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INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production rose 0.2 percent in July, its seventh consecutive monthly increase. At 140.7 percent of its 1992 average, industrial production in July was 2.9 percent above its December 2001 trough. After having posted gains of 0.6 percent in both May and June, manufacturing output edged up 0.1 percent in July. Mining output declined 1.2 percent, a drop that reversed its June increase, and utilities production surged 2.3 percent. The rate of capacity utilization for total industry was 76.1 percent, a rate 5.8 percentage points below its 1967–2001 average.

Market Groups

The output of consumer goods rose 0.3 percent in July; a strong gain in the production of durables more than offset a decline in nondurables. A sizable increase for a second month in the output of automotive products was the principal contributor to the 2.5 percent rise in the index for consumer durables. Gains also were posted among appliance manufacturers. Monthly output changes for this industry have been volatile recently, but output has trended upward, on

(over)

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

Industrial Production	Index, 1992=100				Percent change				July 01 to July 02
	2002 Apr. ^r	May ^r	June ^r	July ^p	2002 Apr. ^r	May ^r	June ^r	July ^p	
Total index	138.8	139.5	140.4	140.7	.1	.5	.7	.2	.2
Previous estimates	138.9	139.5	140.6		.2	.4	.8		
Major market groups:									
Products, total	127.0	127.2	128.0	128.1	-.3	.1	.6	.1	-1.6
Consumer goods	121.4	121.3	122.3	122.7	-.3	.0	.9	.3	.5
Business equipment	162.9	163.4	163.7	163.6	-.4	.3	.2	-.1	-7.1
Construction supplies	138.3	138.8	139.1	139.0	-1.0	.4	.2	-.1	1.2
Materials	158.8	160.6	161.9	162.3	.9	1.2	.8	.2	3.2
Major industry groups:									
Manufacturing	143.4	144.2	145.1	145.2	.0	.6	.6	.1	.0
Durable	177.2	178.4	179.7	180.6	.3	.7	.7	.5	.4
Nondurable	110.5	111.1	111.6	111.1	-.3	.5	.5	-.5	-.4
Mining	95.3	96.5	97.7	96.5	-.1	1.3	1.2	-1.2	-5.3
Utilities	123.9	122.7	124.2	127.0	1.7	-1.0	1.2	2.3	7.5
Capacity Utilization	Percent of capacity								Capacity growth
	Average 1967–01	1982 Low	1988–89 High	2001 July	2002 Apr. ^r	May ^r	June ^r	July ^p	July 01 to July 02
Total industry	81.9	71.1	85.4	76.7	75.3	75.6	76.0	76.1	1.0
Previous estimates					75.3	75.6	76.1		
Manufacturing	80.9	69.0	85.7	75.1	73.6	74.0	74.4	74.4	.9
Advanced processing	80.3	71.0	84.2	75.1	72.5	72.5	73.0	72.9	.6
Primary processing	82.0	65.7	88.3	74.9	75.4	76.3	76.6	76.7	1.5
Mining	87.6	80.3	88.0	90.9	84.4	85.5	86.5	85.5	.7
Utilities	87.6	75.9	92.6	86.0	87.0	85.8	86.6	88.3	4.7

balance, since the end of last year. In contrast, the production of home electronics fell further in July. Output of these goods weakened in the second quarter after rapid increases in the previous two quarters. Consumer nondurables fell 0.3 percent despite a 1.8 percent rise in the output of consumer energy products. Declines among non-energy nondurables, including foods, paper, and chemical products, were widespread. The jump in the output of energy products reflected a pickup in the output of gasoline and a sharp rise in electricity use, which resulted from the unseasonably hot weather.

The index for business equipment edged down in July after having increased in the two previous months. The production of transit equipment moved up, as stronger output of business autos and trucks more than compensated for continued declines in commercial aircraft and related equipment. Nonetheless, the index for transit equipment in July remained nearly 16 percent below its July 2001 level. The output of information processing equipment declined in July, and revised data now indicate that production in this group contracted in the second quarter. The renewed weakness in this sector largely reflects lower output of computers and communications equipment. After a cumulative gain of about 2-1/4 percent over the May and June period, the output of industrial and other equipment fell 0.6 percent in July. Swings in the production of farm machinery and construction equipment have dominated the recent monthly changes in this group. The output of defense and space equipment, which has been on an upswing since last fall, was little changed in July.

The output of construction supplies, which posted sizable gains during the first half of this year, decreased 0.1 percent in July. The production of business supplies was unchanged in July. Declines in the output of job printing, paper business supplies, and other general business supplies were entirely offset by a weather-related increase in the production of commercial energy products.

The production of industrial materials rose 0.2 percent in July, its seventh consecutive monthly increase. Gains in motor vehicle parts and related supplies, steel, and semiconductors have been the key contributors to the rise in the index for durable materials. The output of nondurable materials declined in June and July, with weakness in paper, textiles, and chemicals. The output of energy materials moved up 0.6 percent as a jump in electricity generation more than offset declines in coal, crude oil, and natural gas extraction.

Industry Groups

Manufacturing output rose 0.1 percent in July and was unchanged from its level of July 2001. The output of motor vehicles and parts rose 4.2 percent in July after a 2.8 percent increase in June. However, excluding motor vehicles, manufacturing output declined 0.3 percent in July. An increase of 0.5 percent in the production of durables in July reflected the strong output of motor vehicles and related parts and materials. The rise in durables is the seventh consecutive monthly increase. The production of iron and steel, which continued to trend upward, rose to a level 4.1 percent above its July 2001 level. The output of semiconductors and related equipment also continued its upward trend; it has risen about 25 percent over the same twelve-month period, although recent monthly gains have been more moderate than those posted earlier this year. Elsewhere among durables, the gains in the output of industrial machinery and computer equipment slowed in the second quarter, and output fell in July. The production of aerospace and miscellaneous transportation equipment fell further. The output of nondurables reversed its June increase and was little changed from a year ago.

The factory operating rate remained at 74.4 percent in July, a rate nearly 6.5 percentage points below its 1967–2001 average. The utilization rates both for primary processing and for advanced processing were essentially unchanged. The utilization rate for the selected high-technology industries fell 0.5 percentage point to return to its April 2002 rate of 63.8 percent. The operating rate for motor vehicles and parts, at 84.7 percent, is the highest it has been since June 2000. The operating rate at mines fell to 85.5 percent, and the rate at utilities rose to 88.3 percent.

Revision of Industrial Production and Capacity Utilization

On November 26, the Federal Reserve Board will publish a revision to the index of industrial production (IP), the related measures of capacity and capacity utilization, and the data on industrial use of electric power. The revised estimates will be classified according to the 2002 North American Industrial Classification System (NAICS); previously, the estimates from 1987 forward were classified according to the 1987 Standard Industrial Classification system (SIC). NAICS changes the SIC system's industry composition of manufacturing. To preserve the continuity of the production, capacity, and utilization rate measures featured in the Federal Reserve's G.17 statistical release, portions of SIC 27 (printing and publishing) and SIC 24 (lumber and products) that are not classified in manufacturing under NAICS will continue to be included in the overall IP index and capacity utilization.

The revised production indexes will be based on annual output measures that are constructed by reclassifying the establishments in historical Censuses of Manufactures and Mineral Industries under NAICS; annual output indexes constructed this way will maximize the reliability and historical consistency of the IP industry detail. Data going back to at least 1972 will be restated using NAICS. The monthly indicators used in current IP will be incorporated into the revised IP indexes as far back as the data will allow.

The updated measures will reflect the incorporation of newly available, more comprehensive source data typical of annual revisions. The updating of source data for IP in the 2002 annual revision will include annual data from the 2000 Annual Survey of Manufactures of the Bureau of the Census and from selected editions of its 2000 and 2001 Current Industrial Reports. Annual data from the U.S. Geological Survey regarding metallic and nonmetallic minerals (except fuels) for 2000 and 2001 will also be introduced. The updating will include revisions to the monthly indicator for each industry (either physical product data, production-worker hours, or electric power usage) and revisions to seasonal factors.

Capacity and capacity utilization will be revised to incorporate preliminary data from the 2001 Survey of Plant Capacity of the Bureau of the Census, which covers manufacturing, along with other new data on capacity from the U.S. Geological Survey, the Department of Energy, and other organizations. The statistics on the industrial use of electric power will incorporate additional information received from utilities for the past few years and will include some data from the 2000 Annual Survey of Manufactures.

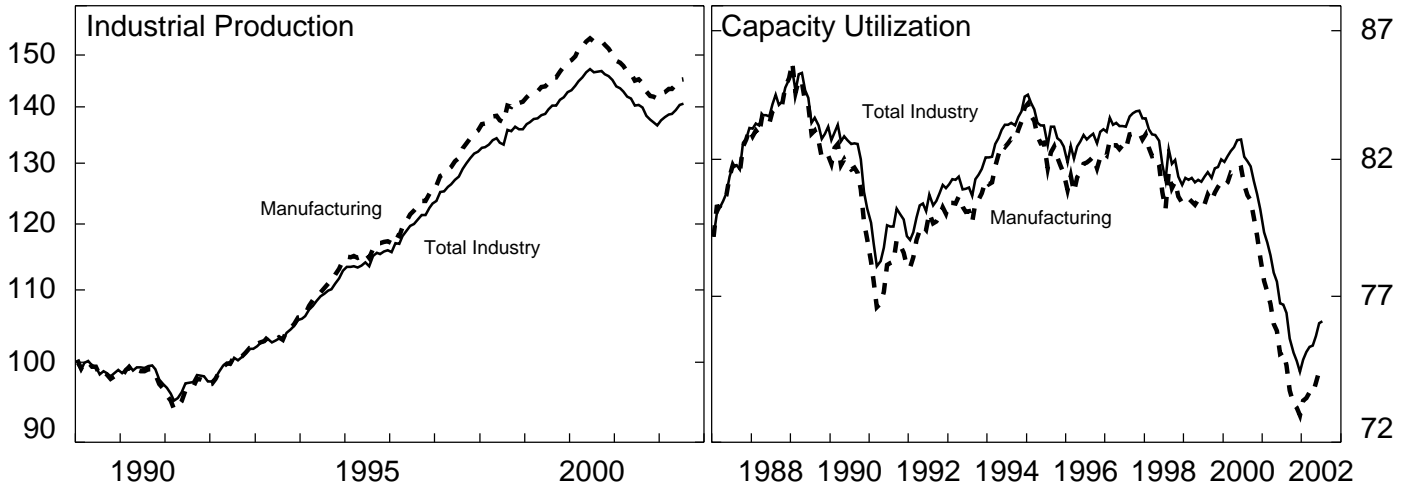
Once the revision is published, it will be made available on the Board's web site, www.federalreserve.gov/releases/G17. The revised data will also be available through the web site of the Department of Commerce. Further information on these revisions is available from the Board's Industrial Output Section (telephone 202-452-3197).

Industrial Production and Capacity Utilization

(July data, seasonally adjusted)

Ratio scale, 1992=100

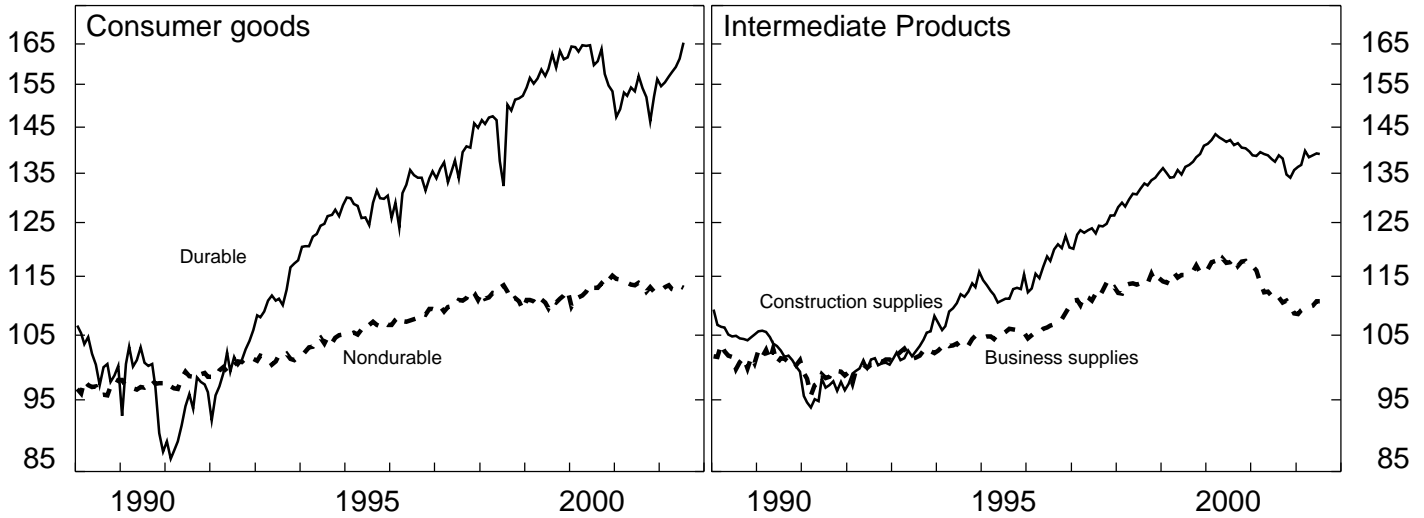
Percent of capacity



Ratio scale, 1992=100

Industrial Production, Market Groups

Ratio scale, 1992=100



Ratio scale, 1992=100

Ratio scale, 1992=100

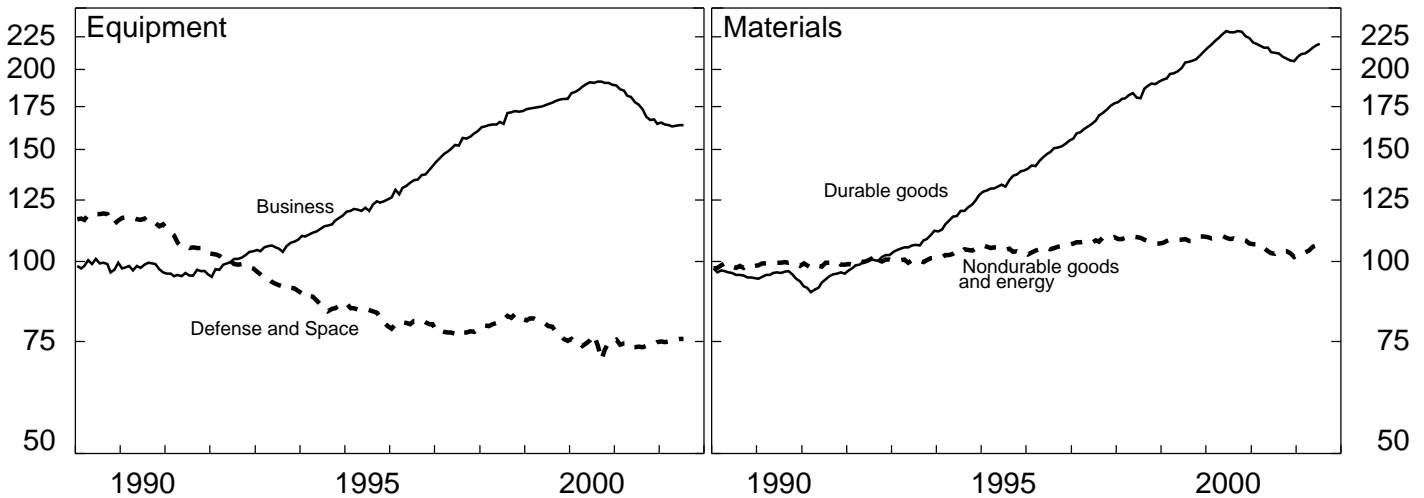


Table 1B
INDUSTRIAL PRODUCTION: MARKET GROUPS

Percent change

Item	2000 Q4 to 2001 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				July 01 to July 02
		2001 Q3	2002 Q4	2002 Q1	2002 Q2 ^r	2002 Apr. ^r	May ^r	June ^r	July ^p	2002 Apr. ^r	May ^r	June ^r	July ^p	
Total index	-5.9	-4.7	-6.7	2.6	4.4	.1	.5	.7	.2	-7	.1	4.0	-5.2	.2
Products, total	-5.2	-4.7	-7.3	1.0	1.2	-3	.1	.6	.1	-3	-3	3.6	-4.6	-1.6
Final products	-5.1	-5.5	-7.4	.6	.5	-3	.1	.7	.2	-1.1	-4	3.0	-6.0	-2.1
Consumer goods	-1.7	-5	-3.6	3.7	1.8	-3	.0	.9	.3	-1.9	-7	3.5	-5.8	.5
Durable	-2.3	2.9	-7.1	11.2	10.2	.7	.8	1.4	2.5	2.3	-1.5	1.7	-20.4	5.3
Automotive products	3.7	13.4	-6.5	13.2	15.8	1.8	.2	3.6	4.1	3.8	-3	3.6	-30.1	9.0
Autos and trucks	7.0	19.3	-6.3	16.1	17.3	3.0	-.4	4.4	6.1	5.3	.2	3.1	-41.3	10.7
Autos	-6	-13.5	3.0	52.4	-4.2	1.5	-1.7	2.1	2.6	5.0	-1.2	3.3	-39.8	9.9
Trucks	10.3	36.2	-9.8	3.5	27.8	3.7	.1	5.3	7.5	5.5	.8	3.0	-42.0	11.0
Auto parts and allied goods	-2.7	2.1	-6.7	7.5	12.6	-9	1.7	1.9	-1	.5	-1.4	4.6	-4.3	5.3
Other durable goods	-8.6	-8.0	-8.0	8.8	3.6	-6	1.5	-1.4	.3	.4	-3.1	-7	-6.6	.4
Appliances and electronics	-6.6	-5.3	.2	30.6	.0	-2.8	4.5	-5.9	.3	-5.9	-1.6	-4.7	-4.0	8.9
Appliances and air cond.	3.5	9.5	-8.2	28.6	6.3	-3.0	6.6	-8.6	1.0	-5.0	-2	-8.0	-7.4	8.1
Home electronics	-18.2	-25.3	17.8	33.2	-11.1	-2.4	.2	.2	-1.0	-8.0	-4.9	3.8	3.9	10.5
Carpeting and furniture	-5.6	-4.4	2.3	.0	2.8	-.9	.0	-1.1	.1	4.7	-5.3	7.1	-5.0	1.7
Miscellaneous	-11.4	-11.4	-17.7	2.5	6.3	-2	.6	1.0	.4	1.8	-2.8	-2.9	-9.0	-4.8
Nondurable	-1.5	-1.4	-2.5	1.7	-.5	-.5	-.3	.7	-.3	-3.2	-.5	4.0	-1.4	-.9
Nonenergy	-.5	-1.0	-1.7	.5	-2.5	-.9	-.2	.8	-.6	-.8	.8	3.9	-3.1	-1.8
Foods and tobacco	-.8	-.8	.1	4.4	.8	-.5	-.4	1.0	-.6	.1	1.1	6.5	-4.8	.6
Clothing	-10.8	-16.6	-13.1	6.6	-3.5	-1.4	.0	.2	1.4	-.5	1.3	3.8	-3.2	-4.0
Chemical products	6.1	5.4	4.5	-1.1	-9.0	-1.4	-.4	.3	-.7	-2.6	.7	-.2	-.9	-2.7
Paper products	-5.3	-4.7	-12.8	-13.3	-2.7	-1.9	1.0	1.4	-1.4	-.9	-.1	1.0	.1	-7.9
Energy products	-6.8	-3.2	-7.5	10.2	12.2	2.0	-.8	.0	1.8	-16.5	-9.4	4.9	12.0	5.2
Fuels	.9	-5.6	4.0	6.5	-2.1	2.0	-1.8	-1.2	1.2	6.6	.4	-.5	.7	1.1
Utilities	-10.7	-2.0	-13.2	12.2	20.5	2.0	-.3	.6	2.0	-25.9	-15.2	8.6	19.0	7.3
Equipment, total	-11.2	-14.2	-14.4	-5.3	-2.1	-3	.3	.3	-.1	.5	.3	2.0	-6.4	-7.0
Business equipment	-12.6	-16.2	-14.2	-4.4	-2.2	-.4	.3	.2	-.1	.7	.4	2.2	-7.4	-7.1
Information processing & related	-11.5	-18.2	-5.1	1.3	-1.9	-.9	.0	.6	-.8	.5	1.6	3.7	.6	-3.3
Computer and office	-7.3	-14.2	2.9	33.2	2.7	-.8	-1.1	-.6	.1	2.6	1.6	-.1	2.6	6.6
Industrial	-14.6	-17.9	-13.3	-9.8	2.1	-.3	2.4	-.3	.0	-.2	1.4	1.8	-3.9	-5.9
Transit	-13.1	-13.5	-28.1	-10.0	-12.2	-.2	-1.7	-1.2	2.0	1.6	-1.9	-.8	-26.2	-15.8
Autos and trucks	-5.6	-.6	-15.9	30.4	14.5	2.5	.4	-.2	6.4	6.3	-.1	.2	-39.2	7.6
Other	-10.6	-9.8	-16.9	1.3	6.4	1.0	.0	2.7	-2.1	2.4	-.9	4.2	-6.1	-5.4
Defense and space equipment	.2	-.7	4.2	2.8	3.3	.5	.4	.3	-.1	-.7	-.1	.8	-1.6	2.8
Oil and gas well drilling	-16.0	-19.4	-56.6	-32.2	-11.1	-2.4	-.5	2.9	-.1	-1.5	-.9	1.5	1.3	-29.0
Manufactured homes	4.6	31.9	1.7	-38.2	-22.3	1.1	.6	-.6	.9	6.7	-1.3	4.3	-18.0	-12.9
Intermediate products	-5.4	-2.2	-7.1	2.2	3.6	-.4	.3	.5	-.1	2.3	.0	5.3	-.4	-.2
Construction supplies	-3.8	-1.5	-9.3	8.7	3.4	-1.0	.4	.2	-.1	3.2	1.2	4.9	-2.8	1.2
Business supplies	-6.6	-2.7	-5.5	-2.4	3.7	.1	.2	.7	.0	1.6	-1.0	5.5	1.5	-1.2
Materials	-6.9	-4.8	-5.8	5.3	9.7	.9	1.2	.8	.2	-1.3	.6	4.7	-6.4	3.2
Durable	-8.6	-7.0	-8.3	8.5	10.4	.9	1.0	1.0	.4	-2.5	.8	5.7	-9.6	3.2
Consumer parts	-4.4	3.3	-9.3	21.2	10.8	1.4	.3	1.3	2.0	2.5	-1.1	.9	-20.7	7.3
Equipment parts	-11.1	-13.0	-1.1	9.1	12.8	.9	1.9	.7	-.1	-10.6	2.5	11.7	-10.8	6.1
Semiconductors, printed circuit boards, and oth. elec. comps.	-13.7	-20.5	23.2	47.2	42.0	3.0	4.1	1.4	1.7	-23.7	6.5	29.7	-21.3	32.8
Other	-8.1	-6.1	-13.7	2.1	8.3	.7	.7	1.0	.0	1.9	.4	3.6	-2.8	-1.2
Basic metals	-13.9	-8.0	-24.3	5.4	8.4	-.8	1.8	2.1	.7	-.2	.0	3.0	-2.6	-2.3
Nondurable	-6.1	1.4	-2.7	2.6	10.8	.7	2.2	-.1	-.6	3.3	-.6	1.6	-3.9	3.6
Textile	-12.7	-13.6	-14.7	10.2	6.9	-1.6	1.2	-1.7	.0	1.7	2.0	-3.1	-9.9	.8
Paper	-5.0	5.6	-6.3	-10.7	16.1	2.5	4.2	-.8	-1.6	5.6	.1	2.5	-4.1	-.1
Chemical	-7.2	3.5	-.2	9.7	12.5	.4	2.0	-.3	-.1	2.9	-.2	.6	-2.5	6.7
Other	-1.9	.5	.8	-1.4	4.9	.6	1.3	1.5	-.9	3.0	-2.8	4.8	-4.2	1.8
Energy	-3.2	-4.4	-2.1	-.7	6.3	.9	.4	1.0	.6	-2.1	1.5	5.1	1.9	2.7
Primary	-1.0	-2.3	-2.0	-3.7	4.2	.7	.5	1.5	-.4	-2.4	1.7	4.2	-1.5	.6
Converted fuel	-8.2	-9.4	-2.2	5.4	10.5	1.1	.2	.3	2.3	-1.5	1.2	6.6	7.6	6.9
SPECIAL AGGREGATES														
Total excluding:														
Autos and trucks	-6.1	-5.3	-6.6	1.9	3.9	.0	.5	.6	-.1	-1.0	.1	4.1	-3.5	-.2
Motor vehicles and parts	-6.2	-5.5	-6.5	1.3	3.5	.0	.6	.5	-.1	-1.1	.1	4.2	-2.6	-.5
Computers	-5.8	-4.6	-6.9	2.2	4.3	.1	.5	.7	.2	-.7	.0	4.1	-5.4	.1
Computers and semiconductors ¹	-5.4	-3.8	-7.6	1.0	3.3	.1	.4	.7	.1	.2	-.2	3.3	-4.8	-.8
Computers, communications eq. and semiconductors	-5.0	-3.3	-7.3	1.3	3.4	.1	.4	.7	.2	.2	-.1	3.3	-4.8	-.5
Consumer goods excluding:														
Autos and trucks	-2.3	-2.0	-3.3	2.7	.4	-.6	.0	.5	-.2	-2.6	-.8	3.5	-2.1	-.5
Energy	-1.0	-.1	-3.1	3.0	.5	-.5	.1	.9	.2	.0	.2	3.3	-7.5	-.1
Business equipment excluding:														
Autos and trucks	-13.4	-17.9	-14.0	-8.1	-4.3	-.8	.3	.2	-1.0	-.1	.5	2.5	-2.5	-9.0
Computer and office equipment	-13.2	-16.4	-15.7	-7.5	-2.8	-.3	.4	.3	-.1	.6	.3	2.4	-8.2	-8.4
Materials excluding:														
Energy	-7.9	-4.9	-6.9	7.0	10.5	.9	1.3	.7	.2	-1.1	.4	4.6	-8.2	3.3

Note—Percent changes shown in the first and last columns are based on seasonally adjusted data.

1. Semiconductors include related electronic components.

Table 2A
INDUSTRIAL PRODUCTION: INDUSTRY GROUPS

Item	SIC	2001 IP Proportion ¹	Index, 1992=100											
			Seasonally Adjusted						Not seasonally adjusted					
			2002 Feb.	Mar.	Apr. ^f	May ^f	June ^f	July ^p	2002 Feb.	Mar.	Apr. ^f	May ^f	June ^f	July ^p
Total index		100.00	138.1	138.6	138.8	139.5	140.4	140.7	137.1	138.9	137.9	138.0	143.5	136.0
Manufacturing		86.74	142.9	143.4	143.4	144.2	145.1	145.2	140.7	143.1	143.5	143.7	149.1	139.3
Primary processing		33.26	168.0	169.4	170.3	172.6	173.5	174.1	164.9	171.1	170.4	170.8	178.9	165.6
Advanced processing		53.48	129.0	129.1	128.7	128.9	129.7	129.6	127.3	127.9	128.8	129.0	133.0	125.0
Durable		46.81	176.0	176.6	177.2	178.4	179.7	180.6	173.9	179.3	178.0	178.5	185.7	167.3
Lumber and products	24	2.15	111.0	112.9	111.6	112.0	112.1	111.9	108.8	111.6	112.6	112.2	117.4	111.0
Furniture and fixtures	25	1.57	135.0	134.8	134.8	135.0	134.4	133.3	130.2	130.1	132.7	133.4	139.7	133.5
Stone, clay, and glass products	32	2.66	127.8	127.7	129.6	128.2	128.0	128.3	121.3	123.0	130.8	129.2	133.2	131.1
Primary metals	33	2.93	111.8	113.1	112.1	114.9	118.4	119.7	112.0	115.0	115.6	116.0	120.1	116.3
Iron and steel	331,2	1.51	110.6	110.2	110.7	116.5	121.4	123.7	110.4	112.9	114.6	118.5	124.6	121.8
Raw steel		.06	101.3	101.2	101.2	100.9	108.4	111.3	105.0	102.7	106.2	103.8	109.9	108.1
Nonferrous	333-6,9	1.42	113.5	116.8	114.1	113.4	115.4	115.4	114.1	117.8	117.2	113.5	115.4	110.4
Fabricated metal products	34	5.85	127.7	127.9	128.2	129.6	130.0	130.8	124.8	126.3	126.4	128.2	133.1	129.2
Industrial machinery and equipment	35	7.69	205.3	207.1	206.8	209.2	209.8	208.5	205.8	209.9	210.8	211.3	213.3	203.4
Computer and office equip.	357	1.55	1155.8	1185.5	1177.6	1165.2	1158.6	1158.8	1070.4	1084.7	1095.4	1103.5	1096.7	1146.0
Electrical machinery	36	7.82	500.8	503.1	507.9	519.3	518.7	519.4	481.3	532.7	476.2	487.4	548.1	485.9
Semiconductors and related electronic components	3672-9	3.54	1884.6	1904.0	1949.0	2023.1	2047.5	2070.8	1761.8	2169.6	1712.3	1813.0	2270.0	1829.4
Transportation equipment	37	10.44	128.9	128.2	129.6	128.8	130.9	133.8	131.5	133.4	136.6	134.9	136.3	100.5
Motor vehicles and parts	371	6.35	174.5	174.9	179.3	178.8	183.8	191.6	180.0	185.1	193.8	192.2	195.4	123.7
Autos and light trucks		3.42	166.9	166.2	171.1	170.3	177.6	188.2	179.6	177.9	187.3	187.7	193.7	114.0
Aerospace and misc.	372-6,9	4.10	86.4	84.7	83.3	82.2	81.6	80.1	86.4	85.3	83.4	81.7	81.5	78.4
Instruments	38	4.51	112.4	112.8	112.2	112.2	113.1	112.8	108.9	110.5	110.3	111.1	115.4	115.8
Miscellaneous	39	1.18	114.6	116.4	115.8	117.8	119.7	119.7	112.6	116.2	116.1	117.1	119.5	114.9
Nondurable		39.93	110.5	110.9	110.5	111.1	111.6	111.1	108.4	108.5	110.1	110.1	113.9	110.8
Foods	20	9.66	113.7	114.4	114.0	113.5	114.6	113.6	107.7	108.7	111.5	112.1	117.7	115.8
Tobacco products	21	2.11	95.0	95.3	94.4	94.4	95.1	95.8	100.9	101.6	91.7	94.0	104.2	85.3
Textile mill products	22	1.17	85.1	87.2	86.7	87.3	86.1	86.0	84.1	87.3	91.6	89.6	91.5	84.5
Apparel products	23	1.46	88.4	89.5	88.3	88.7	89.2	90.7	86.8	88.5	87.8	89.0	91.3	89.4
Paper and products	26	3.29	103.5	104.5	105.3	108.7	109.0	107.3	106.1	103.9	108.0	106.2	110.0	106.0
Printing and publishing	27	6.62	96.0	95.4	94.9	95.2	96.4	95.3	90.8	90.3	93.9	92.8	97.1	98.8
Chemicals and products	28	9.75	122.9	122.8	122.2	123.2	123.1	122.7	123.9	122.7	123.0	123.0	123.6	121.1
Petroleum products	29	1.92	117.2	116.7	116.9	115.7	114.8	115.9	109.4	110.2	116.2	118.3	119.9	121.4
Rubber and plastics products	30	3.78	136.6	139.1	139.2	140.4	141.5	141.4	136.0	138.1	139.1	139.1	142.7	136.3
Leather and products	31	.16	60.1	60.0	59.5	59.0	58.7	60.0	59.8	60.2	59.7	59.6	60.4	56.6
Mining		6.19	96.6	95.4	95.3	96.5	97.7	96.5	94.3	94.4	95.7	98.2	100.2	97.6
Metal mining	10	.22	78.2	80.0	75.3	79.9	79.3	79.4	79.5	79.4	74.9	79.6	81.4	77.9
Coal mining	12	.69	107.0	99.0	101.8	101.7	103.3	101.6	108.9	102.3	101.8	99.3	103.4	94.8
Oil and gas extraction	13	4.61	91.2	90.6	90.3	91.6	92.7	91.5	91.7	91.2	90.5	92.0	92.6	91.2
Stone and earth minerals	14	.67	132.5	132.2	132.5	133.7	135.5	134.2	97.5	110.6	133.2	147.4	156.5	153.7
Utilities		7.07	120.3	121.8	123.9	122.7	124.2	127.0	132.3	129.3	112.5	108.7	118.6	130.9
Electric	491,3pt	5.60	121.9	124.6	126.6	124.4	127.5	130.9	118.1	116.9	112.0	116.5	133.5	149.7
Gas	492,3pt	1.47	113.7	111.4	113.9	116.0	111.4	112.1	181.7	172.4	112.9	78.4	61.0	58.0
SPECIAL AGGREGATES														
Computers, communications eq. and semiconductors ²		6.62	1065.5	1077.4	1088.0	1107.9	1116.2	1117.6	1003.8	1136.4	992.8	1025.1	1172.7	1034.7
Manufacturing excluding:														
Motor vehicles and parts		80.39	140.9	141.5	141.2	142.1	142.7	142.3	138.2	140.4	140.3	140.6	146.2	140.7
Computer and office equipment		85.19	135.9	136.4	136.4	137.3	138.1	138.2	134.0	136.3	136.7	136.9	142.1	132.5
Computers and semiconductors ²		81.65	119.0	119.3	119.2	119.8	120.5	120.6	117.5	118.5	120.1	120.0	123.6	116.0
Computers, communications eq. and semiconductors ²		80.12	116.4	116.7	116.6	117.2	117.9	118.0	114.9	115.9	117.5	117.4	120.9	113.5
Memo: Motor vehicle assemblies³														
Total			12.3	12.1	12.3	12.1	12.7	13.2	12.1	12.6	13.8	14.3	12.7	8.7
Autos			5.5	5.2	5.2	5.0	5.3	5.4	5.3	5.3	5.8	5.9	5.4	3.8
Trucks			6.8	7.0	7.1	7.0	7.4	7.8	6.8	7.3	8.0	8.4	7.4	5.0
Light			6.6	6.7	6.9	6.8	7.2	7.5	6.6	7.0	7.7	8.0	7.1	4.8
Heavy and medium			.2	.3	.3	.3	.2	.3	.2	.3	.3	.3	.2	.2

1. The IP proportion data are estimates of the industries' relative contributions to overall IP growth in the following year.

2. Semiconductors include related electronic components.

3. Millions of units at an annual rate.

Note—Primary processing manufacturing includes textile mill products, paper and products, industrial chemicals, synthetic materials, and fertilizers, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metals, stone, clay, and glass products, semiconductors and related electronic components, and motor vehicle parts. Advanced processing manufacturing includes foods, tobacco products, apparel products, printing and publishing, chemical products and other agricultural chemicals, leather and products, furniture and fixtures, industrial machinery and equipment, electrical machinery except semiconductors and related electronic components, transportation equipment except motor vehicle parts, instruments, and miscellaneous manufactures.

Table 2B
INDUSTRIAL PRODUCTION: INDUSTRY GROUPS

Percent change

Item	SIC	2000 Q4 to 2001 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				July 01 to July 02
			2001 Q3	Q4	2002 Q1	Q2 ^r	2002 Apr. ^r	May ^r	June ^r	July ^p	2002 Apr. ^r	May ^r	June ^r	July ^p	
Total index		-5.9	-4.7	-6.7	2.6	4.4	.1	.5	.7	.2	-.7	.1	4.0	-5.2	.2
Manufacturing		-6.1	-4.9	-6.3	3.0	3.7	.0	.6	.6	.1	.3	.2	3.7	-6.6	.0
Primary processing		-7.2	-4.2	-6.1	8.8	10.3	.6	1.3	.6	.3	-.4	.3	4.7	-7.5	4.1
Advanced processing		-5.4	-5.4	-6.4	-.4	-.2	-.3	.1	.6	-.1	.7	.1	3.1	-6.0	-2.5
Durable		-8.3	-7.7	-9.2	4.7	5.4	.3	.7	.7	.5	-.7	.3	4.0	-9.9	.4
Lumber and products	24	-1.2	8.4	-9.4	-1.6	-1.3	-1.1	.3	.2	-.2	.9	-.3	4.6	-5.4	-1.8
Furniture and fixtures	25	-7.7	-7.7	-8.0	-.4	.9	.0	.2	-.5	-.8	2.0	.5	4.8	-4.4	-3.7
Stone, clay, and glass products	32	-3.0	-5.3	-5.3	-2.2	2.7	1.5	-1.1	-.1	.3	6.3	-1.2	3.1	-1.6	-1.3
Primary metals	33	-13.7	-8.6	-26.4	11.2	11.5	-.9	2.5	3.1	1.0	.5	.3	3.6	-3.2	.1
Iron and steel	331,2	-13.0	-5.2	-34.7	21.8	27.7	.4	5.2	4.2	1.9	1.5	3.4	5.1	-2.2	4.1
Raw steel		-13.3	9.4	-41.5	35.9	11.2	.0	-.3	7.4	2.7	3.4	-2.2	5.9	-1.6	2.8
Nonferrous	333-6,9	-14.5	-12.1	-16.4	.9	-4.3	-2.3	-.6	1.7	.0	-.5	-3.1	1.7	-4.4	-4.4
Fabricated metal products	34	-6.4	-.7	-7.1	.6	3.8	.3	1.1	.3	.6	.1	1.4	3.8	-2.9	-.3
Industrial machinery and equipment	35	-11.7	-14.4	-12.0	7.0	5.8	-.2	1.2	.3	-.6	.4	.2	1.0	-4.7	-.8
Computer and office equip.	357	-8.2	-14.7	3.6	36.1	4.9	-.7	-1.1	-.6	.0	1.0	.7	-.6	4.5	7.8
Electrical machinery	36	-14.3	-17.5	.3	11.7	13.4	.9	2.2	-.1	.1	-10.6	2.4	12.5	-11.4	6.9
Semiconductors and related electronic components	3672-9	-14.9	-22.2	14.4	39.0	33.9	2.4	3.8	1.2	1.1	-21.1	5.9	25.2	-19.4	25.1
Transportation equipment	37	-3.8	-1.0	-13.3	4.8	4.1	1.1	-.6	1.6	2.2	2.4	-1.2	1.1	-26.3	-.6
Motor vehicles and parts	371	-.4	6.6	-10.1	22.7	16.8	2.5	-.3	2.8	4.2	4.7	-.8	1.7	-36.7	9.8
Autos and light trucks		5.2	14.8	-6.4	18.2	15.9	3.0	-.5	4.3	5.9	5.3	.2	3.2	-41.2	10.6
Aerospace and misc.	372-6,9	-8.9	-12.0	-18.2	-20.4	-16.5	-1.6	-1.4	-.7	-1.9	-2.2	-2.0	-.3	-3.7	-17.5
Instruments	38	-4.4	-7.8	-1.8	-1.3	-1.7	-.5	.0	.7	-.2	-.2	.7	3.9	.3	-1.9
Miscellaneous	39	-8.8	-7.9	-14.5	8.8	9.2	-.5	1.7	1.6	.0	.0	.8	2.1	-3.8	-.9
Nondurable		-3.5	-1.6	-2.8	1.2	1.9	-.3	.5	.5	-.5	1.5	.0	3.4	-2.7	-.4
Foods	20	-.7	-.6	1.5	2.9	.6	-.4	-.4	1.0	-.9	2.6	.5	5.0	-1.6	.4
Tobacco products	21	-1.2	-.8	-6.3	10.4	.9	-.9	.1	.7	.7	-9.7	2.5	10.9	-18.2	.9
Textile mill products	22	-10.7	-11.4	-12.9	12.6	8.5	-.5	.6	-1.4	-.1	5.0	-2.2	2.2	-7.7	2.0
Apparel products	23	-10.7	-15.4	-16.1	5.2	-1.4	-1.3	.5	.5	1.6	-.8	1.3	2.6	-2.1	-4.7
Paper and products	26	-6.1	-1.4	-9.5	-5.3	13.3	.8	3.2	.2	-1.5	4.0	-1.7	3.5	-3.6	-.7
Printing and publishing	27	-7.9	-5.7	-7.0	-10.5	-2.1	-.5	.4	1.2	-1.1	4.0	-1.2	4.7	1.8	-5.7
Chemicals and products	28	-.2	5.0	4.2	1.9	-.3	-.5	.8	-.1	-.3	.2	.0	.5	-2.0	1.3
Petroleum products	29	-1.2	-7.7	1.8	9.2	-1.5	.2	-1.0	-.8	.9	5.4	1.8	1.4	1.3	1.2
Rubber and plastics products	30	-5.2	-.9	-8.7	7.9	11.0	.1	.9	.8	-.1	.7	.0	2.6	-4.5	2.4
Leather and products	31	-14.8	-10.6	-17.4	6.6	-6.8	-.8	-1.0	-.4	2.1	-1.0	-.2	1.5	-6.4	-3.4
Mining		-2.4	-4.1	-11.8	-9.1	.7	-.1	1.3	1.2	-1.2	1.5	2.6	2.0	-2.6	-5.3
Metal mining	10	-13.4	-5.9	-29.4	-18.5	1.9	-5.8	6.1	-.7	.1	-5.7	6.3	2.4	-4.4	-10.6
Coal mining	12	-.5	-10.5	-18.2	-10.1	-4.6	2.9	-.2	1.7	-1.7	-.5	-2.4	4.1	-8.3	-9.2
Oil and gas extraction	13	-2.5	-2.5	-11.0	-11.0	1.1	-.4	1.4	1.2	-1.3	-.7	1.6	.7	-1.6	-5.6
Stone and earth minerals	14	1.1	-10.6	-5.1	10.1	3.3	.2	.9	1.4	-.9	20.4	10.7	6.2	-1.8	2.8
Utilities		-6.1	-3.0	-7.2	8.3	15.3	1.7	-1.0	1.2	2.3	-12.9	-3.4	9.1	10.4	7.5
Electric	491,3pt	-4.1	-4.7	-3.4	3.2	14.0	1.6	-1.7	2.5	2.7	-4.2	4.0	14.6	12.2	8.2
Gas	492,3pt	-13.1	2.9	-20.2	31.1	20.1	2.3	1.8	-3.9	.6	-34.5	-30.6	-22.1	-5.0	4.4
SPECIAL AGGREGATES															
Computers, communications eq. and semiconductors ¹		-15.6	-21.8	1.3	23.7	18.4	1.0	1.8	.7	.1	-12.6	3.3	14.4	-11.8	11.0
Manufacturing excluding:															
Motor vehicles and parts		-6.6	-5.8	-6.0	1.6	2.7	-.2	.7	.4	-.3	-.1	.3	3.9	-3.7	-.8
Computer and office equipment		-6.1	-4.7	-6.5	2.5	3.7	.0	.6	.6	.1	.3	.2	3.8	-6.7	-.1
Computers and semiconductors ¹		-5.6	-3.8	-7.3	1.1	2.5	-.1	.5	.6	.0	1.3	-.1	3.0	-6.1	-1.1
Computers, communications eq. and semiconductors ¹		-5.1	-3.2	-6.9	1.5	2.6	-.1	.5	.6	.1	1.4	.0	3.0	-6.2	-.8

1. Semiconductors include related electronic components.

Note—Percent changes shown in the first and last columns are based on seasonally adjusted data.

Table 3
CAPACITY UTILIZATION: MANUFACTURING, MINING, AND UTILITIES

Percent of capacity, seasonally adjusted

Item	SIC	2001 Proportion	1967- 2001 Ave.	1978- 1980 High	1982 Low	1988- 1989 High	1990- 1991 Low	1994- 1995 High	2001 July	2002 Feb.	Mar.	Apr. ^f	May ^f	June ^f	July ^p
Total industry		100.00	81.9	87.3	71.1	85.4	78.1	84.5	76.7	75.0	75.2	75.3	75.6	76.0	76.1
Manufacturing		87.62	80.9	86.9	69.0	85.7	76.6	84.1	75.1	73.5	73.7	73.6	74.0	74.4	74.4
Primary processing		33.80	82.0	88.6	65.7	88.3	76.7	88.8	74.9	74.6	75.1	75.4	76.3	76.6	76.7
Advanced processing		53.82	80.3	86.3	71.0	84.2	76.6	81.3	75.1	72.7	72.8	72.5	72.5	73.0	72.9
Durable		49.11	79.4	87.7	63.9	84.6	73.1	83.7	72.8	70.6	70.7	70.8	71.2	71.6	71.9
Lumber and products	24	2.14	82.4	87.9	60.8	93.6	75.5	88.3	76.6	74.4	75.6	74.7	74.9	74.9	74.8
Furniture and fixtures	25	1.57	81.2	85.5	68.9	86.6	72.5	84.3	74.4	72.5	72.4	72.4	72.5	72.1	71.5
Stone, clay, and glass products	32	2.47	78.9	88.0	64.3	83.5	69.7	82.2	79.8	77.7	77.5	78.6	77.6	77.4	77.5
Primary metals	33	2.88	81.6	94.2	45.1	92.7	73.7	95.4	79.3	74.8	75.9	75.6	77.7	80.5	81.7
Iron and steel	331,2	1.50	81.3	95.8	37.0	95.2	71.8	98.8	80.8	76.6	76.8	77.7	82.3	86.5	88.9
Raw steel		.06	81.1	95.8	35.2	92.7	71.5	98.3	81.1	77.8	78.4	79.0	79.5	86.2	89.4
Nonferrous	333-6,9	1.37	82.1	91.1	60.1	89.3	74.2	92.2	77.7	72.8	74.9	73.2	72.8	74.1	74.1
Primary copper	3331	.03	75.5	81.5	42.1	86.3	73.5	101.1	68.8	64.8	66.0	69.6	68.6	67.7	
Primary aluminum	3334	.10	87.6	97.6	58.6	100.4	97.3	83.7	59.4	59.9	60.5	60.9	62.1	63.9	
Fabricated metal products	34	6.06	77.8	83.9	63.7	82.0	71.9	85.2	72.8	70.8	70.9	71.0	71.8	71.9	72.3
Industrial machinery and equipment	35	8.29	81.0	93.2	64.0	85.4	72.3	87.2	70.5	68.4	68.9	68.7	69.5	69.6	69.2
Computer and office equip.	357	2.05	80.7	92.6	65.5	86.9	66.9	85.3	64.5	66.8	68.1	67.1	65.9	64.9	64.4
Electrical machinery	36	9.17	81.1	89.4	71.6	84.0	75.0	90.6	65.4	65.7	65.7	66.0	67.1	66.6	66.2
Semiconductors and related electronic components	3672-9	4.55	79.6	91.6	75.7	81.1	75.6	91.0	59.9	65.3	65.4	66.2	67.9	67.9	67.8
Transportation equipment	37	10.77	76.0	84.8	57.2	85.8	68.5	76.8	76.1	72.4	71.9	72.7	72.1	73.2	74.8
Motor vehicles and parts	371	6.47	77.0	95.0	45.5	89.1	55.9	85.1	79.0	77.8	77.9	79.7	79.3	81.4	84.7
Autos and light trucks ¹		3.31	94.6	106.0	92.3	53.3	86.4	85.3	85.3	81.8	81.2	83.3	82.7	85.9	90.7
Aerospace and misc.	372-6,9	4.29	75.1	81.9	66.6	87.3	79.2	69.0	71.8	63.9	62.7	61.8	61.0	60.6	59.5
Instruments	38	4.57	81.1	92.7	78.4	81.4	77.2	78.3	74.1	72.5	72.9	72.5	72.5	73.1	73.0
Miscellaneous	39	1.19	76.0	79.4	65.4	79.0	71.7	80.7	76.4	72.3	73.4	72.9	74.1	75.2	75.0
Nondurable		38.51	83.0	87.5	76.4	87.3	80.7	84.6	78.0	77.3	77.6	77.3	77.7	78.0	77.6
Foods	20	9.11	82.6	84.6	79.1	85.4	82.7	84.0	79.2	79.4	79.8	79.4	79.1	79.8	79.0
Textile mill products	22	1.20	85.2	91.2	72.3	90.4	77.7	92.5	72.2	74.4	76.4	76.3	76.9	76.1	76.2
Apparel products	23	1.60	80.6	87.5	77.5	85.1	75.5	85.9	70.6	66.6	67.4	66.7	67.0	67.4	68.6
Paper and products	26	3.19	88.3	96.1	80.6	93.5	85.0	92.0	77.9	74.4	75.2	75.8	78.3	78.5	77.4
Pulp and paper	261-3	1.11	92.0	98.3	82.0	98.0	89.9	97.4	83.0	79.0	79.9	80.9	84.3	84.0	
Printing and publishing	27	6.61	84.9	93.9	82.0	91.7	79.6	82.2	74.4	70.9	70.5	70.3	70.6	71.6	71.0
Chemicals and products	28	9.60	79.2	84.6	69.9	86.2	79.3	79.9	76.5	77.4	77.2	76.7	77.1	76.9	76.5
Plastics materials	2821	.79	86.1	90.9	63.4	97.0	74.8	103.0	76.9	78.2	80.3	80.4	85.2		
Synthetic fibers	2823,4	.24	84.4	98.6	64.4	99.7	77.6	90.4	74.2	79.9	82.5	80.3	82.2	78.8	
Petroleum products	29	1.63	87.5	90.0	66.8	88.5	85.1	92.9	93.6	95.4	94.9	95.0	94.0	93.3	94.1
Rubber and plastics products	30	3.64	84.5	91.2	72.7	89.6	77.4	91.4	78.9	77.4	78.8	78.8	79.4	80.0	79.9
Leather and products	31	.17	80.6	92.1	75.8	83.3	76.1	85.5	68.7	69.5	69.7	69.4	69.0	68.9	70.5
Mining		6.14	87.6	96.0	80.3	88.0	87.0	89.3	90.9	85.6	84.5	84.4	85.5	86.5	85.5
Metal mining	10	.22	79.4	87.9	44.4	89.4	79.9	90.0	76.8	68.6	70.3	66.4	70.6	70.2	70.5
Coal mining	12	.60	86.7	99.4	76.6	91.5	83.4	88.4	86.7	82.5	76.3	78.5	78.4	79.8	78.4
Oil and gas extraction	13	4.75	88.7	97.3	82.3	88.2	88.7	90.1	92.5	86.2	85.6	85.2	86.4	87.4	86.3
Oil and gas well drilling	138	.70	74.2	104.3	50.9	69.3	60.0	76.9	82.1	56.6	56.0	54.6	54.2	55.8	55.7
Stone and earth minerals	14	.57	84.7	92.7	63.3	89.0	79.4	90.4	85.9	86.9	86.6	86.8	87.6	88.7	87.8
Utilities		6.24	87.6	89.1	75.9	92.6	83.4	92.5	86.0	84.9	85.8	87.0	85.8	86.6	88.3
Electric	491,3pt	4.71	89.7	88.2	78.9	95.0	87.1	96.1	88.5	85.9	87.4	88.4	86.6	88.4	90.4
Gas	492,3pt	1.53	81.8	93.7	69.1	85.0	67.1	87.6	79.1	83.8	82.1	83.9	85.4	82.0	82.5
SPECIAL AGGREGATES															
Computers, communications eq. and semiconductors ²		8.52	80.0	90.9	77.3	81.9	72.4	88.2	62.0	63.4	63.7	63.8	64.4	64.3	63.8
Manufacturing ex. computers, communications eq., and semiconductors ²		79.10	81.0	87.0	68.0	86.1	76.8	83.8	76.6	74.8	75.1	75.0	75.4	75.8	75.9

1. Series begins in 1977.

2. Semiconductors include related electronic components.

Note—Primary processing manufacturing includes textile mill products, paper and products, industrial chemicals, synthetic materials, and fertilizers, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metals, stone, clay, and glass products, semiconductors and related electronic components, and motor vehicle parts. Advanced processing manufacturing includes foods, tobacco products, apparel products, printing and publishing, chemical products and other agricultural chemicals, leather and products, furniture and fixtures, industrial machinery and equipment, electrical machinery except semiconductors and related electronic components, transportation equipment except motor vehicle parts, instruments, and miscellaneous manufactures.

Table 4
INDUSTRIAL CAPACITY: MANUFACTURING, MINING, AND UTILITIES

Item	SIC	Percent change								Capacity indexes						
		Annual rate			Fourth quarter to fourth quarter					Percent of 1992 output						
		1967- 2002 Ave.	1967- 1975 Ave.	1975- 2002 Ave.	1998	1999	2000	2001	2002 ^p	2001 July	2002 Feb.	Mar.	Apr.	May	June	July
Total industry		3.1	3.8	2.9	6.4	3.9	4.0	1.7	1.0	183.0	184.1	184.2	184.4	184.5	184.7	184.8
Manufacturing		3.4	4.0	3.3	7.2	4.5	4.7	1.6	1.0	193.5	194.4	194.6	194.8	194.9	195.1	195.3
Primary processing		3.8	4.4	3.7	9.8	5.0	7.8	2.7	1.6	223.6	225.3	225.6	225.9	226.2	226.6	226.9
Advanced processing		3.2	3.7	3.0	5.5	4.2	2.9	.9	.6	176.8	177.4	177.5	177.6	177.7	177.8	177.8
Durable		4.2	3.7	4.3	10.4	6.6	8.1	3.0	1.6	247.2	249.4	249.7	250.1	250.4	250.8	251.1
Lumber and products	24	1.9	2.9	1.6	4.1	.5	2.1	1.0	.6	148.7	149.3	149.4	149.5	149.6	149.6	149.7
Furniture and fixtures	25	3.3	4.5	2.8	9.2	4.5	3.1	.5	.2	186.2	186.2	186.2	186.2	186.2	186.3	186.3
Stone, clay, and glass products	32	1.6	2.5	1.3	3.8	2.9	2.6	1.9	1.6	163.0	164.5	164.8	165.0	165.2	165.4	165.7
Primary metals	33	.4	1.7	-1	3.4	3.0	.3	-6	-4.4	150.6	149.4	148.9	148.4	147.8	147.2	146.5
Iron and steel	331,2	-.4	.7	-.8	2.8	1.9	-.1	-1.5	-8.1	147.0	144.4	143.5	142.5	141.5	140.3	139.1
Raw steel		-1.0	.3	-1.4	2.5	1.7	-.8	-2.8	-9.5	133.5	130.1	129.1	128.1	127.0	125.8	124.5
Nonferrous	333-6,9	1.7	3.8	1.1	4.4	4.4	1.0	.5	-.2	155.5	155.9	155.9	155.9	155.9	155.8	155.8
Primary copper	3331	.1	1.8	-.4	8.3	-1.2	-7.5	-5.3	-5.0	131.6	127.7	127.2	126.7	126.1	125.6	125.0
Primary aluminum	3334	1.1	5.2	-.2	.0	1.3	.2	.4	.5	106.2	106.6	106.6	106.6	106.7	106.7	106.8
Fabricated metal products	34	2.0	3.1	1.7	7.0	2.0	2.8	.7	.6	180.2	180.4	180.4	180.5	180.6	180.7	180.9
Industrial machinery and equipment	35	5.7	4.7	6.0	9.9	11.4	8.5	2.6	.7	298.3	300.4	300.6	300.9	301.1	301.3	301.4
Computer and office equip.	357	21.6	12.0	25.0	24.6	46.1	37.6	9.6	9.7	1666.8	1729.8	1742.0	1755.2	1769.2	1784.2	1799.6
Electrical machinery	36	10.0	5.9	11.4	27.7	16.3	30.8	9.9	6.8	742.8	761.9	765.6	769.7	774.3	779.1	784.1
Semiconductors and related electronic components	3672-9	21.4	13.1	24.2	56.0	27.6	54.3	16.8	13.7	2764.2	2886.8	2913.3	2943.9	2977.8	3014.5	3052.7
Transportation equipment	37	2.7	3.0	2.6	5.4	2.3	1.8	1.5	1.1	176.7	178.1	178.2	178.4	178.6	178.7	178.9
Motor vehicles and parts	371	3.5	4.4	3.2	6.3	3.2	2.3	2.6	2.4	221.1	224.2	224.6	225.0	225.4	225.9	226.3
Autos and light trucks ¹					6.0	2.9	2.7	3.8	4.2	199.5	204.0	204.7	205.4	206.0	206.7	207.5
Aerospace and misc.	372-6,9	1.5	1.1	1.7	4.0	1.1	1.1	-.2	-.6	135.2	135.1	135.0	134.9	134.8	134.7	134.6
Instruments	38	4.3	7.6	3.3	6.9	2.7	1.1	.1	-.5	155.1	154.9	154.8	154.8	154.7	154.6	154.6
Miscellaneous	39	2.1	4.4	1.3	2.4	2.9	.7	.2	1.4	158.1	158.4	158.6	158.8	159.0	159.2	159.5
Nondurable		2.5	4.3	1.9	3.2	1.7	.4	-.2	.2	143.0	142.9	142.9	143.0	143.0	143.0	143.1
Foods	20	2.2	3.0	2.0	2.4	2.7	.6	.4	.9	142.8	143.2	143.4	143.5	143.6	143.7	143.8
Textile mill products	22	1.4	4.4	.4	-1.1	-1.1	-2.2	-3.3	-3.2	116.7	114.4	114.0	113.7	113.4	113.1	112.8
Apparel products	23	1.0	2.3	.6	2.3	-.1	-.2	-2.1	-1.2	134.7	132.8	132.7	132.5	132.4	132.3	132.2
Paper and products	26	2.6	3.9	2.2	2.7	1.5	1.0	.6	-.6	138.8	139.0	139.0	138.9	138.8	138.7	138.6
Pulp and paper	261-3	2.1	2.9	1.9	.3	1.2	1.0	.6	-1.1	125.5	125.7	125.6	125.5	125.4	125.2	125.0
Printing and publishing	27	2.4	3.0	2.3	3.2	2.4	-.4	-.6	-1.9	136.0	135.5	135.3	135.0	134.8	134.6	134.3
Chemicals and products	28	3.5	6.8	2.5	5.3	2.1	.7	.4	2.1	158.4	158.9	159.1	159.4	159.7	160.0	160.4
Plastics materials	2821	5.8	12.7	3.7	5.5	3.2	1.8	1.3	.8	152.8	153.8	153.9	154.0	154.1	154.2	154.3
Synthetic fibers	2823,4	3.0	9.7	.9	3.8	-.3	-4.9	-7.3	2.1	114.4	110.5	110.6	110.8	111.0	111.4	111.8
Petroleum products	29	1.4	4.2	.6	2.2	1.6	.5	.7	.6	122.4	122.9	122.9	123.0	123.0	123.1	123.2
Rubber and plastics products	30	5.1	8.4	4.1	5.3	4.0	3.3	1.9	.8	174.9	176.4	176.5	176.6	176.7	176.8	176.9
Leather and products	31	-3.4	-1.5	-4.0	-3.8	-2.6	-4.8	-7.3	-4.5	90.3	86.5	86.1	85.8	85.5	85.3	85.0
Mining		.0	-.1	.1	-.6	-2.4	-1.9	.6	.4	112.2	112.9	112.9	112.9	112.9	112.9	112.9
Metal mining	10	.9	.5	1.0	-.1	-1.1	-2.4	-2.8	-2.7	115.7	114.0	113.8	113.5	113.2	112.9	112.7
Coal mining	12	2.1	2.4	2.0	.4	.4	1.3	1.2	-.2	129.0	129.7	129.7	129.7	129.6	129.6	129.5
Oil and gas extraction	13	-.6	-1.0	-.5	-1.8	-3.4	-2.2	.8	.8	104.8	105.8	105.9	105.9	106.0	106.0	106.0
Oil and gas well drilling	138	.7	.8	.7	-1.1	-1.7	.9	7.2	1.7	179.1	186.2	186.6	187.0	187.1	187.2	187.2
Stone and earth minerals	14	1.4	2.6	1.0	3.0	1.7	.5	.7	.5	152.0	152.5	152.5	152.6	152.7	152.7	152.8
Utilities		2.8	6.1	1.7	.1	2.4	2.9	5.1	3.9	137.4	141.6	142.1	142.5	143.0	143.4	143.8
Electric	491,3pt	3.7	7.8	2.4	.2	2.4	3.2	6.4	5.1	136.6	141.9	142.5	143.1	143.7	144.3	144.8
Gas	492,3pt	.3	2.3	-.3	.6	.2	-.2	-.2	.3	135.8	135.7	135.7	135.8	135.8	135.8	135.9
SPECIAL AGGREGATES																
Computers, communications eq. and semiconductors ²		17.2	9.5	19.9	36.6	28.6	42.9	12.7	10.1	1623.1	1681.1	1692.7	1705.9	1720.4	1735.9	1752.1
Manufacturing ex. computers, communications eq., and semiconductors ²		2.3	3.7	1.8	4.4	2.0	1.0	.3	.2	155.3	155.5	155.5	155.5	155.5	155.5	155.5

p. Preliminary estimate for current year.

1. Series begins in 1977.

2. Semiconductors include related electronic components.

Table 6
INDUSTRIAL PRODUCTION: INDUSTRY SUBTOTALS AND INDIVIDUAL SERIES

Item	SIC	2001 IP Proportion	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f	2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f
Metal mining	10	.22	75.2	78.2	80.0	75.3	79.9	79.3	74.0	79.5	79.4	74.9	79.6	81.4
Iron ore	101	.03	84.3	77.4	83.9	85.5	98.8		77.9	75.1	78.5	83.8	102.2	
Nonferrous ores	102-4,8,9	.19	73.7	78.4	79.3	73.6	76.7	75.8	73.4	80.3	79.6	73.4	75.7	77.3
Copper	102	.06	63.3	65.4	66.1	65.7			63.4	67.6	68.7	65.9		
Coal mining	12	.69	104.5	107.0	99.0	101.8	101.7	103.3	103.7	108.9	102.3	101.8	99.3	103.4
Oil and gas extraction	13	4.61	92.0	91.2	90.6	90.3	91.6	92.7	91.9	91.7	91.2	90.5	92.0	92.6
Crude oil and natural gas	131	3.63	89.6	88.9	88.4	88.3	89.9	90.8	89.8	89.6	89.3	88.6	90.3	90.8
Crude oil, total		1.82	79.7	79.2	78.8	78.5	79.0	79.9	79.6	79.6	79.3	78.9	79.1	79.3
Natural gas		1.81	103.4	102.3	101.7	101.8	105.1	105.8	104.0	103.4	103.2	102.2	105.7	106.7
Natural gas liquids	132	.27	111.4	112.4	111.1	112.7	114.0	114.0	107.5	111.4	112.1	114.1	115.1	114.8
Oil and gas well drilling	138	.72	107.3	105.3	104.5	102.0	101.4	104.4	107.1	105.4	102.7	101.2	102.2	103.7
Stone and earth minerals	14	.67	133.7	132.5	132.2	132.5	133.7	135.5	96.7	97.5	110.6	133.2	147.4	156.5
Foods	20	9.66	113.5	113.7	114.4	114.0	113.5	114.6	108.4	107.7	108.7	111.5	112.1	117.7
Meat products	201	1.67	126.0	125.5	127.5	125.9	127.2	128.2	125.9	125.7	124.3	127.9	127.2	132.1
Beef		.52	117.8	114.1	117.1	115.2	117.0	121.6	116.9	113.3	109.9	114.6	117.2	128.4
Pork		.34	113.0	111.9	114.9	113.5	118.9	115.3	115.0	112.9	112.8	116.8	110.4	110.2
Poultry		.80	144.5	147.1	147.8	146.2	145.0	145.6	143.2	146.7	145.8	148.8	148.6	151.5
Miscellaneous meats		.01	63.6	63.6	63.7	65.1	67.4	63.9	62.1	65.1	72.5	65.3	61.9	60.6
Dairy products	202	.96	102.8	104.2	103.9	106.1	104.6	105.6	100.4	107.2	109.8	113.3	112.3	112.2
Butter	2021	.01	104.3	107.4	113.3	113.4	113.0	117.4	130.0	131.6	126.7	127.3	116.8	100.4
Cheese	2022	.25	122.1	123.4	119.5	123.2	121.1	120.0	120.6	123.9	124.4	125.0	125.2	122.5
Concentrated milk	2023	.21	109.5	115.1	120.1	127.1	123.5	128.5	110.9	126.4	132.4	143.1	140.0	139.6
Frozen desserts	2024	.11	92.9	90.8	86.3	84.8	81.3	84.5	72.5	86.5	91.7	96.0	92.6	106.1
Milk and misc. dairy products	2026	.37	91.8	92.3	92.5	93.0	93.3	92.9	92.0	94.4	95.8	97.3	97.7	95.3
Canned and frozen food	203	1.23	102.5	103.0	102.4	102.3	101.5	101.0	92.9	91.1	93.2	94.7	95.5	100.7
Grain mill products	204	1.03	111.1	109.7	108.9	110.5	110.0	111.3	107.9	105.4	105.4	107.7	108.0	109.6
Bakery products	205	1.29	121.3	121.9	121.1	121.3	121.6	121.8	113.0	109.5	110.5	116.0	118.4	127.4
Sugar and confectionery	206	.62	107.0	109.2	110.9	110.7	106.3	113.3	108.9	106.6	104.6	101.9	95.6	104.2
Fats and oils	207	.18	141.9	143.9	144.0	143.9	145.3	147.3	141.0	148.2	145.1	142.6	141.2	141.1
Beverages	208	1.80	115.1	114.3	117.2	114.0	113.5	115.1	106.6	105.2	110.3	112.9	114.8	123.4
Beer and ale	2082,3	.54	96.3	94.5	102.5	94.4			93.0	93.1	103.0	100.5		
Soft drinks	2086,7	1.04	130.4	129.5	128.3	127.5	128.4	127.6	118.8	112.7	114.4	120.8	124.6	135.3
Coffee and miscellaneous	209	.88	111.0	111.2	111.9	111.8	112.2	111.1	103.1	101.3	99.1	103.3	108.4	115.3
Roasted coffee	2095	.12	102.3	104.0	104.3	104.2			109.3	119.1	89.1	95.0		
Tobacco products	21	2.11	93.1	95.0	95.3	94.4	94.4	95.1	93.2	100.9	101.6	91.7	94.0	104.2
Textile mill products	22	1.17	82.5	85.1	87.2	86.7	87.3	86.1	78.1	84.1	87.3	91.6	89.6	91.5
Fabrics	221-4	.28	72.4	75.1	78.1	76.6	77.3	72.2	67.8	74.6	78.9	80.4	81.7	76.0
Cotton and synthetic	221,2	.23	75.1	78.5	82.3	80.5			69.5	77.6	83.0	84.8		
Narrow fabrics	224	.03	81.4	82.6	81.5	79.7	76.0	78.5	80.5	83.6	82.9	79.4	77.4	79.9
Knit goods	225	.24	68.4	69.9	70.2	70.9	70.0	69.1	57.9	65.6	67.7	72.6	72.3	78.3
Knit garments	2253,4,7-9	.16	66.8	68.1	67.9	69.1	67.6	66.1	56.0	62.7	64.0	66.5	68.5	73.4
Fabric finishing	226	.10	67.1	69.2	71.7	71.5	72.0	71.1	63.9	71.3	72.0	77.4	79.6	73.1
Carpeting	227	.19	99.8	104.6	106.6	108.7	109.3	109.1	101.9	104.8	108.3	124.3	101.8	118.2
Yarns and miscellaneous	228,9	.37	106.5	109.0	111.9	109.8	111.6	113.7	104.5	109.0	112.8	112.5	114.7	116.6
Cotton and synthetic yarns	2281,2,4	.17	103.9	109.4	115.4	109.3	110.5	117.1	101.8	112.6	117.8	114.6	118.3	121.9
Apparel products	23	1.46	89.4	88.4	89.5	88.3	88.7	89.2	85.6	86.8	88.5	87.8	89.0	91.3
Lumber and products	24	2.15	112.9	111.0	112.9	111.6	112.0	112.1	107.3	108.8	111.6	112.6	112.2	117.4
Logging and lumber	241,2	.74	106.2	101.5	105.6	103.9	103.1	104.2	100.7	101.0	104.0	102.4	101.4	110.4
Logging	241	.25	86.0	88.2	83.3	84.8	82.6	85.4	82.6	82.8	75.1	73.9	78.5	87.8
Lumber products	243-5,9	1.41	118.6	118.5	119.0	118.0	119.0	118.7	113.0	115.3	117.9	120.5	120.5	123.5
Millwork and plywood	243	.80	124.6	126.4	129.0	127.3	128.1	128.0	119.8	120.9	126.0	127.4	130.0	131.3
Plywood	2435,6	.14	87.0	91.4	94.2	91.6	91.2	93.0	84.5	93.0	95.2	94.1	95.0	94.8
Manufactured homes	245	.19	93.1	89.1	81.5	82.4			80.5	85.4	83.4	89.0		

1. The IP proportion data are estimates of the industries' relative contributions to overall IP growth in the following year.

Table 6 (continued)
INDUSTRIAL PRODUCTION: INDUSTRY SUBTOTALS AND INDIVIDUAL SERIES

Item	SIC	2001 IP Proportion ¹	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f	2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f
Furniture and fixtures	25	1.57	133.6	135.0	134.8	134.8	135.0	134.4	126.1	130.2	130.1	132.7	133.4	139.7
Household furniture	251	.62	123.3	123.7	122.3	123.0	122.7	121.0	116.5	121.3	121.2	122.9	122.4	127.7
Paper and products	26	3.29	105.1	103.5	104.5	105.3	108.7	109.0	106.0	106.1	103.9	108.0	106.2	110.0
Pulp and paper	261-3	1.21	101.2	99.3	100.4	101.5	105.7	105.1	102.2	102.1	99.5	103.5	103.6	105.5
Wood pulp	261	.05	87.7	87.5	90.0	87.8	91.2	92.7	88.0	89.2	87.2	89.7	90.4	92.5
Paper	262	.73	101.6	98.5	97.1	100.6	102.7		102.8	101.6	96.7	101.6	100.0	
Paperboard	263	.42	103.7	103.6	109.0	106.2	114.4	114.4	104.3	106.1	107.4	110.2	112.9	115.0
Paper products	265,7	2.09	107.6	106.1	107.0	107.8	110.6	111.4	108.5	108.6	106.7	110.9	108.0	112.8
Paperboard containers	265	.69	100.4	102.7	100.6	101.5	103.6	108.2	99.0	102.8	100.9	107.7	99.5	109.7
Converted paper products	267	1.40	111.9	108.3	110.8	111.5	114.7	113.4	113.8	112.0	110.1	112.8	112.7	114.7
Printing and publishing	27	6.62	96.6	96.0	95.4	94.9	95.2	96.4	91.6	90.8	90.3	93.9	92.8	97.1
Newspapers	271	1.44	80.0	79.9	79.4	79.4	79.8	79.6	76.5	80.1	76.4	84.8	78.2	77.9
Periodicals, books, and cards	272,3,7	2.18	98.2	96.5	96.5	94.2	94.6	97.1	96.8	94.6	96.0	94.4	93.8	95.5
Job printing	274-6,8,9	3.00	105.1	105.0	103.8	104.3	104.6	105.5	96.7	94.1	94.1	98.6	100.7	109.8
Chemicals and products	28	9.75	123.0	122.9	122.8	122.2	123.2	123.1	122.3	123.9	122.7	123.0	123.0	123.6
Industrial chemicals and synthetic materials	281,2,6	3.25	101.8	103.5	104.4	104.6	107.4	106.3	100.7	105.8	104.7	107.5	106.5	106.3
Basic chemicals	281	1.03	109.7	109.3	108.3	108.2	112.1	109.6	107.3	116.1	109.1	111.8	107.6	108.4
Alkalies and chlorine	2812	.06	66.6	67.5	69.8	72.2	71.7	73.9	67.6	70.5	71.2	71.8	73.0	71.8
Inorganic pigments	2816	.07	84.4	85.7	92.3	88.7	102.8	90.7	85.6	86.7	90.7	95.4	97.1	92.4
Inorganic chemicals, nec	2819	.80	118.1	117.5	115.2	115.3	119.4	117.0	115.1	126.4	116.4	119.5	113.4	115.2
Acids and other		.72	150.6	148.7	149.0	149.8	151.1	153.1	144.4	160.7	145.9	151.1	145.5	155.6
Synthetic materials	282	1.15	106.8	110.9	113.9	113.9	118.2	116.4	105.1	113.4	115.1	118.3	119.1	117.7
Plastics materials	2821	.79	115.7	120.3	123.6	123.8	131.3		113.6	121.7	124.2	129.3	131.7	
Synthetic fibers	2823,4	.24	87.0	88.4	91.3	88.9	91.2	87.8	84.5	93.2	93.1	91.8	92.3	90.1
Industrial organic chemicals	286	1.07	91.3	92.5	93.1	93.8	94.4	94.9	92.0	91.3	92.4	94.7	94.9	94.8
Chemical products	283-5,9	6.04	142.2	141.1	140.1	138.9	138.8	139.2	141.6	141.2	139.6	137.9	138.9	140.2
Drugs and medicines	283	3.62	163.7	161.5	160.4	157.3	156.1	156.2	168.4	166.0	162.8	156.6	158.5	151.2
Soap and toiletries	284	1.43	122.3	121.3	120.8	120.9	121.5	122.4	115.9	116.1	114.9	115.7	115.1	127.9
Paints	285	.36	109.7	110.9	110.9	112.0	113.1	114.3	94.0	109.0	114.1	123.3	125.1	131.7
Agricultural chemicals	287	.46	91.9	89.3	90.3	90.1	89.0	90.4	92.6	88.9	90.4	93.1	90.9	90.0
Petroleum products	29	1.92	114.8	117.2	116.7	116.9	115.7	114.8	107.1	109.4	110.2	116.2	118.3	119.9
Petroleum refining and misc.	291,9	1.70	111.1	113.4	112.9	113.5	112.2	111.3	104.9	106.8	107.7	113.4	114.8	115.8
Miscellaneous petroleum products		.32	101.9	113.7	112.5	110.6	112.1	112.6	86.7	101.1	106.9	112.6	118.8	124.6
Distillate fuel oil		.30	123.1	121.0	116.8	123.7	122.9		117.8	117.4	112.5	122.3	124.8	
Residual fuel oil		.04	67.6	69.5	70.1	70.9	65.5		69.6	68.6	68.0	67.3	65.2	
Aviation fuel and kerosene		.19	104.4	109.0	111.9	107.4	107.1		108.0	104.7	108.0	106.1	104.9	
Automotive gasoline		.85	115.2	114.7	114.6	115.5	112.8		109.8	108.7	108.9	115.5	115.4	
Paving and roofing materials	295	.22	148.7	152.0	151.5	147.5	148.0	146.5	126.1	131.4	131.7	140.3	149.8	157.3
Rubber and plastics products	30	3.78	134.7	136.6	139.1	139.2	140.4	141.5	132.0	136.0	138.1	139.1	139.1	142.7
Tires	301	.29	113.9	116.9	126.5	115.6	120.4	120.8	116.1	125.8	128.8	123.2	119.7	121.0
Other rubber products	302,5,6	.61	124.5	125.7	125.6	129.4	127.8	125.9	114.0	123.0	122.5	127.3	127.3	131.7
Plastics products, nec	308	2.89	139.9	141.8	144.1	144.7	146.1	148.0	138.4	140.5	143.1	144.0	144.5	148.2
Leather and products	31	.16	60.3	60.1	60.0	59.5	59.0	58.7	57.9	59.8	60.2	59.7	59.6	60.4
Shoes	314	.04	50.9	50.6	50.7	50.5	48.8	50.5	49.3	49.4	50.3	50.3	49.2	52.0
Stone, clay, and glass products	32	2.66	127.7	127.8	127.7	129.6	128.2	128.0	119.3	121.3	123.0	130.8	129.2	133.2
Pressed and blown glass	322	.32	111.2	109.7	107.1	107.6	108.4	106.6	106.8	110.2	107.6	109.4	108.4	110.5
Glass containers	3221	.12	80.7	78.6	76.6	78.7	81.1	79.0	76.7	82.2	80.1	81.3	82.4	81.7
Cement	324	.23	147.7	142.3	131.8	138.0	132.6		96.5	109.1	115.0	144.2	147.3	
Structural clay products	325	.12	108.0	110.8	111.5	115.7	117.9	118.1	100.2	110.6	114.4	117.7	120.5	122.7
Concrete and miscellaneous	326-9	1.60	124.9	126.0	128.1	129.0	126.7	126.3	121.2	120.3	122.7	129.8	125.9	129.7

1. The IP proportion data are estimates of the industries' relative contributions to overall IP growth in the following year.

Table 6 (continued)
INDUSTRIAL PRODUCTION: INDUSTRY SUBTOTALS AND INDIVIDUAL SERIES

Item	SIC	2001 IP Proportion ¹	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f	2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^f
Instruments	38	4.51	113.8	112.4	112.8	112.2	112.2	113.1	110.3	108.9	110.5	110.3	111.1	115.4
Scientific and medical	381-4	3.88	117.9	115.6	116.4	116.2	116.2	116.7	113.8	111.5	113.6	114.0	114.9	119.5
Medical instruments	384	1.71	143.6	139.3	140.1	139.5	140.7	141.2	131.9	128.2	131.5	133.6	138.2	149.0
Misc. manufactures	39	1.18	114.6	114.6	116.4	115.8	117.8	119.7	111.3	112.6	116.2	116.1	117.1	119.5
Consumer goods	391,3,4,6	.51	104.0	105.6	107.0	105.5	107.6	109.2	100.5	104.0	107.8	107.1	107.3	108.3
Business supplies	395,9	.67	124.8	123.5	125.6	125.8	127.8	130.0	121.8	121.0	124.5	125.0	126.6	130.3
Electric utilities	491,3pt	5.60	119.8	121.9	124.6	126.6	124.4	127.5	126.0	118.1	116.9	112.0	116.5	133.5
Generation		2.39	116.8	118.8	121.4	123.3	121.0	124.1	119.9	119.5	115.9	111.6	116.3	132.8
Fossil fuel		1.25	120.8	123.0	125.7	127.7			120.5	116.2	112.7	113.2		
Hydro and nuclear		1.14	113.7	115.5	118.1	119.9			120.0	123.2	119.5	110.7		
Sales		3.22	122.0	124.2	126.9	129.0	126.9	130.0	130.8	117.0	117.5	112.2	116.5	133.8
Residential		1.42	122.5	125.5	129.1	131.2			145.3	121.9	117.0	105.0		
Nonresidential		1.80	121.9	123.4	125.5	127.5	125.4	127.7	119.8	113.3	118.1	117.8	123.6	134.1
Commercial and other		1.21	138.5	140.5	143.4	145.7			137.3	126.9	132.8	131.5		
Industrial		.59	97.2	98.0	98.9	100.4			93.7	93.3	96.2	97.5		
Gas utilities	492,3pt	1.47	101.0	113.7	111.4	113.9	116.0	111.4	191.9	181.7	172.4	112.9	78.4	61.0
Residential		.80	92.0	106.5	103.1	106.0	108.1	103.4	203.6	192.6	180.8	106.4	62.4	40.8
Commercial and other		.29	122.0	132.5	130.3	135.5	137.1		225.8	209.4	196.3	131.3	96.0	
Gas transmission		.26	101.8	114.5	112.0	113.7	115.8	111.7	143.4	140.5	135.1	111.2	95.5	87.5

1. The IP proportion data are estimates of the industries' relative contributions to overall IP growth in the following year.

Table 7
INDUSTRIAL PRODUCTION: GROSS VALUE OF PRODUCTS

Billions of 1996 dollars at annual rates, seasonally adjusted

Item	1992	2001	2001				2002		2002					
			Q1	Q2	Q3	Q4	Q1	Q2 ^f	Feb.	Mar.	Apr. ^f	May ^f	June ^f	July ^p
Products, total	2091.3	2724.4	2772.1	2751.8	2726.5	2677.3	2696.0	2713.3	2694.3	2707.4	2704.2	2708.6	2727.2	2739.6
Final products	1587.4	2102.7	2138.1	2126.8	2103.9	2067.5	2080.6	2092.1	2080.4	2084.4	2085.6	2087.6	2103.2	2115.5
Consumer goods	1079.6	1302.9	1303.3	1309.1	1311.0	1302.2	1318.6	1329.8	1318.7	1324.4	1325.9	1325.6	1338.1	1346.8
Durable	229.7	349.6	341.5	353.9	359.3	353.7	364.3	374.3	363.9	366.5	370.3	372.7	380.0	391.9
Automotive products	123.7	187.8	178.7	190.1	196.7	193.6	200.0	207.7	199.4	200.9	204.9	205.1	213.1	222.7
Other durable goods	106.0	160.5	164.1	162.7	159.7	157.3	161.0	162.0	161.5	162.5	161.1	163.9	160.9	161.3
Nondurable	851.9	953.3	961.0	955.1	952.0	948.5	954.7	956.3	955.1	958.4	956.2	953.6	959.0	956.4
Equipment, total	509.4	800.0	840.8	820.2	791.0	759.3	753.6	752.6	753.3	750.5	750.1	752.8	755.0	758.2
Business and defense	490.0	778.4	819.4	797.2	768.0	740.3	737.8	738.1	737.4	735.7	735.6	738.4	740.2	743.4
Business	402.1	715.8	757.2	735.3	705.6	676.3	673.1	672.5	672.7	671.0	670.4	672.7	674.3	677.5
Defense and space	89.0	64.4	64.9	64.2	64.0	64.7	65.1	65.8	65.1	65.1	65.5	65.9	66.1	66.1
Intermediate products	504.7	622.0	634.1	625.2	622.7	610.0	615.5	621.2	614.0	623.0	618.6	621.0	624.1	624.2
Construction supplies	200.1	274.0	276.0	276.1	275.7	268.3	274.6	277.1	272.6	279.3	275.8	277.3	278.3	277.8
Business supplies	304.8	347.6	357.7	348.5	346.3	341.2	340.2	343.4	340.7	342.7	342.1	343.0	345.0	345.8
Commercial energy products	72.6	92.2	92.2	93.2	93.6	91.7	93.6	95.5	94.7	95.9	95.8	95.2	95.4	97.5

Table 8
DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

Percent

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One Month Earlier												
2000	54.3	55.1	57.2	47.8	50.4	53.6	49.6	41.3	51.4	43.5	44.2	42.8
2001	46.0	36.6	39.9	43.1	41.7	40.9	47.8	43.5	39.5	42.0	38.8	52.2
2002	54.3	56.9	60.1	50.4	61.8	58.3						
Three Months Earlier												
2000	61.2	57.6	59.4	55.4	48.6	51.4	51.4	44.2	38.4	39.1	40.2	38.8
2001	39.5	37.5	36.6	38.0	37.7	37.7	39.1	40.2	41.3	36.6	33.0	39.1
2002	44.7	57.2	56.2	56.9	64.5	58.3						
Six Months Earlier												
2000	63.4	62.0	65.9	59.8	57.6	58.0	53.6	45.3	43.5	41.3	40.2	37.0
2001	35.5	32.6	32.2	30.8	31.9	32.6	30.1	32.6	35.9	30.4	34.1	35.5
2002	39.9	44.6	51.1	52.5	61.6	60.5						

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

Table 9
ELECTRIC POWER USE: MANUFACTURING AND MINING

Item	1987 SIC	1992 Billion KWH	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^P	2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^P
Total		933.2	95.1	95.7	94.8	94.7	94.8	92.5	92.1	92.3	92.6	94.3	94.6	94.9
MAJOR INDUSTRY GROUPS														
Manufacturing		853.2	95.5	96.1	95.2	95.2	95.3	93.0	92.1	92.5	92.9	94.8	95.1	95.6
Durable		366.0	95.6	95.9	95.3	96.4	96.4	94.6	91.5	92.6	93.4	95.7	96.5	98.0
Nondurable		487.2	95.5	96.2	95.2	94.1	94.5	91.8	92.5	92.4	92.5	94.0	94.0	93.7
Mining		80.1	89.1	90.4	88.6	88.5	87.1	86.1	92.2	89.6	88.5	88.1	86.5	85.5
INDUSTRY GROUPS and SERIES														
Metal mining	10	18.6	95.9	100.4	96.2	96.3	97.5	97.3	97.1	98.6	97.7	97.8	97.8	96.2
Iron ore	101	7.3	91.9	100.7	91.8	101.9	100.0	107.4	93.9	96.9	95.5	99.7	102.7	104.6
Copper ore	102	6.6	111.8	109.0	112.2	102.3	99.1	99.7	108.6	111.3	108.3	106.1	103.5	98.6
Coal mining	12	12.7	98.7	99.0	95.7	95.2	93.8	92.5	108.9	106.0	102.9	98.1	90.7	88.6
Oil and gas extraction	13	36.0	72.6	73.3	72.6	73.4	70.0	68.3	75.6	71.9	70.3	70.4	70.0	68.9
Crude oil and natural gas	131	31.0	71.2	71.3	71.5	72.2	67.9	67.1	74.1	70.4	69.0	69.4	68.1	67.1
Natural gas liquids	132	3.6	72.4	77.4	69.9	67.5	71.5	65.2	73.8	70.4	68.6	65.3	69.7	66.8
Stone and earth minerals	14	12.8	105.0	104.3	105.0	103.2	102.6	102.3	102.0	96.1	98.2	101.9	102.3	103.6
Crushed stone	142	3.5	186.8	191.6	191.1	184.5	171.2	176.8	169.6	160.0	166.0	180.0	173.7	182.1
Sand and gravel	144	2.7	104.2	98.9	103.3	106.2	106.7	103.9	93.4	85.5	90.3	101.0	109.0	110.8
Chemical and fertilizer materials	147	4.7	78.7	77.3	78.4	77.2	81.0	80.8	83.5	78.3	79.2	77.6	78.8	78.5
Foods	20	58.8	124.1	124.5	122.7	121.6	120.6	118.7	117.7	114.5	113.5	117.0	117.4	122.2
Meat products	201	10.4	144.2	144.1	139.9	138.6	139.9	136.1	135.5	130.3	128.2	133.0	136.5	142.7
Dairy products	202	6.8	112.0	113.2	109.0	108.1	109.5	106.9	106.5	103.8	101.5	105.9	108.1	112.4
Canned and frozen food	203	8.0	117.8	118.4	116.5	116.6	115.7	113.6	106.7	104.7	105.9	108.0	108.8	113.2
Grain mill products	204	11.4	123.2	126.5	124.5	120.5	121.3	121.4	121.7	121.6	118.2	120.7	120.8	122.6
Bakery products	205	3.5	133.4	133.9	131.8	131.3	128.1	125.8	124.0	120.0	120.0	125.4	124.5	131.4
Sugar and confectionery	206	4.0	146.8	136.0	141.5	149.9	137.3	137.3	151.9	146.8	143.5	146.6	131.2	134.0
Fats and oils	207	3.9	113.7	111.4	116.6	114.3	107.7	107.8	116.8	108.7	113.2	113.7	104.9	105.5
Beverages	208	6.1	113.8	113.2	111.1	110.2	112.4	109.3	104.0	98.8	99.3	104.6	109.4	116.2
Coffee and miscellaneous	209	4.7	116.3	118.5	116.3	114.7	109.8	108.2	105.7	103.6	103.6	106.4	106.7	114.8
Tobacco products	21	1.5	77.4	77.0	73.6	78.7	84.2	80.6	69.8	73.8	69.2	74.7	79.6	84.3
Textile mill products	22	31.5	87.2	85.5	88.3	87.4	82.3	80.5	73.4	80.1	81.1	83.8	85.5	88.1
Fabrics	221-4	11.9	82.4	78.1	76.2	75.7	71.5	68.5	69.5	73.4	70.7	72.4	74.1	74.9
Knit goods	225	4.1	81.1	83.2	80.0	81.5	79.3	76.4	68.0	76.6	75.4	78.6	80.4	84.9
Fabric finishing	226	2.5	69.6	76.1	72.8	76.7	79.9	76.3	63.2	73.5	71.6	78.1	81.4	82.0
Yarn and thread	228	8.3	91.4	88.6	95.4	96.2	84.5	84.3	74.8	85.2	88.3	89.1	91.2	92.9
Miscellaneous textiles	229	3.3	89.5	92.6	102.7	99.4	99.5	98.7	79.3	85.5	92.4	98.8	99.9	105.7
Apparel products	23	8.2	88.4	87.3	86.4	87.0	86.6	83.3	77.8	80.4	79.7	82.8	86.6	91.8
Men's outerwear	231,2	2.0	80.1	80.1	76.5	77.9	79.0	74.9	68.1	72.3	69.9	73.6	80.4	87.1
Women's outerwear	233	2.5	86.0	83.3	83.6	81.3	79.3	73.8	78.3	79.2	78.8	78.5	80.8	84.1
Lumber and products	24	19.7	121.2	120.8	122.3	120.6	123.5	122.6	116.9	120.4	121.9	124.7	125.5	126.7
Lumber	242	7.7	100.2	102.4	100.3	99.8	102.4	101.6	99.9	104.8	103.4	105.2	105.5	103.8
Millwork and plywood	243	5.6	140.3	143.3	147.0	146.1	148.6	150.3	135.3	143.0	146.5	151.4	151.3	155.8
Furniture and fixtures	25	6.0	113.0	112.9	111.1	110.8	110.6	109.1	105.4	108.9	107.5	109.0	109.2	114.0
Household furniture	251	3.2	107.8	108.0	106.7	107.1	107.5	106.0	101.5	105.4	105.3	106.6	106.8	111.4
Paper and products	26	112.3	86.7	87.8	86.3	82.2	84.3	82.4	85.6	83.9	83.7	82.2	83.7	83.5
Wood pulp	261	8.8	77.2	79.4	77.1	72.2	80.1	71.6	77.5	73.6	73.2	72.0	77.7	69.6
Paper	262	61.5	73.2	74.1	72.6	68.1	70.2	68.6	73.4	70.9	70.2	68.2	69.6	69.7
Paperboard	263	28.1	122.6	128.6	126.4	121.6	126.1	122.9	122.2	125.2	126.1	123.4	126.4	124.3
Paperboard containers	265	5.0	106.5	105.1	103.1	101.7	97.5	97.6	100.8	99.1	98.2	100.2	96.8	99.6
Converted paper products	267	8.9	119.6	117.1	117.1	114.9	116.1	116.4	112.3	111.9	114.0	113.9	116.4	118.8
Printing and publishing	27	17.3	107.8	107.5	105.1	105.5	102.9	101.2	99.7	96.3	95.2	99.7	99.3	105.4
Newspapers	271	3.7	103.1	105.8	102.0	101.5	99.1	96.5	97.4	93.0	91.6	94.3	96.0	101.8
Commercial printing	275	9.2	116.8	114.4	112.6	114.6	112.0	110.2	107.7	103.5	102.7	108.3	107.7	114.5
Chemicals and products	28	171.6	86.1	87.5	86.5	85.3	87.3	82.9	86.7	86.4	87.2	88.0	86.7	83.0
Basic chemicals	281	78.9	71.9	73.9	71.7	70.7	72.6	67.4	74.7	74.4	76.1	74.9	72.5	64.6
Alkalies and chlorine	2812	14.9	42.5	40.1	40.6	40.3	41.5	39.6	42.1	38.9	41.8	40.5	42.3	41.0
Inorganic chemicals, nec	2819	38.3	66.5	71.0	64.1	64.6	65.6	56.1	72.2	73.6	74.2	72.5	65.7	48.4
Acid and fertilizer materials		14.0	47.3	54.1	52.0	52.8	52.4	53.1	48.8	51.5	52.5	52.3	54.6	55.0
Nuclear materials, nondefense		24.3	75.9	79.4	70.1	70.4	72.1	57.5	83.8	84.6	85.0	82.5	71.3	45.2

Table 9 (continued)
ELECTRIC POWER USE: MANUFACTURING AND MINING

Item	1987 SIC	1992 Billion KWH	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^p	2002 Jan.	Feb.	Mar.	Apr. ^f	May ^f	June ^p
Chemicals and Products (cont.)														
Synthetic materials	282	29.1	97.2	98.5	98.7	96.3	99.6	97.1	94.8	96.5	94.5	98.8	99.4	101.6
Plastics materials	2821	18.2	126.8	125.2	125.9	124.0	126.4	123.7	123.7	123.2	122.6	126.5	126.1	130.1
Drugs and medicines	283	6.6	142.5	140.2	143.3	147.6	149.7	141.4	133.8	131.1	133.4	139.1	144.7	149.4
Soap and toiletries	284	3.0	127.6	126.2	132.3	127.6	130.4	124.9	121.8	121.6	126.7	122.9	124.3	131.5
Industrial organic chemicals	286	39.2	114.5	115.6	116.8	110.6	112.1	111.1	113.6	113.3	110.4	111.0	110.0	110.8
Agricultural chemicals	287	9.7	94.6	92.3	96.0	93.2	86.9	88.5	95.2	89.5	94.2	95.2	89.4	89.4
Petroleum products	29	47.0	102.0	104.8	103.1	103.6	102.5	102.0	101.6	100.1	99.3	102.5	103.2	103.2
Rubber and plastics products	30	37.9	122.2	118.3	117.3	120.1	119.1	117.2	110.5	114.5	114.7	119.0	118.8	122.5
Tires	301	4.3	113.2	104.3	107.2	107.6	105.7	104.5	100.5	100.0	102.4	106.0	106.0	110.8
Rubber products, nec	306	3.2	110.0	111.1	110.6	114.1	112.8	110.0	100.7	108.9	107.9	112.2	112.2	115.0
Plastics products, nec	308	28.9	126.5	122.9	120.8	124.1	123.3	121.4	114.5	118.8	118.7	123.2	122.9	126.5
Leather and products	31	1.0	63.3	62.0	62.7	62.5	61.3	59.4	60.4	59.6	59.7	61.2	60.4	61.4
Shoes	314	.3	60.6	55.2	58.9	59.8	58.4	54.1	56.2	52.1	54.2	56.8	56.4	56.9
Stone, clay, & glass products	32	33.7	107.8	109.4	109.6	105.9	104.3	105.0	103.0	101.9	102.3	105.4	104.8	107.6
Flat glass	321	1.5	108.9	110.1	110.9	116.0	112.4	120.4	104.2	106.8	107.4	117.9	113.8	123.0
Pressed and blown glass	322	7.3	109.7	108.7	105.9	104.8	103.9	101.2	105.9	106.6	103.9	105.5	102.9	105.0
Cement	324	9.6	112.8	117.4	117.0	104.2	103.4	107.5	105.4	99.9	100.9	100.1	104.8	108.1
Structural clay products	325	1.4	110.2	111.2	110.8	107.7	103.9	105.4	105.3	105.0	104.8	108.7	105.4	106.6
Concrete products	327	4.7	130.3	131.2	132.4	129.3	130.4	131.1	126.0	123.9	125.4	129.7	130.4	134.7
Primary metals	33	150.8	77.9	78.4	77.6	79.0	79.4	78.0	76.8	77.1	78.4	80.2	81.1	80.4
Basic steel and mill products	331	57.0	96.3	97.1	93.9	98.3	98.2	100.1	96.3	95.6	97.4	100.5	101.2	101.2
Iron and steel foundries	332	9.9	97.0	100.7	103.5	104.7	106.3	104.8	93.9	100.2	104.7	107.7	106.3	107.0
Primary nonferrous metals	333	66.2	49.7	50.3	50.6	49.4	50.2	48.8	49.4	48.3	49.5	49.3	50.9	49.1
Aluminum	3334	60.3	27.1	27.3	26.9	26.4	27.1	25.5	26.1	26.0	26.1	26.4	27.9	26.1
Nonferrous foundries	336	2.7	152.8	152.1	150.9	155.2	156.7	152.6	142.3	148.0	148.3	155.4	156.3	156.7
Fabricated metal products	34	31.6	117.8	117.3	116.4	118.2	117.8	116.1	111.5	115.0	114.9	116.9	116.5	119.7
Metal containers	341	2.9	92.0	92.7	91.0	92.3	90.7	90.1	89.5	90.2	89.0	92.7	91.7	92.5
Hardware, tools, and cutlery	342	2.6	107.3	104.3	101.1	105.8	101.2	100.4	99.1	101.4	99.6	103.8	100.3	105.3
Structural metal products	344	5.5	131.6	132.3	133.3	133.8	130.5	128.1	128.2	131.7	131.4	131.2	126.8	127.6
Fasteners	345	1.7	102.5	107.6	107.2	105.9	108.5	102.1	94.2	102.8	104.1	103.6	106.6	107.1
Metal stampings	346	6.7	138.8	134.9	136.2	139.4	142.1	143.2	127.2	132.9	136.2	138.8	140.5	149.5
Industrial machinery and equipment	35	33.2	99.9	99.1	96.4	98.4	99.6	97.6	93.5	94.2	93.0	95.3	97.9	101.3
Engines and turbines	351	2.6	119.5	117.2	118.0	130.9	135.2	132.7	117.2	119.8	120.7	128.0	135.5	137.0
Farm	352	2.0	63.7	65.5	65.4	66.2	66.9	66.1	63.0	66.3	66.7	67.3	66.8	67.8
Construction and allied	353	3.9	102.9	101.6	103.2	102.1	101.7	99.2	96.7	96.6	98.2	97.6	100.3	101.7
Metalworking	354	4.1	106.6	105.0	101.5	100.0	102.4	100.0	99.2	99.4	97.1	95.9	99.2	103.4
Special industry	355	2.4	102.2	99.0	95.7	102.1	101.8	101.9	96.0	94.1	92.2	98.2	98.5	105.4
General industrial	356	5.2	104.2	102.9	99.6	102.5	103.2	100.4	97.5	98.8	96.6	99.5	101.5	104.2
Computer and office equip.	357	5.1	74.0	74.8	69.7	71.4	72.9	71.0	70.1	69.7	67.2	69.4	72.5	74.6
Service industry machines	358	3.4	101.8	99.9	97.6	97.3	99.0	99.8	89.8	91.8	91.4	94.0	97.9	103.6
Electrical machinery	36	33.0	100.1	98.3	95.9	98.3	98.0	95.9	94.6	93.5	92.4	95.1	96.5	99.6
Electrical distribution	361	1.3	97.6	94.9	93.3	94.0	98.5	96.3	95.0	93.6	92.4	93.6	97.8	98.0
Electrical industrial	362	3.9	76.8	73.9	71.3	69.0	73.6	74.8	74.4	70.1	69.9	68.3	73.7	77.5
Household appliances	363	2.4	91.3	88.7	86.0	86.6	82.5	80.0	84.3	84.4	83.9	85.7	85.8	86.5
Lighting and wiring products	364	3.0	133.0	129.8	128.6	129.0	130.3	126.0	121.8	126.5	125.7	127.3	126.5	130.3
TV and radio sets	365	.8	119.9	116.8	116.9	117.3	116.3	114.7	114.0	110.4	111.8	111.8	116.8	118.8
Communication equipment	366	3.3	101.8	97.9	95.8	100.5	99.3	95.7	94.7	92.5	91.4	95.6	94.6	98.8
Electronic components	367	14.6	104.8	103.9	100.1	104.2	102.1	100.4	100.3	98.6	96.4	100.3	100.4	103.7
Transportation equipment	37	39.8	106.1	108.0	110.3	112.9	111.5	107.4	99.2	104.2	107.2	109.6	110.6	113.5
Motor vehicles and parts	371	22.8	122.1	126.1	129.3	132.3	131.6	127.0	113.9	122.6	126.5	128.8	131.0	135.3
Aircraft and parts	372	10.7	69.8	68.7	70.2	72.3	71.6	65.6	65.3	65.1	67.0	69.3	70.3	68.4
Ships and boats	373	2.2	86.8	89.0	88.7	92.8	88.4	89.0	89.4	89.8	89.0	91.3	87.7	90.8
Instruments	38	13.6	97.6	98.5	94.9	99.4	97.0	92.3	92.2	90.6	90.7	95.0	94.4	96.5
Photographic equip. & supplies	386	1.8	105.7	112.8	103.1	111.5	108.3	100.8	105.5	103.8	102.1	107.1	103.7	103.6
Miscellaneous manufactures	39	4.5	130.5	130.4	128.9	127.0	129.6	127.1	120.2	123.6	122.4	125.9	128.9	132.6
SUPPLEMENTARY GROUPS														
Total, excluding nuclear nondefense		908.9	96.0	96.4	95.9	95.8	95.8	94.1	92.5	92.6	92.9	94.9	95.6	97.2
Utility sales to industry		835.5	95.2	95.6	94.2	94.5	94.1	93.0	91.7	92.2	92.3	94.3	94.5	95.0
Industrial generation		97.7	94.8	97.9	95.6	97.7	97.6	97.0	98.6	93.7	96.9	94.2	96.0	94.7

Explanatory Note

The statistical release of **Industrial Production and Capacity Utilization** reports measures of output, capacity, and capacity utilization in manufacturing, mining, and the electric and gas utilities industries. The release also includes monthly indexes on the use of electric power in manufacturing and mining. Files containing data in the release and historical data are available under “Research and Data” at www.federalreserve.gov, the Board’s World Wide Web site. For paid access to these files through the Department of Commerce’s Economic Bulletin Board or World Wide Web site, please call STAT-USA at 1-800-STAT-USA or (202) 452-1986. Diskettes containing historical data and the data published in this release are available from the Board of Governors of the Federal Reserve System, Publications Services, (202) 452-3245.

Industrial Production

Coverage. The industrial production (IP) index measures output in the manufacturing, mining, and electric and gas utilities industries; the reference period for the index is 1992. For the period since 1997, the total IP index has been constructed from 276 individual series based on the 1987 Standard Industrial Classification (SIC). These individual series are classified in two ways: (1) market groups (shown in table 1), such as consumer goods, equipment, intermediate products, and materials; and (2) industry groups (shown in tables 2 and 6), such as two-digit SIC industries and major aggregates of these industries—for example, durable and nondurable manufacturing, mining, and utilities.

Market groups. For purposes of analysis, the individual IP series are grouped into final products, intermediate products, and materials. Final products are assumed to be purchased by consumers, businesses, or government for final use. Intermediate products are expected to become inputs in nonindustrial sectors, such as construction, agriculture, and services. Materials are industrial output requiring further processing within the industrial sector. Total products comprise final and intermediate products; final products are divided into consumer goods and equipment.

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 three months as new source data become available. (Revised estimates are denoted by the superscript “r” in tables.) After the fourth month, indexes are not revised further until the time of an annual revision or a benchmark revision. The last three benchmark revisions were published in 1990, 1985, and 1976.

Source data. In annual or benchmark revisions, the individual IP indexes are constructed from a variety of source data, such as the quinquennial *Censuses of Manufactures and Mineral Industries* and the *Annual Survey of Manufactures*, prepared by the Bureau of the Census; the *Minerals Yearbook*, prepared by the U.S. Geological Survey; and publications of the Department of Energy. On a monthly basis, the individual indexes of industrial production are constructed from two main types of source data: (1) output measured in physical units and (2) data on inputs to the production process, from which output is inferred. Data on physical products, such as tons of steel or barrels of oil, are obtained from private trade associations as well as from government agencies including those listed above; data of this type are used to estimate monthly IP where possible and appropriate. When suitable data on physical product are unavailable, estimates of output are based on either production-worker hours or electric power use by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The data on electric power use are described below. The factors used to convert inputs into estimates of production are based on historical relationships between the inputs and the comprehensive data used to benchmark the IP indexes; these factors also may be influenced by technological or cyclical developments. Especially for the first and second estimates for a given month, the available source data are limited and subject to revision.

Weights. In the index, series that measure the output of an individual industry are weighted according to their proportion in the total value-added output of all industries. The industrial production index, which extends back to 1919, is built as a chain-type index since 1977. The components of IP are combined using annual estimates of value added per unit of output; for the data since 1992, the annual unit-value-added estimates are linearly interpolated to get monthly weights. The IP proportions shown in column 1 of tables 1A, 2A, and 6 are estimates of the industries’ relative contributions to overall growth in the following year. For example, a 1 percent increase in durable goods manufacturing in 1997 would account for an increase in total IP of nearly 1/2 percent.

Seasonal adjustment. Individual series are seasonally adjusted by the X–11 ARIMA method, developed at Statistics Canada. For series based on production-worker hours, the current seasonal factors were estimated with data through October 2000; for other series, the factors were estimated with data through at least June 2000. Series are preadjusted for the effects of holidays or the business cycle where appropriate. For the data since 1977, all seasonally adjusted aggregate indexes are calculated by aggregating the seasonally adjusted indexes of the individual series.

Reliability. The average revision to the *level* of the total IP index, without regard to sign, between the first and the fourth estimates was 0.28 percent during the 1987–2001 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 1987–2001 period. In most cases (about 84 percent), the direction of 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

Definition. Capacity utilization is calculated for the manufacturing, mining, and electric and gas utilities industries. For a given industry, the utilization rate is equal to an output index divided by a capacity index. Output is measured by seasonally adjusted indexes of industrial production. The capacity indexes attempt to capture the concept of sustainable practical capacity, which is defined as the greatest level of output that a plant can maintain within the framework of a realistic work schedule, taking account of normal downtime, and assuming sufficient availability of inputs to operate the machinery and equipment in place. The 76 individual capacity indexes are based on a variety of data, including capacity data measured in physical units compiled by trade associations, surveys of utilization rates and investment, and estimates of growth of the capital input.

Groups. Estimates of capacity and utilization are available for a variety of groups, including primary and advanced processing industries within manufacturing, durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Component industries of the primary and advanced processing groups within manufacturing are listed in the note on tables 2 and 3 of the release.

Weights. Although each utilization rate is the result of dividing an IP series by a corresponding capacity index, aggregate utilization rates are equivalent to combinations of individual utilization rates aggregated with proportions that reflect current capacity levels of output valued in current-period value added per unit of actual output. The implied proportions of individual industry operating rates in the rate for total industry for the most recent year are shown in the first column of table 3.

Perspective. The historical highs and lows in capacity utilization shown in the tables above are specific to each series and did not all occur in the same month. Industrial plants usually operate at capacity utilization rates that are well below 100 percent: none of the broad aggregates has ever reached 100 percent. For total industry and total manufacturing, utilization rates have exceeded 90 percent only in wartime.

Electric Power

Data on electric power (expressed in kilowatt hours) are collected by the Federal Reserve District Banks from electric utilities and also from manufacturing and mining establishments that generate electric power for their own use (cogenerators). The indexes of power use shown in table 9 are sums of kilowatt hours used by an industry or industry group expressed as a percentage of that industry’s or group’s usage in 1992. The first column of the table shows, for reference, electric power use in billions of kilowatt hours as reported by manufacturing and mining industries in the 1992 censuses of those industries. The supplementary group, “Total, less nuclear nondefense,” is shown separately because the value-added proportion for the nondefense nuclear material series (part of SIC 2819) in total IP is considerably smaller than its share of total electric power use. Excluding this component from total power use facilitates comparisons with total IP.

References

The annual revision published in November 2001 was described in an article published in the *Federal Reserve Bulletin*, vol. 88 (March 2002), pp. 173–187. 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/capital_stock_doc-latest.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, and March 2002).

Release Schedule

At 9:15 a.m. on:

2002: January 16, February 15, March 15, April 16, May 15, June 14, July 16, August 15, September 17, October 17, November 15, and December 17.