.6 65.6 71.6 73.8 74.2 74.4 75.5 75.5 73.8 74.8	80.8 79.7 79.3 72.5 73.6 74.2 76.9 77.5 78.8 78.9 72.1 66.2 71.7 74.0 74.1 74.5 75.5 75.2 74.0 74.7	139.3 81.2 80.6 78.8 71.9 73.3 74.3 77.6 78.5 78.3 78.6 71.8 66.5 71.9 74.3 73.8 74.5 75.5 75.1 74.1 75.7	80.9 80.7 78.3 71.6 73.6 75.1 77.5 78.9 78.2 78.9 70.2 67.2 72.0 74.2 74.5 76.1 74.5 76.1 74.5 76.1	80.9 80.9 77.6 71.7 73.3 75.0 77.9 78.9 79.1 78.9 67.8 67.2 72.5 74.7 74.5 74.7 74.5 75.9 74.4 75.8	138.0 139.6 83.0 80.7 80.6 76.2 72.1 73.8 75.4 78.6 79.1 78.7 78.2 65.5 68.4 72.9 74.9 74.5 74.3 75.4	138.5 139.6 81.7 80.5 80.6 74.5 73.0 73.4 76.1 78.6 64.0 70.5 73.0 74.8 74.4 75.2 75.2	139.0 80.8 80.1 79.6 72.9 73.5 78.0 78.7 78.9 74.1 65.5 71.6 73.8 74.3 74.2 75.6 75.5 74.0 74.9	139.5 81.0 80.7 78.2 71.8 73.4 74.8 77.7 78.8 78.8 69.9 66.9 72.1 74.3 74.2 74.5 75.8 74.9 74.2	138.8 81.6 80.5 79.7 73.8 73.0 74.0 76.5 78.5 70.7 73.5 74.5 74.4 75.2 75.1

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 Industries¹
Seasonally adjusted

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 -2 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	.1 .2 -2 -5 .6 .2 -2 .6 -4 .8 -5 -5 .8 -7 .1 -4 -3 .4 -4 .2 .3 .4	1 .1 3 .8 3 6 2 .2 .0 4 -1.7 .6 1.1 5	Apr. .21 .52 .49 .5 .1 .4 .5 89 .34 .7 2 .06 .1 .9	.6 .5 .2 6 .4 1 .8 .1 2 .1 7 -1.1 1.5 .2 .2 .2	951590943413124444	7 .3 5 4 3 .3 .8 4 1 1 5 1.1 .5 .3	1.9 .4 5 1 3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	55 .34 .1 .5 .0 -2.13 .3 -4.5 .7 .2 .0 .0 .0	.6 1.2 4 5 3 .0 .9 1.2 1 6 1.2 .3 3 .7 .2	3 .2 2 4 .5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	.1 .6 5 1 6 1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	2.2 .6 .6 -5.9 2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	28 .8 .3 1.5 -4.3 6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1 1.4 5.2	-3.3	2.5 5.6 -2.6 -4.4 6 2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	3.1 1.0 -3.9 .3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
change) ² 1998 1999 2000 2001 2002 2003 2004 2005 2006 2008 2009 2010 1. 2011 2012 2013 2016 2016 2016 2017 2018 2018 2019 2018 105. 2019 109.	.1 .2 .3 .0	1 .1 3 .8 3 6 2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	1 .5 2 .4 9 .5 .1 .4 .5 8 9 .3 4 .7	.5 2 6 .4 1 .8 .1 2 .1 7 1.1 1.5 .2 .2 .2 .1 .3 4 1 .3	5 1 5 .9 .0 9 .4 .3 .2 3 4 .1 .3 1	.3 5 4 3 .8 4 1 1 5 1.1 .4 .5 .3	.4 5 1 3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	5 .3 4 .1 .5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	1.2 4 5 3 .0 .9 1.2 1 6 1.2 .3 3 .7 .2	.2 2 4 .5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	.6 5 1 6 1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	.6 .6 -5.9 2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	.3 1.5 -4.3 6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	.9 -3.2 -4.3 1.8 .7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.61 1.1 2.3	5.6 -2.6 -4.4 6 2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	1.1 1.0 -3.9 .3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
1998 1999 2000 2001 2001 2002 2003 2004 2005 2006 2007 2008 20092 2010 1. 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2018 2019 2018 105. 2018 2019 2018 105. 2019	.1 .2 .3 .0	1 .1 3 .8 3 6 2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	1 .5 2 .4 9 .5 .1 .4 .5 8 9 .3 4 .7	.5 2 6 .4 1 .8 .1 2 .1 7 1.1 1.5 .2 .2 .2 .1 .3 4 1 .3	5 1 5 .9 .0 9 .4 .3 .2 3 4 .1 .3 1	.3 5 4 3 .8 4 1 1 5 1.1 .4 .5 .3	.4 5 1 3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	5 .3 4 .1 .5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	1.2 4 5 3 .0 .9 1.2 1 6 1.2 .3 3 .7 .2	.2 2 4 .5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	.6 5 1 6 1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	.6 .6 -5.9 2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	.3 1.5 -4.3 6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	.9 -3.2 -4.3 1.8 .7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.61 1.1 2.3	5.6 -2.6 -4.4 6 2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	1.1 1.0 -3.9 .3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 -2 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105. 2019 109.	30 76 72 70 16 36 11 6 1.0 35 2.47 125 62 26 48 55 87 14 34	.1 3 .8 3 6 2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	.5 2 .4 9 .5 .1 .4 .5 8 9 .3 4 .7 2 .0 6	2 6 .4 1 .8 .1 2 .1 7 -1.1 1.5 .2 .2 .2 .1 .3 4 1	1 5 .9 .0 9 .4 .3 .2 3 4 .1 .3 1	5 4 3 .3 .8 4 1 1 5 1.1 .4 .5 .3	5 1 3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	.3 4 .1 .5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	4 5 3 .0 .9 1.2 1 6 1.2 .3 .3 .7 .2	2 4 .5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	5 1 6 1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	.6 -5.9 2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	1.5 -4.3 6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	-3.2 -4.3 1.8 .7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.6 1	-2.6 -4.4 6 2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	1.0 -3.9 .3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8 1.8 2.9
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 2019 2019 2019 2019 2019 2019 2019 2019	.76 .72 .7 .0 .1 .6 .3 .6 .11 .6 1.0 .35 .47 .1 .2 .25 .6 .2 .2 .6 .4 .8 .5 .5 .87 .14 .3 .4 .4 .5 .4 .5	3 .8 3 6 2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	2 .4 9 .5 .1 .4 .5 8 9 .3 4 .7 2 .0 6	6 .4 1 .8 .1 2 .1 7 -1.1 1.5 .2 .2 .2	5 .9 .0 9 .4 .3 .2 3 4 .1 .3 1	4 3 .3 .8 4 1 1 5 1.1 4 .5 .3	1 3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	4 .1 .5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	5 3 .0 .9 1.2 1 6 1.2 .3 3 .7 .2	4 .5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	1 6 1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	-5.9 2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	-4.3 6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	-4.3 1.8 .7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.61 1.1 2.3	-4.4 6 2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8 2.6 2.7	-3.9 .3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2002 2003 2004 2005 2006 2007 2008 2009 -2 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2018 105 2019 109	.72 .7 .0 .1 .6 .3 .6 .11 .6 .1.0 .35 .47 .1 .2 .25 .6 .2 .2 .6 .4 .8 .55 .87 .14 .3 .4 .45 .4 .2	.8362 .2 .04 -1.7 .6 1.15 .4 .938 .7	.4 9 .5 .1 .4 .5 8 9 .3 4 .7 2 .0 6 .1 .9	.41 .8 .12 .17 -1.1 1.5 .2 .2 .1 .31 .1	.9 .0 9 .4 .3 .2 3 4 .1 .3 1	3 .8 4 1 1 5 1.1 .4 .5 .3 5 .2 .6	13 .0 .2 .3 .2 -1.6 1.1 .3 .55	.1 .5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	3 .0 .9 1.216 1.2 .33 .7 .2	.5 .7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	61 .7 .6 1.01 -2.8 .3 .9 .5 .4	2.6 1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6 3.1 3.0	6.0 -4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1 1.4 5.2	1.8 .7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.61 1.1 2.3	6 2.7 5.3 2.7 .15 -14.9 6.0 .8 4.1 1.8	.3 .2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2003 2004 2005 2006 2007 2008 2009 2011 2012 2013 2014 2015 2016 2017 2018 2019 2018 2020 IP (2012=100) 2018 2019 2019 2019 109.	.7 .0 .1 .6 .3 .6 .1 .16 .1.0 .3 .5 .4 .7 .1 .2 .5 .6 .2 .6 .2 .6 .4 .8 .7 .1 .4 .4 .5 .5 .5 .5 .8 .7 .1 .4 .4 .5 .4 .2 .5 .4 .2 .5 .4 .2 .5 .4 .2 .5 .4 .2	362 .2 .04 -1.7 .6 1.15 .4 .938 .7	951458934726196	1 .8 .1 2 .1 7 -1.1 1.5 .2 .2 .2 .1 .3 4	.0 9 .4 .3 .2 3 4 .1 .3 1 .2 .4 4	.3 .8 4 1 5 1.1 .4 .5 .3 5 .2	3 .0 .2 .3 .2 -1.6 1.1 .3 .5 5	.5 .0 -2.1 3 .3 -4.5 .7 .2 .0 .0	.0 .9 1.2 1 6 1.2 .3 3 .7 .2	.7 .2 1.0 1 .4 -1.0 .3 .0 1 .5	1 .7 .6 1.0 1 -2.8 .3 .9 .5 .4	1.5 1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6	-4.7 2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	.7 1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.6 1	2.7 5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	.2 1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 2018 2019 2018 2019 2018 2019 2019 2018 2019 2019 2018 2019 2019 2018 2019 2019 2018 2019	.1 .6 .3 .6 .1 .16 .116 .112 .24 .71 .2 .2 .6 .2 .2 .6 .4 .8 .5 .5 .5 .8 .71 .4 .4 .5 .4 .2 .5 .4 .2	6 2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	.5 .1 .4 .5 .5 .8 .9 .3 .4 .7 .7 .0 6 .1 .9	.8 .1 2 .1 7 -1.1 1.5 .2 .2 .2 .1 .3 4 1	9 .4 .3 .2 3 4 .1 .3 1	.8 4 1 5 1.1 .4 .5 .3 5 .2	.0 .2 .3 .2 -1.6 1.1 .3 .5 5	.0 -2.1 3 .3 -4.5 .7 .2 .0 .0	.9 1.2 1 6 1.2 .3 3 .7 .2	.2 1.0 1 .4 -1.0 .3 .0 1 .5	.7 .6 1.0 1 -2.8 .3 .9 .5 .4	1.9 4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6 3.1	2.1 1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	1.9 -3.0 .6 1.1 -12.8 6.1 5.1 4.61	5.3 2.7 .1 5 -14.9 6.0 .8 4.1 1.8	1.7 2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2005 2006 2007	.3 .6 .11	2 .2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	.1 .4 .5 8 9 .3 4 .7 2 .0 6 .1 .9	.1 2 .1 7 -1.1 1.5 .2 .2 .2 .1 .3 4 1	.4 .3 .2 3 4 .1 .3 1	4 1 5 1.1 .4 .5 .3 5 .2	.2 .3 .2 -1.6 1.1 .3 .5 5	-2.1 3 .3 -4.5 .7 .2 .0 .0	1.2 1 6 1.2 .3 3 .7 .2	1.0 1 .4 -1.0 .3 .0 1 .5	.6 1.0 1 -2.8 .3 .9 .5 .4	4.8 3.2 2.8 -2.6 -20.4 7.0 1.7 3.6 3.1 3.0	1.2 1.8 4.0 -6.8 -11.7 7.5 1.6 2.1	-3.0 .6 1.1 -12.8 6.1 5.1 4.6 1	2.7 .1 5 -14.9 6.0 .8 4.1 1.8	2.6 1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2006 2007 -3 20083 20092 2010 1. 20113 20123 20143 20153 20163 20173 20183 20193 20203 IP (2012=100) 2018 2019 109:	.11 .6 1.0 35 2.47 .1 .25 .6 .2 2 .6 .4 .8 .55 .87 .14 3 .4 .45 .4 .2	.2 .0 4 -1.7 .6 1.1 5 .4 .9 3 8 .7	.4 .5 8 9 .3 4 .7 2 .0 6 .1 .9	2 .1 7 -1.1 1.5 .2 .2 .2 .1 .3 4 1	.3 .2 3 4 .1 .3 1	1 5 1.1 .4 .5 .3 5 .2 .6	.3 .2 -1.6 1.1 .3 .5 5 6 1	3 .3 -4.5 .7 .2 .0 .0	1 6 1.2 .3 3 .7 .2 2	1 .4 -1.0 .3 .0 1 .5	1.0 1 -2.8 .3 .9 .5 .4	3.2 2.8 -2.6 -20.4 7.0 1.7 3.6 3.1 3.0	1.8 4.0 -6.8 -11.7 7.5 1.6 2.1 1.4 5.2	.6 1.1 -12.8 6.1 5.1 4.6 1	.1 5 -14.9 6.0 .8 4.1 1.8 -2.6 2.7	1.4 1.8 -4.3 -11.5 4.9 2.8 2.8
2007 2008 2009 -2 2010 1 2011 2012 2013 2014 2015 2016 2017 2018 2019 IP (2012=100) 2018 105 2019 109	6 1.035 2.47 1.1 .2256 .22 .64 .85587 1.143 .4454 .2	.04 -1.7 .6 1.15 .4 .938 .7	.589347206196	.1 7 -1.1 1.5 .2 .2 .2 .1 .3 4 1	.234 .1 .31 .2 .44 .4	15 1.1 .4 .5 .35 .2 .6	.2 -1.6 1.1 .3 .5 5 6 1	.3 -4.5 .7 .2 .0 .0	6 1.2 .33 .7 .22 .0	.4 -1.0 .3 .0 1 .5	1 -2.8 .3 .9 .5 .4	2.8 -2.6 -20.4 7.0 1.7 3.6 3.1 3.0	4.0 -6.8 -11.7 7.5 1.6 2.1 1.4 5.2	1.1 -12.8 6.1 5.1 4.6 1 1.1 2.3	5 -14.9 6.0 .8 4.1 1.8 2.6 2.7	1.8 -4.3 -11.5 4.9 2.8 2.8 1.8 2.9
2009 -2 2010 1 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105 2019 109	2.47 .1 .25 .6 .25 .6 .2 .6 .2 .6 .4 .8 .55 .87 .14 .3 .4 .4 .5 .4 .2	-1.7 .6 1.1 5 .4 .9 3 8 .7	9 .34 .72 .06 .1 .9 .9	-1.1 1.5 .2 .2 .2 .1 .3 4 1	4 .1 .3 1 .2 .4 4	1.1 .4 .5 .3 5 .2 .6	1.1 .3 .5 5 .6 1 2	.7 .2 .0 .0	.3 3 .7 .2 2	.3 .0 1 .5	.3 .9 .5 .4	-20.4 7.0 1.7 3.6 3.1 3.0	-11.7 7.5 1.6 2.1 1.4 5.2	6.1 5.1 4.6 1 1.1 2.3	6.0 .8 4.1 1.8 2.6 2.7	-11.5 4.9 2.8 2.8 1.8 2.9
2009 -2 2010 1 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105 2019 109	2.47 .1 .25 .6 .25 .6 .2 .6 .2 .6 .4 .8 .55 .87 .14 .3 .4 .4 .5 .4 .2	-1.7 .6 1.1 5 .4 .9 3 8 .7	9 .34 .72 .06 .1 .9 .9	-1.1 1.5 .2 .2 .2 .1 .3 4 1	4 .1 .3 1 .2 .4 4	1.1 .4 .5 .3 5 .2 .6	1.1 .3 .5 5 .6 1 2	.7 .2 .0 .0	.3 3 .7 .2 2	.3 .0 1 .5	.3 .9 .5 .4	-20.4 7.0 1.7 3.6 3.1 3.0	-11.7 7.5 1.6 2.1 1.4 5.2	6.1 5.1 4.6 1 1.1 2.3	6.0 .8 4.1 1.8 2.6 2.7	-11.5 4.9 2.8 2.8 1.8 2.9
2011 2012 2013 2014 2015 2016 2017 2018 2020 IP (2012=100) 2018 105. 2019 109.	25 .6 .2 2 .6 4 .8 55 .87 .14 3 .4 45 4 .2	1.1 5 .4 .9 3 8 .7	4 .7 2 .0 6 .1 .9	.2 .2 .1 .3 4 1	.3 1 .2 .4 4	.5 .3 5 .2 .6	.5 5 .6 1 2	.0 .0	.7 .2 2 .0	1 .5	.5 .4	1.7 3.6 3.1 3.0	1.6 2.1 1.4 5.2	4.6 1 1.1 2.3	4.1 1.8 2.6 2.7	2.8 2.8 1.8 2.9
2012 2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105 2019 109	.6 .2 .6 .4 .8 .55 .87 .14 .3 .4 -5 .4 .2	5 .4 .9 3 8 .7 .6 .1	.72 .06 .1 .96	.2 .1 .3 4 1	1 .2 .4 4 .4	.3 5 .2 .6 .2	5 .6 1 2	.0 .5 .3	.2 2 .0	.5 .3 .8	.4	3.6 3.1 3.0	2.1 1.4 5.2	1 1.1 2.3	1.8 2.6 2.7	2.8 1.8 2.9
2013 2014 2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105 2019 109	.2 .6 .4 .8 .5 .5 .5 .8 .7 .14 .3 .4 .4 .5 .4 .2	.4 .9 3 8 .7	2 .0 6 .1 .9	.1 .3 4 1	.2 .4 4 .4	5 .2 .6 .2	.6 1 2	.5	2 .0	.3	.3	3.1	1.4 5.2	1.1 2.3	2.6 2.7	1.8 2.9
2014 2015 2016 2017 2018 2020 IP (2012=100) 2018 105. 2019 109.	4 .8 55 .87 .14 3 .4 45 4 .2	.9 3 8 .7	.0 6 .1 .9 .9	.3 4 1 .1	.4 4 .4	.2 .6 .2	1 2	.3	.0	.8		3.0	5.2	2.3	2.7	2.9
2015 2016 2017 2018 2019 2020 IP (2012=100) 2018 105. 2019 109.	55 .87 .14 3 .4 45 4 .2	3 8 .7 .6	6 .1 .9 .9	4 1 .1	4 .4	.6 .2	2				1					
2016 2017 2018 2019 2020 IP (2012=100) 2018 105. 2019 109.	.87 .14 3 .4 45 4 .2	8 .7 .6	.1 .9 .9	1 .1	.4	.2		_ /I	/1	~	_	0.1		- I	-5.3	-1.1
2017 2018 2019 2020 IP (2012=100) 2018 105 2019 109	.14 3 .4 45 4 .2	.7 .6 .1	.9 .9 6	.1				.0	4	7 2	6 .9	-3.1 -2.4	-5.5 -2.4	1.7	1.1	-2.1
2019 2020 IP (2012=100) 2018 105. 2019 109.	45 4 .2	.1	6	- R		.0	1 5	.0	1.5	2	.3	2.6	5.7	7	7.4	2.3
2019 2020 IP (2012=100) 2018 105. 2019 109.	45 4 .2	.1	6		.7	.4	.8	.1	.2	.6	.0	2.2	4.5	4.9	4.0	3.9
2020 IP (2012=100) 2018 105. 2019 109.	4 .2 5.4 105.8			.2	.0	2	.7	4	4	.9	4	-2.1	-2.3	.9	.2	.7
2018 105. 2019 109.			-12.9	1.4	5.5					•		-6.9	-43.1			
2018 105. 2019 109.																
		106.4	107.4	106.5	107.3	107.8	108.6	108.8	109.0	109.6	109.7	105.9	107.1	108.4	109.5	107.7
2020 108.	0.2 108.6	108.7	108.1	108.3	108.3	108.1	108.9	108.5	108.0	109.0	108.6	108.9	108.2	108.5	108.5	108.5
	3.2 108.3	103.4	90.1	91.4	96.4							106.6	92.6			
Capacity																
(percent of 2012 output)																l
2012 <i>Guipui</i>) 2018 135.	5.6 135.8	135.9	136.0	136.2	136.4	136.6	136.8	137.1	137.3	137.5	137.8	135.8	136.2	136.8	137.5	136.6
2019 138.		138.5	138.8	139.0	139.2	139.5	139.7	139.9	140.1	140.4	140.6	138.3	139.0	139.7	140.4	139.3
2020 140	0.5 140.6	140.6	140.5	140.5	140.4							140.5	140.5			
Utilization																
(percent)																
1998 84.		83.9	83.7	83.9	82.8	82.0	83.2	82.5	82.7	82.2	82.1	84.2	83.5	82.6	82.3	83.2
1999 82.0 2000 81.0		81.6 81.5	81.3 81.8	81.6 81.5	81.0 81.4	81.1 80.9	81.3 80.4	80.7 80.6	81.6 80.2	81.7 79.9	82.0 79.5	81.8 81.5	81.3 81.6	81.0 80.6	81.8 79.9	81.5 80.9
2000 81.0		78.0	77.8	77.3	76.8	76.4	76.3	75.8	75.4	75.0	74.8	78.4	77.3	76.2	75.1	76.7
2002 75		75.7	75.9	76.2	76.9	76.7	76.6	76.7	76.5	76.9	76.6	75.3	76.3	76.7	76.7	76.3
2003 77.:	7.2 77.2	77.0	76.4	76.3	76.4	76.6	76.5	76.9	76.9	77.5	77.4	77.1	76.4	76.7	77.3	76.9
2004 77.		77.6	78.0	78.7	78.0	78.7	78.7	78.7	79.5	79.7	80.2	77.7	78.2	78.7	79.8	78.6
2005 80.:		80.7	80.8	80.8	81.0	80.6	80.7	78.9	79.7	80.4	80.8	80.7	80.9	80.1	80.3	80.5
2006 80.		80.6	80.8	80.6	80.7	80.5	80.6	80.2	80.0	79.8	80.5	80.7	80.7	80.5	80.1	80.5
2007 79.5	0.9 80.6	80.5	80.9	80.9	81.0	81.0	81.1	81.4	80.9	81.3	81.3	80.4	81.0	81.1	81.2	80.9
2008 81.		80.6	79.9	79.4	79.2	78.8	77.5	74.0	74.8	73.9	71.7	80.8	79.5	76.8	73.5	77.6
2009 69.5		68.1	67.5	66.7	66.5	67.2	68.1	68.7	69.0	69.3	69.7	69.1	66.9	68.0	69.3	68.3
2010 70.		71.5	72.0	73.2	73.5	74.0	74.3	74.6	74.5	74.6	75.4	71.0	72.9	74.3	74.8	73.3
2011 75.: 2012 77.		75.8 76.9	75.6 77.3	75.7 77.3	75.9 77.2	76.3 77.3	76.6 76.8	76.5 76.7	77.0 76.7	76.8 77.0	77.1 77.1	75.4 77.3	75.7 77.3	76.5 76.9	76.9 76.9	76.1 77.1
2013 76.: 2014 77.:		77.5 78.7	77.3 78.6	77.3 78.8	77.4 79.0	76.9 79.0	77.4 78.8	77.7 78.9	77.5 78.8	77.7 79.4	77.9 79.1	77.3 78.1	77.3 78.8	77.3 78.9	77.7 79.1	77.4 78.7
2014 77		78.7 77.9	77.3	76.8 76.9	79.0 76.6	79.0 77.0	76.8 76.9	76.9 76.6	76.3	79.4 75.8	75.3	78.1	78.8 77.0	76.9 76.9	75.8	77.0
2016 75.		74.7	74.8	74.7	75.0	75.1	75.0	75.0	75.1	74.9	75.5	75.3	74.8	75.1	75.2	75.1
2017 75.		75.8	76.5	76.6	76.7	76.7	76.3	76.3	77.4	77.8	78.0	75.6	76.6	76.4	77.7	76.6
2018 77.	7.7 78.0	78.3	79.0	78.2	78.7	78.9	79.4	79.3	79.4	79.7	79.6	78.0	78.6	79.2	79.6	78.8
2019 79.	0.1 78.6	78.5	77.9	77.9	77.8	77.5	77.9	77.5	77.1	77.7	77.3	78.7	77.9	77.7	77.3	77.9
2020 77.	7.0 77.1	73.6	64.1	65.0	68.6							75.9	65.9			

^{1.} 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 Industries²

Seasonally adjusted Year Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Q1 Q2 Q3 Q4 Annual IP (percent change)3 1998 1.2 2.3 4.1 3.5 -.8 -.5 1999 -.1 -.3 .5 -.2 -.4 -.5 .3 .4 -.5 1.3 .0 .7 .0 .6 1.4 .4 .7 .4 .8 .0 6.8 -.8 .0 2000 4 -.6 -.3 -1.0 - 4 -3.8 7 -4.6 2001 -.6 .7 -.6 -.2 -.2 -.6 -.2 -.4 -.2 -.6 -.2 .1 -7.0 -4.5 -4.1 4.7 -.5 4.4 2002 -.2 1.1 3.2 5.4 2.5 -.4 -.6 .4 .9 2003 7 - 3 0 -1.0 3 0 7 0 - 3 0 2.9 0 - 1 - 6 8 -43 2004 -.1 .7 -.2 .4 .8 -.8 1.0 .4 -.1 1.0 -.1 .7 1.5 3.1 3.7 4.8 2.0 -1.3 2005 .7 5.3 -2.2 3.1 .6 -.6 .3 .3 .1 -.5 .3 1.4 .8 .1 1.3 5.0 2006 .8 .5 -.5 -.4 .5 0. 1.5 3.1 1.5 -.1 -.1 -.5 -.1 .6 3.0 4.7 2007 -.6 .3 .6 .5 .0 .5 -.4 .3 -.6 .3 .0 1.1 -1.11.8 .1 -59 2008 -.5 -1.3 -1.1-1.2-3.6 -2.2 -3.3 -4.2-9.8 -14.4-20.82009 -3.1 -.2 -2.0 -.8 -1.1 -.3 1.5 1.2 .8 .9 -.2 -24.3 -11.6 8.1 6.5 -13.9 2010 1.0 -.3 1.1 .8 1.4 -.1 .6 .0 .0 .1 -.1 .3 5.4 9.7 3.8 .4 5.1 2011 .7 .7 2.3 4.3 3.9 2.5 .3 .4 -.3 .1 .1 .6 -.6 .1 .1 .6 -.2 .8 2012 -.2 .8 .8 4.8 -.2 2.3 .2 -.2 -.2 -1.4.3 -.6 .5 -.5 -.5 .6 2013 1.0 1.5 2014 -1.2 1.0 -.2 .0 -1.2 3.8 1.5 .8 .8 -.6 .8 -.3 .5 .7 -.1 -.3 .2 2015 -.7 .3 .0 -.5 -.4 -3.0 -3.0 -.7 -.4 -.1 -.4 -.3 .0 -1.32016 -1.0 .6 -.6 -.2 -.4 .0 .3 .2 -.4 .3 .3 .1 .4 -.7 -2.61.1 2.3 2017 .6 .0 -.3 1.1 -.2 -.2 -.3 -.2 1.3 .2 -.1 3.2 3.4 -1.5 5.0 1.9 2018 -.4 1.1 .0 .4 -.8 .6 .4 .4 .0 .2 .6 1.5 1.9 3.3 1.7 2.2 -.1 -.9 .9 -.4 2019 -.6 -.5 .5 -.4 .6 -.7 -.6 .2 -2.1-3.3 .4 -.7 -5.2 7.4 2020 .0 -16.2 3.9 -5.6 -47.7 **IP** (2012=100) 102.1 103.2 103.5 103.9 104.3 104.3 104.3 104.5 105.1 102.9 104.2 104.6 103.8 2018 103.2 103.7 102.8 103.3 103 9 103.8 103.0 103 1 103 6 103.2 103.1 104 1 103.3 2019 104 5 103.7 102.5 103.4 103.6 103.2 103.1 103.4 103.5 101.7 2020 103.5 98.0 82.2 85.4 91.7 86.4 Capacity (percent of 2012 output) 2018 135.0 135.0 135.0 135.1 135.2 135.2 135.3 135.4 135.5 135.6 135.7 135.8 135.0 135.2 135.4 135.7 135.3 2019 136.0 136.1 136.2 136.3 136.5 136.6 136.9 137.1 137.2 137.3 137.5 136.1 136.5 136.9 137.3 136.8 136.7 2020 137.4 137.4 137.4 137.4 137.3 137.3 137.4 137.3 Utilization (percent) 1998 83.6 80.3 81.0 80.9 81.9 83.3 82.7 82.6 81.3 81.9 81.1 81.4 83.2 82.1 81.1 81.1 1999 80.6 80.8 80.2 80.0 80.3 79.5 79.4 79.7 79.1 80.1 80.2 80.4 80.5 79.9 79.4 80.2 80.0 2000 80.0 79.8 79.9 80.1 79.5 79.4 79.1 78.3 78.4 78.0 77.5 76.8 79.9 79.7 78.6 77.4 78.9 72.9 2001 76.2 75.7 75.4 75.2 74.7 743 74.1 73.7 73.5 73.0 72.8 72.9 75.8 74.7 73.7 743 2002 73.3 73.2 73.7 73.8 74.2 75.1 74.8 74.9 75.0 74.7 75.1 74.7 73.4 74.4 74.9 74.8 74.4 75.6 75.2 75.1 2003 75.0 74.4 74.4 74.6 74.7 74.3 74.9 74.9 754 75 1 74.5 74.6 753 74.9 2004 2005 76.0 75.9 76.2 76.9 76.3 78.1 78.0 78.5 76.5 78.2 76.9 75.4 77.177.4 77.3 75.8 77.3 78.9 78.9 79 1 77.6 79.0 79 1 794 79.0 79 1 78.6 78.7 78.6 79 1 79 1 78 3 78 9 78.8 2006 79.5 79.1 78.8 79.1 78.6 78.7 78.3 78.6 78.4 78.0 77.9 78.9 79.1 78.8 78.4 78.3 78.7 2007 78.3 78.9 79.2 79.1 79.4 79.4 79.1 79.3 79.0 79.0 78.6 79.2 79.0 79.0 78.5 78.8 79.3 2008 78.6 78.0 77 7 76.7 76.2 75.7 74 9 74.0 71.5 71.3 69 8 67.6 78 1 76.2 73 5 69 6 74 3 65.9 2009 65.6 64 4 65.2 66.9 65.2 63.5 65.2 65.1 65.6 64.0 63.4 63.3 64.3 66.1 66.9 66.6 2010 67.7 67.6 68.5 69.2 70.4 70.4 71.0 71.2 71.3 71.5 71.6 72.0 67.9 70.0 71.1 71.7 70.2 74.4 2011 72.2 72.4 73.0 72.7 72.8 72.9 73.5 73.7 74.0 74.1 74.6 72.5 72.8 73.7 74.4 73.3 2012 75.2 75.3 74.8 75.1 74.7 74.8 74.4 74.2 73.8 74.3 74.9 75.1 74.9 74.3 74.7 74.6 74.4 2013 74.0 74.7 74.4 74.6 74.6 74.9 74.8 74.4 74.6 74.7 74.7 74.7 74.7 74.7 2014 73.8 74.6 75.2 75.1 75.3 75.5 75.9 75.5 75.5 75.5 76.2 76.0 74.5 75.3 75.6 75.9 75.3 2015 75.7 75.2 75.5 75.5 75.5 75.2 75.8 75.5 75.2 75.1 74.6 75.5 75.4 75.5 74.9 75.3 74.9 2016 2017 74.5 74.3 74.0 73.9 74.0 74.2 74.0 74.2 74.4 74.6 74.0 74.0 74.3 74.2 75.1 73.8 74.2 74.9 74.6 74.8 74.8 75.4 75.3 75.475.2 75.074.9 75.9 76.0 76.0 75.3 75.076.0 75.3 2018 75.6 76.5 76.5 76.8 76.1 76.5 77.0 77.0 76.9 77.0 76.5 76.9 77.1 76.7 76.8 77.4 76.2 2019 76.8 76.4 76.2 75.5 75.5 75.8 75.4 75.8 74.7 75.3 76.5 75.6 75.1 75.2 75.3 75.5 75.7 62.9 2020 75.3 75.3 71.3 59.8 62.2 66.8 74.0

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

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

^{3.} Quarterly percentage changes are at annual rates. Annual percentage changes are calculated from annual averages.

Table 15 INDUSTRIAL PRODUCTION: RELIABILITY ESTIMATES Seasonally adjusted

<u> </u>	Annu	alized												
		nge			2012	=100					Percen	t change		
	2020		2020						2020					
Item	Q1	Q2	Jan.	Feb.	Mar.	Apr.	May	June	Jan.	Feb.	Mar.	Apr.	May	June
Total index														
85th percentile	-6.60	-41.61	109.18	109.38	104.58	91.40	92.78	97.86	43	.18	-4.35	-12.55	1.67	5.73
Current estimate	-6.81	-42.61	109.18	109.32	104.46	91.20	92.45	97.46	43	.13	-4.45	-12.70	1.38	5.41
15th percentile	-7.01	-43.39	109.18	109.28	104.36	91.02	92.18	97.03	43	.08	-4.52	-12.81	1.14	5.10
Manufacturing (SIC)														
85th percentile	-5.29	-46.18	104.96	105.01	99.70	83.97	87.22	93.65	12	.05	-5.02	-15.75	3.96	7.50
Current estimate	-5.53	-47.01	104.96	104.95	99.58	83.79	86.98	93.28	12	01	-5.12	-15.85	3.80	7.25
15th percentile	-5.71	-48.03	104.96	104.89	99.46	83.59	86.69	92.85	12	07	-5.22	-15.97	3.65	6.95
Mining														
85th percentile	29	-39.37	135.19	133.32	131.05	122.39	115.72	112.74	1.03	-1.38	-1.60	-6.37	-5.19	-1.97
Current estimate	86	-42.72	135.19	133.16	130.67	121.73	114.36	111.04	1.03	-1.50	-1.87	-6.84	-6.06	-2.90
15th percentile	-1.41	-45.69	135.19	132.98	130.25	120.99	112.95	109.27	1.03	-1.63	-2.15	-7.21	-6.79	-3.79
Electric and gas utilities														
85th percentile	-22.45	4.98	98.62	102.19	99.10	101.55	99.30	103.26	-4.67	3.62	-3.00	2.60	-1.67	5.98
Current estimate	-22.57	.03	98.62	102.18	99.05	100.95	97.43	101.50	-4.67	3.60	-3.06	1.92	-3.49	4.18
15th percentile	-22.72	-1.90	98.62	102.16	98.99	100.68	96.31	100.48	-4.67	3.59	-3.13	1.68	-4.85	2.51

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 2012. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing plus those industries—logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. For the period since 2012, the total IP index has been constructed from 299 individual series based on the 2012 NAICS codes. These individual series are classified in two ways: (1) market groups, and (2) industry groups. Market groups consist of products and materials. Total products are the aggregate of final products, such as consumer goods and equipment, and nonindustrial supplies (which are inputs to nonindustrial sectors). Materials are inputs in the manufacture of products. Major industry groups include three-digit NAICS industries and aggregates of these industries—for example, durable and nondurable manufacturing, mining, and utilities. A complete description of the market and industry structures, including details regarding series classification, relative importance weights, and data sources, is available on the Board's website at www.federalreserve.gov/releases/G17/About.htm.

Source Data. On a monthly basis, the individual indexes of industrial production are constructed from two main types of source data: (1) output measured in physical units and (2) data on inputs to the production process, from which output is inferred. Data on physical products, such as tons of steel or barrels of oil, are typically obtained from private trade associations and from government agencies; data of this type are used to estimate monthly IP wherever possible and appropriate. Production indexes for a few industries are derived by dividing estimated nominal output (calculated using unit production and unit values or sales) by a corresponding Fisher price index; the most notable of these fall within the high-technology grouping and include semiconductors. When suitable data on physical product are not available, estimates of output are based on production-worker hours by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The factors used to convert inputs into estimates of production are based on historical relationships between the inputs and the comprehensive annual data used to benchmark the IP indexes; these factors also may be influenced by technological or cyclical developments. The annual data used in benchmarking the individual IP indexes are constructed from a variety of source data, such as the quinquennial Censuses of Manufactures and Mineral

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

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.

month (p_m) and the estimate for previous month:

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

The IP proportions (typically shown in the first column of the relevant tables in the monthly G.17 release) are estimates of the industries' relative contributions to overall growth in the following year. For example, the relative importance weight of the motor vehicles and parts industry is about 6 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by 6/10 percentage point $(0.06 \times 10\% = 0.6\%)$. To assist users with calculations, the Federal Reserve's website provides supplemental monthly statistics that represent the exact proportionate contribution of a monthly change in a component index to the monthly change in the total index (www.federalreserve.gov/releases/G17/ipdisk/ipweightssa.txt).

Timing. The first estimate of output for a month is published around the 15th of the following month. The estimate is preliminary (denoted by the superscript "p" in tables) and subject to revision in each of the subsequent five months as new source data become available. (Revised estimates are denoted by the superscript "r" in tables.) For the first estimate of output for a given month, about 75 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 85 percent for estimates in the second month that the estimate is published, 94 percent in the third month, 95 percent in the fourth month, 96 percent in the fifth month, and 96 percent in the sixth month. Data availability by data type in 2018 is summarized in the table below:

Availability of Monthly IP Data in Publication Window (Percent of value added in 2018; the numbers may not sum because of rounding.)

	Mon	th of es	timate			
Type of data	1st	2nd	3rd	4th	5th	6th
Physical product	34	44	54	54	56	56
Production-worker hours	40	40	40	40	40	40
IP data received	75	85	94	95	96	96
IP data estimated	25	15	6	5	4	4

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 (34 percent out of a total of 56 percent). Of the 34 percent, about three-quarters (25 percent of total IP) include series that are derived from weekly physical product data and for which actual monthly data may lag up to several months. On average, quarterly product data are received for the fourth estimate of industrial production. Specifically, quarterly data are available for the third estimate of the last month of a quarter, the fourth estimate of the second month of a quarter, and the fifth estimate of the first month of a quarter.

Seasonal Adjustment. Individual series are seasonally adjusted using Census X-13 ARIMA. For series based on production-worker hours, the current seasonal factors were estimated with data through January 2019; for other series, the factors were estimated with data through at least December 2018. 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

0.28 percent during the 1987–2018 period. The average revision to the percent change in total IP, without regard to sign, from the first to the fourth estimates was 0.22 percentage point during the 1987–2018 period. In most cases (about 85 percent), the direction of the change in output indicated by the first estimate for a given month is the same as that shown by the fourth estimate.

Rounding. The published percent changes are calculated from unrounded indexes, and may not be the same as percent changes calculated from the rounded indexes shown in the release.

CAPACITY UTILIZATION

Overview. The Federal Reserve Board constructs estimates of capacity and capacity utilization for industries in manufacturing, mining, and electric and gas utilities. For a given industry, the capacity utilization rate is equal to an output index (seasonally adjusted) divided by a capacity index. The Federal Reserve Board's capacity indexes attempt to capture the concept of sustainable maximum output—the greatest level of output a plant can maintain within the framework of a realistic work schedule, after factoring in normal downtime and assuming sufficient availability of inputs to operate the capital in place.

Coverage. Capacity indexes are constructed for 89 detailed industries (71 in manufacturing, 16 in mining, and 2 in utilities), which mostly correspond to industries at the three- and four-digit North American Industry Classification System, or NAICS, level. Estimates of capacity and utilization are available for a variety of groups, including durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Manufacturing consists of those industries included in the NAICS definition of manufacturing plus those industries—logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. Also, special aggregates are available, such as high-technology industries and manufacturing excluding high-technology industries.

Source Data. The monthly rates of capacity utilization are designed to be consistent with both the monthly data on production and the periodically available data on capacity and utilization. Because there is no direct monthly information on overall industrial capacity or utilization rates, the Federal Reserve first estimates annual capacity indexes from the source data. Capacity data reported in physical units from government sources (primarily from the U.S. Geological Survey and the Department of Energy's Energy Information Administration) and trade sources are available for portions of several industries in manufacturing (for example, paper, industrial chemicals, petroleum refining, motor vehicles), as well as for electric utilities and mining; these industries represent about 27 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 9 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the

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

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

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

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

Perspective. Over the 1972–2018 period, the average total industry utilization rate was 79.8 percent; for manufacturing, the average factory operating rate was 78.3 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 27, 2019, 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:

2020: January 17, February 14, March 17, April 15, May 15, June 16, July 15, August 14, September 15, October 16, November 17, December 15.

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