

# FEDERAL RESERVE statistical release



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## INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production declined 0.3 percent in November after an upward-revised increase of 0.2 percent in October. The decline in the index resulted from a fall of 3.4 percent in the output of utilities and of 1.2 percent in the output of mines. Manufacturing output was unchanged after having risen 0.6 percent in October. At 131.8 percent of its 1992 average, industrial production in November was 1.5 percent higher than it was in November 1997. Capacity utilization fell 0.6 percentage point, to 80.6 percent, a level 1-1/2 percentage points below its 1967-97 average.

### Market Groups

The output of consumer goods edged up 0.1 percent after an upward-revised increase of 0.4 percent in October. Among consumer durables, production of automotive products decreased, but remained near the high level in October; the decline was offset, however, by a 0.7 percent increase in the production of other consumer durables, mainly  
(over)

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

	Index, 1992=100				Percent change				Nov. 97 to Nov. 98
	1998 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	1998 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Industrial Production</b>									
<b>Total index</b>	132.4	131.9	132.2	131.8	1.4	-.4	.2	-.3	1.5
Previous estimates	132.5	132.0	132.0		1.6	-.4	.0		
<b>Major market groups:</b>									
Products, total	124.9	124.2	124.8	124.4	1.3	-.6	.5	-.3	1.8
Consumer goods	116.1	114.8	115.3	115.4	1.9	-1.1	.4	.1	-.5
Business equipment	166.6	167.2	168.7	167.7	1.9	.4	.9	-.6	7.9
Construction supplies	128.0	126.7	128.1	129.0	-.3	-1.0	1.1	.7	4.4
Materials	144.4	144.4	144.1	143.7	1.7	.0	-.2	-.3	.9
<b>Major industry groups:</b>									
Manufacturing	135.7	135.2	136.0	135.9	1.6	-.4	.6	.0	2.0
Durable	159.8	159.5	160.7	160.4	3.5	-.2	.8	-.2	4.7
Nondurable	111.3	110.6	111.0	111.2	-.8	-.6	.4	.2	-1.3
Mining	103.7	102.7	101.9	100.7	-.9	-1.0	-.8	-1.2	-4.1
Utilities	120.2	120.5	116.1	112.2	1.6	.2	-3.7	-3.4	-1.2
									Capacity growth
									Nov. 97 to Nov. 98
<b>Capacity Utilization</b>									
	Average 1967-97	1982 Low	1988-89 High	1997 Nov.	1998 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total industry</b>	82.1	71.1	85.4	83.4	82.0	81.3	81.2	80.6	5.0
Previous estimates					82.0	81.4	81.1		
Manufacturing	81.1	69.0	85.7	82.6	80.7	80.1	80.2	79.8	5.6
Advanced processing	80.5	70.4	84.2	81.6	79.9	79.5	79.6	79.3	6.6
Primary processing	82.3	66.2	88.9	85.4	83.1	82.0	82.1	81.7	3.0
Mining	87.5	80.3	88.0	87.9	86.3	85.4	84.7	83.5	.9
Utilities	87.3	75.9	92.6	90.3	95.1	95.2	91.6	88.5	.7

computers and appliances. The output of nondurable consumer goods other than energy products, which rose 0.3 percent, was led by a second month of strong gains in the production of foods and consumer chemicals. The output of consumer energy products fell 1.2 percent, a drop that reflected the lowering of residential demand for electricity and gas that came from the abnormally warm weather during the month.

The production of business equipment fell 0.6 percent, reversing the upward-revised increase in October. The drop reflected widespread declines in the production of most types of business equipment. A notable exception was the production of computers, where continued strength pushed up the reading on the output of information processing equipment. Declines in the production of civilian aircraft and business vehicles lowered the overall output of transit equipment, and further weakness in the production of farm machinery reduced output in the "other equipment" category.

The output of construction supplies increased 0.7 percent after having risen 1.1 percent in October. Gains continued to be widespread among most of the underlying components of this index. In contrast, the production of business supplies fell 1.0 percent, a drop that reflected, in part, the reduced commercial use of energy.

The production of materials fell 0.3 percent after having dropped 0.2 percent in October. The production of durable goods materials edged up 0.2 percent, as continued strength in the production of semiconductors, printed circuit boards, and other electronic components was only partly offset by a sharp drop in the production of basic metals; the production of iron and steel fell 5.0 percent. The output of nondurable goods materials slipped again, with weakness in the production of chemicals, textiles, and paper. Because of the drop in electricity generation, the output of energy materials fell 1.8 percent.

#### Industry Groups

Manufacturing output was unchanged as gains in the production of nondurable goods were offset by a falloff in the production of durables. Among durables, declines in the production of primary metals, industrial machinery other than computers, and transportation equipment contributed to the November weakness. In contrast, the production of nondurable goods edged up 0.2 percent and was led by increases of 1/2 percent or more in the production of foods, petroleum products, and rubber and plastic products. The reading on mining production continued to fall, being pulled down by the continued contraction in oil and gas extraction and declines in natural gas output and coal mining activity.

The factory operating rate dropped 0.4 percentage point, to 79.8 percent—more than 2-3/4 percentage points below the level it had reached in November 1997. Utilization rates for both primary- and advanced-processing industries have fallen this year to levels below their historical averages. Similarly, utilization at mines fell to 83.5 percent—more than 4 percentage points below its year-ago level and well below its historical averages.

### **NOTICE**

On November 24, the Federal Reserve published revisions to its measures of industrial production (IP), capacity, capacity utilization, and industrial use of electric power. The revisions began with 1992 and incorporated updated source data for more recent years.

This regular updating of source data for IP included annual data from the Bureau of the Census's 1996 Annual Survey of Manufactures and from selected editions of its 1997 Current Industrial Reports. Annual data from the Department of the Interior on metallic and nonmetallic minerals (except fuels) for 1996 and 1997 were also introduced. The updating also included revisions to the monthly indicators for each industry (physical product data, production-worker hours, or electric power usage) and revised seasonal factors. In addition, the revision introduced improved measures of production for semiconductors, coal, lawn and garden equipment, and aircraft.

Capacity and capacity utilization were revised to incorporate preliminary data from the Census Bureau's 1997 Survey of Plant Capacity. The statistics on the industrial use of electric power incorporated more complete reports received from utilities for the past few years as well as data from the 1996 Annual Survey of Manufactures.

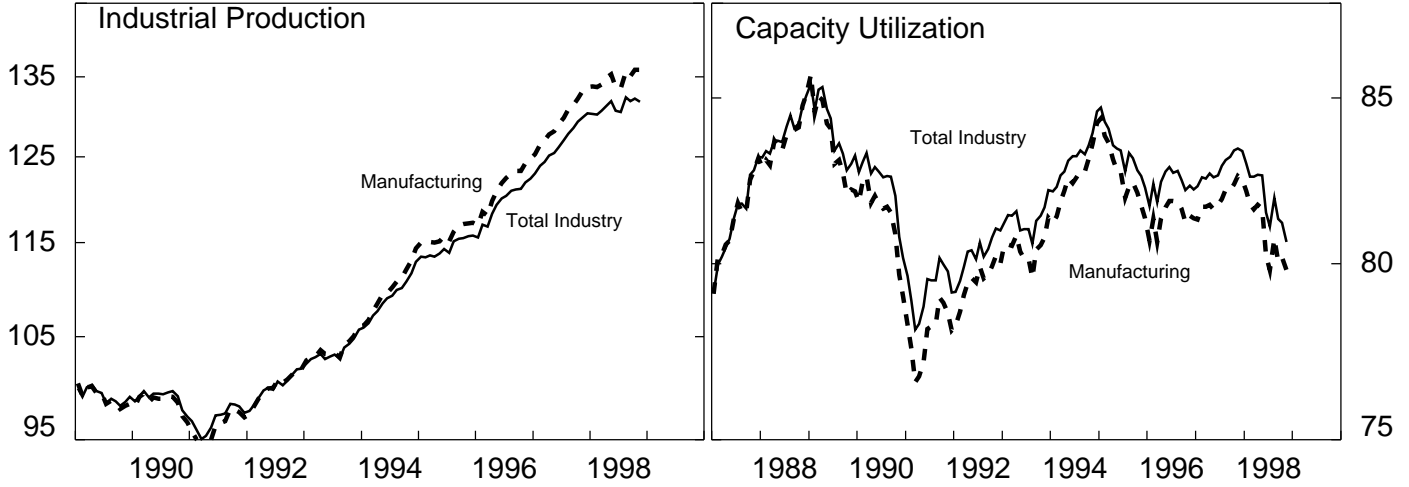
The revised data are available on the the Board's web site, <http://www.federalreserve.gov/releases/g17>, and on diskettes from Publications Services (telephone 202-452-3245). Further information on these revisions is available from the Board's Industrial Output Section (telephone 202-452-3197).

# Industrial Production and Capacity Utilization

(November data, seasonally adjusted)

Ratio scale, 1992 = 100

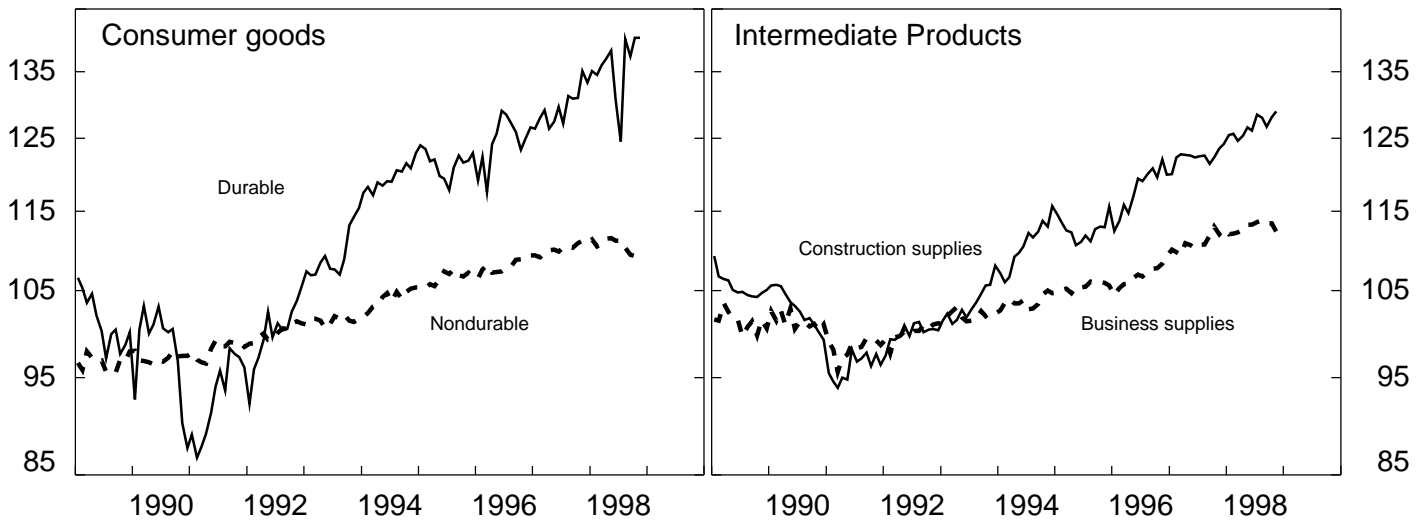
Percent of capacity



## Industrial Production, Market Groups

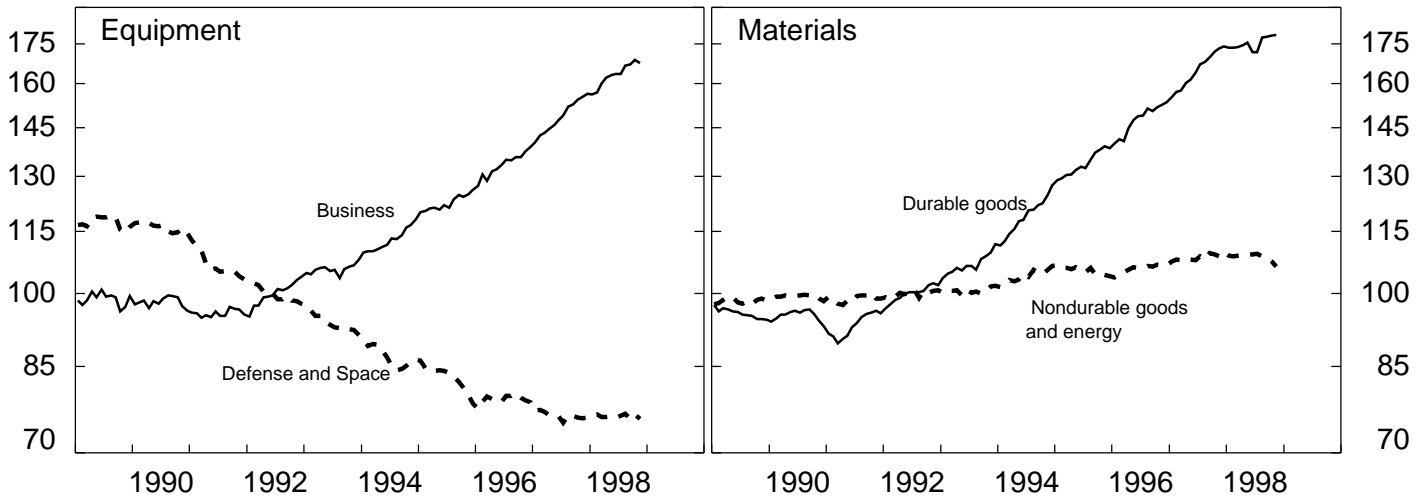
Ratio scale, 1992 = 100

Ratio scale, 1992 = 100



Ratio scale, 1992 = 100

Ratio scale, 1992 = 100





**Table 1B**  
**INDUSTRIAL PRODUCTION: MARKET GROUPS**

Percent change

Item	1996 Q4 to 1997 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				Nov. 97 to Nov. 98
		1997 Q4	1998 Q1	Q2	Q3 <sup>r</sup>	1998 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	1998 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total index</b>	6.6	6.6	1.6	2.8	.9	1.4	-.4	.2	-.3	5.1	-.1	-1.1	-2.6	1.5
<b>Products, total</b>	5.0	5.8	2.7	4.2	.3	1.3	-.6	.5	-.3	4.9	-.6	-1.1	-3.4	1.8
<b>Final products</b>	5.6	6.2	3.0	4.6	-.8	1.7	-.6	.5	-.3	6.1	-.4	-1.2	-3.4	1.8
<b>Consumer goods</b>	2.7	4.2	1.0	1.4	-3.8	1.9	-1.1	.4	.1	6.3	-1.2	-1.8	-3.6	-.5
<b>Durable</b>	6.5	10.8	6.3	.3	-3.6	12.4	-1.9	2.1	.0	24.5	.6	4.1	-6.2	3.9
Automotive products	9.3	21.8	-7.4	-4.2	-8.0	32.1	-4.0	3.8	-.8	60.8	1.1	6.9	-10.7	1.2
Autos and trucks	12.3	35.5	-13.7	-14.0	-14.3	63.2	-5.3	5.0	-.6	145.3	2.1	10.6	-14.5	.4
Autos	3.4	-5.5	-21.6	-19.2	26.9	64.2	3.1	-6.6	-5.2	136.6	3.0	3.6	-17.6	-4.9
Trucks	15.7	68.6	-8.3	-10.2	-30.5	62.6	-9.9	12.3	1.8	150.6	1.5	14.7	-12.9	4.0
Auto parts and allied goods	4.7	2.3	4.1	13.4	3.3	1.6	-2.1	2.0	-1.1	5.3	-.4	.9	-4.1	3.2
Other durable goods	4.3	2.6	18.5	3.9	-.5	-.1	-.1	.8	.7	4.7	.2	1.7	-2.3	6.0
Appliances and electronics	11.8	14.6	33.8	6.1	14.5	.7	.1	.8	2.5	3.1	2.8	1.2	-2.9	16.1
Appliances and air cond.	-.5	14.1	25.0	-1.4	6.5	.6	-4.0	-1.1	2.0	3.8	.5	4.7	-6.5	3.0
Home electronics	24.2	14.8	42.4	13.1	22.3	.9	4.6	2.6	2.9	2.5	4.9	-2.0	.6	30.1
Carpeting and furniture	2.4	4.2	8.4	3.1	-2.0	-.5	-.4	3.2	.1	7.3	-1.0	2.8	-5.7	2.8
Miscellaneous	.9	-4.9	15.0	2.9	-7.6	-.5	-.1	-.4	-.1	4.1	-.7	1.5	.2	1.9
<b>Nondurable</b>	1.7	2.5	-.5	1.7	-3.8	-.8	-.9	-.1	.1	2.3	-1.7	-3.4	-2.8	-1.7
Nonenergy	1.7	2.2	1.4	-.4	-6.6	-1.1	-.7	.5	.3	2.8	-.9	-2.4	-4.8	-1.9
Foods and tobacco	1.3	1.1	5.3	-.3	-7.6	-.9	-.6	.8	.6	5.3	-.5	-1.4	-5.3	-.7
Clothing	-2.0	-2.2	-1.7	-3.7	-5.6	-.7	-.6	-1.4	-1.3	4.3	-2.0	-2.0	-5.1	-5.4
Chemical products	2.9	7.0	-.2	5.3	-10.0	-2.6	-1.1	1.1	.8	-1.7	-.8	-5.2	-7.0	-.8
Paper products	3.8	1.2	-6.1	-7.2	1.9	.3	-.7	-.6	-.6	1.4	-1.7	-1.3	.8	-5.5
Energy products	1.6	4.5	-12.7	17.5	17.6	1.5	-1.8	-3.8	-1.2	-1.3	-7.4	-10.6	13.4	.1
Fuels	1.8	-.5	4.2	1.7	-.7	-.7	-3.4	-3.5	5.3	-1.1	-2.6	-5.2	8.6	2.4
Utilities	1.5	7.0	-20.4	26.7	27.8	2.5	-1.0	-3.9	-4.2	-1.4	-9.7	-13.6	16.2	-1.0
<b>Equipment, total</b>	10.4	9.3	6.3	9.6	3.9	1.4	.1	.8	-.8	5.7	.7	-.4	-3.1	5.4
<b>Business equipment</b>	13.1	11.7	6.2	13.8	7.0	1.9	.4	.9	-.6	6.6	1.2	-.5	-3.3	7.9
Information processing & related	16.2	14.6	14.8	20.7	11.0	.6	1.9	1.2	.4	1.6	1.5	-1.9	-.6	15.0
Computer and office	43.7	44.3	75.3	60.7	40.1	2.6	4.0	3.2	3.1	1.7	3.6	-3.0	.4	56.6
Industrial	5.2	5.2	-1.9	5.9	5.3	-1.3	-2.0	1.3	-1.2	2.9	-.8	-1.1	-3.8	1.1
Transit	22.8	20.5	7.3	15.8	6.2	16.1	-1.3	.4	-1.2	28.6	.9	3.1	-6.6	9.2
Autos and trucks	12.3	13.8	-18.9	-12.0	8.1	49.3	-1.0	-1.3	-.5	107.4	2.4	6.8	-14.5	-.2
Other	10.4	5.7	-2.6	7.6	-8.1	-9.5	6.2	-.3	-2.0	.9	6.9	-.9	-5.1	-.7
<b>Defense and space equipment</b>	-3.9	.0	1.9	-1.3	1.0	.5	-1.1	1.0	-1.0	1.8	-.9	1.6	.0	-.1
Oil and gas well drilling	9.4	-4.6	14.1	-27.2	-37.8	-3.2	-3.4	-3.2	-4.4	-3.8	-2.8	-4.6	-3.9	-24.8
Manufactured homes	-.7	.7	21.5	-1.4	1.3	-3.6	1.5	2.1	.1	15.0	-2.6	6.8	-13.0	6.7
<b>Intermediate products</b>	3.2	4.8	1.5	3.0	3.5	.0	-.6	.4	-.3	1.5	-1.0	-.8	-3.2	1.9
Construction supplies	2.4	4.0	6.4	2.4	5.5	-.3	-1.0	1.1	.7	2.2	-1.3	.5	-3.4	4.4
Business supplies	3.8	5.4	-1.6	3.3	2.1	.2	-.3	.0	-1.0	1.1	-.8	-1.6	-3.1	.3
<b>Materials</b>	9.0	7.9	.1	.7	2.0	1.7	.0	-.2	-.3	5.5	.6	-1.1	-1.4	.9
<b>Durable</b>	13.3	11.7	1.3	.5	4.1	3.3	.1	.3	.2	9.2	2.0	-1.2	-1.2	3.1
Consumer parts	7.3	8.7	-10.5	-6.1	2.6	15.3	-1.3	-1.1	.0	39.8	-2.6	1.5	-4.5	-.7
Equipment parts	26.4	19.4	8.9	6.6	14.8	1.4	1.7	1.0	1.1	5.0	6.4	-3.3	2.2	11.3
Semiconductors, printed circuit boards, and oth. elec. comps.	53.3	31.8	8.4	11.4	45.5	3.7	4.7	3.7	3.9	12.5	19.0	-7.9	5.9	29.5
Other	5.0	6.6	.0	-2.0	-4.2	.1	-.5	.3	-.5	2.6	.3	-.6	-2.6	-2.3
Basic metals	4.3	4.9	2.6	-9.3	-7.0	1.4	-3.3	.0	-2.2	2.8	-.5	-.7	-2.5	-8.4
<b>Nondurable</b>	4.5	6.0	-2.4	-1.7	-3.8	-.8	-1.0	-.5	-.4	.5	-.6	.8	-3.0	-4.0
Textile	3.2	2.4	-8.0	.0	-7.4	-2.2	-.1	1.0	-.6	6.4	-2.3	4.6	-3.4	-3.8
Paper	4.7	3.0	-2.2	-1.6	-.4	-.8	-1.2	.7	-1.1	-.2	-2.2	.9	-1.7	-2.0
Chemical	5.0	8.5	-1.5	-3.1	-7.4	-.9	-1.7	-1.1	-.3	-1.0	-.3	-1.7	-1.5	-5.8
Other	3.8	5.5	-1.5	.4	2.5	.0	-.1	-1.1	.0	1.6	.9	4.1	-6.8	-2.4
<b>Energy</b>	.3	-2.2	-.7	4.5	2.1	-.3	.8	-1.5	-1.8	-.1	-2.7	-3.0	-.1	-.3
Primary	.2	-2.9	2.1	.3	3.4	-1.6	1.3	-1.6	-1.5	-1.4	-.9	-2.6	.3	-.3
Converted fuel	.5	-.9	-6.0	12.8	-.1	2.0	.0	-1.2	-2.3	2.1	-5.5	-3.8	-.8	-.1
<b>SPECIAL AGGREGATE</b>														
<b>Total excluding:</b>														
Autos and trucks	6.5	6.1	2.2	3.3	1.1	.3	-.3	.2	-.3	3.4	-.2	-1.4	-2.2	1.5
Motor vehicles and parts	6.3	6.0	2.8	3.8	.6	-.3	-.2	.3	-.3	2.2	.0	-1.5	-2.1	1.5
Computers	5.9	6.0	.4	1.7	.1	1.4	-.5	.2	-.4	5.2	-.2	-1.0	-2.7	.4
Computers and semiconductors <sup>1</sup>	4.2	5.1	.0	1.3	-1.2	1.4	-.6	.0	-.5	5.0	-.8	-.8	-3.0	-.5
<b>Consumer goods excluding:</b>														
Autos and trucks	2.1	2.5	2.0	2.5	-3.1	-.6	-.8	.1	.1	2.7	-1.4	-2.6	-2.8	-.5
Energy	2.8	4.2	2.6	-.2	-6.0	1.9	-1.0	.9	.2	7.2	-.5	-.8	-5.2	-.6
<b>Business equipment excluding:</b>														
Autos and trucks	13.2	11.5	8.8	16.3	6.8	-1.1	.5	1.1	-.7	2.0	1.1	-1.2	-2.2	8.6
Computer and office equipment	10.5	9.0	.8	9.3	3.9	1.8	.0	.7	-1.0	7.1	.9	-.3	-3.7	3.6
<b>Materials excluding:</b>														
Energy	11.1	10.2	.3	-.1	1.9	2.2	-.2	.1	.0	6.8	1.3	-.7	-1.6	1.1

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	1997 IP Proportion <sup>1</sup>	Index, 1992=100											
			Seasonally Adjusted						Not seasonally adjusted					
			1998 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>P</sup>	1998 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>P</sup>
<b>Total index</b>		100.00	130.6	130.5	132.4	131.9	132.2	131.8	133.1	129.2	135.8	135.7	134.2	130.7
<b>Manufacturing</b>		87.78	133.7	133.6	135.7	135.2	136.0	135.9	137.1	131.8	139.5	140.1	139.4	135.2
<b>Primary processing</b>		27.77	120.2	120.7	120.6	119.3	119.7	119.4	122.5	119.4	122.2	121.4	122.0	119.2
<b>Advanced processing</b>		60.01	140.4	139.9	143.3	143.2	144.2	144.3	144.1	137.7	148.0	149.3	147.8	143.0
<b>Durable</b>		48.49	154.8	154.4	159.8	159.5	160.7	160.4	158.8	148.7	162.3	164.3	163.9	159.7
Lumber and products	24	2.11	116.7	117.5	118.5	116.7	117.8	119.2	121.1	116.4	122.7	120.0	123.4	118.8
Furniture and fixtures	25	1.38	122.0	120.8	120.1	121.6	123.9	123.5	123.7	120.1	128.4	127.6	125.0	122.4
Stone, clay, and glass products	32	2.35	123.5	125.4	127.0	126.4	127.3	127.4	127.9	127.1	132.2	131.5	131.9	127.3
Primary metals	33	3.61	122.1	122.6	124.4	119.8	120.1	116.9	123.0	117.6	121.7	120.9	120.8	116.8
Iron and steel	331,2	1.96	119.8	120.2	122.5	113.2	114.4	108.6	120.8	116.4	118.6	114.8	115.5	108.0
Raw steel		.09	116.0	118.3	120.3	112.6	109.7	101.8	116.1	112.3	116.3	112.1	108.5	101.2
Nonferrous	333-6,9	1.65	124.9	125.4	126.7	127.7	127.0	126.9	125.6	119.1	125.3	128.3	127.0	127.3
Fabricated metal products	34	5.48	128.0	127.8	126.3	126.2	126.7	126.5	129.9	126.9	129.3	129.7	129.2	126.9
Industrial machinery and equipment	35	9.43	205.8	209.0	207.0	208.1	210.8	210.7	210.6	206.4	210.7	214.6	211.0	204.1
Computer and office equip.	357	1.91	641.4	657.0	673.6	700.2	722.7	744.7	664.7	707.4	719.2	745.1	722.5	725.3
Electrical machinery	36	8.77	285.5	289.4	290.8	297.1	300.9	304.2	297.8	278.7	294.4	315.0	305.0	309.6
Semiconductors and related electronic components	3672-9	3.70	660.3	676.7	697.4	725.4	750.1	775.3	718.3	624.3	691.8	801.7	749.4	789.5
Transportation equipment	37	9.16	114.2	108.2	130.3	127.6	128.0	127.2	117.1	92.2	130.6	128.8	133.7	125.7
Motor vehicles and parts	371	5.25	121.1	107.6	154.2	149.9	149.6	149.9	126.4	76.6	156.6	154.0	162.9	146.5
Autos and light trucks		2.62	110.1	86.9	142.0	136.5	140.4	138.5	111.4	57.3	139.7	142.8	156.3	132.8
Aerospace and misc.	372-6,9	3.90	106.3	107.1	106.9	105.7	106.7	105.0	107.0	104.7	105.5	104.4	105.7	105.2
Instruments	38	4.85	112.4	112.6	113.0	113.9	114.6	114.2	114.1	114.4	115.6	116.5	115.0	113.4
Miscellaneous	39	1.35	118.5	118.5	117.7	117.0	116.1	114.5	118.8	115.0	118.1	117.3	119.1	118.1
<b>Nondurable</b>		39.28	112.0	112.1	111.3	110.6	111.0	111.2	114.5	113.6	115.9	115.3	114.2	110.1
Foods	20	8.95	109.2	109.0	107.9	107.7	108.9	109.9	111.5	111.9	114.7	115.5	114.1	109.5
Tobacco products	21	1.32	104.7	106.0	107.0	104.2	101.9	99.7	115.9	91.3	115.6	109.4	111.3	98.7
Textile mill products	22	1.60	112.0	113.2	111.8	111.2	112.6	111.7	117.3	110.2	116.2	114.7	119.1	109.9
Apparel products	23	1.83	100.5	100.1	99.2	98.3	97.3	96.1	102.8	98.7	102.5	100.1	98.6	96.3
Paper and products	26	3.50	114.9	115.9	115.3	113.9	115.5	113.9	115.9	115.7	116.2	113.8	117.4	112.4
Printing and publishing	27	6.74	105.5	105.4	104.9	104.9	104.8	104.6	106.0	108.5	109.3	109.3	107.9	105.1
Chemicals and products	28	9.82	116.2	115.7	114.3	113.2	113.8	114.1	119.1	120.6	119.4	119.1	115.7	110.4
Petroleum products	29	1.56	111.6	113.4	114.1	110.6	107.5	111.7	116.3	118.3	119.5	115.6	108.8	113.3
Rubber and plastics products	30	3.75	132.4	132.7	132.2	132.8	133.4	134.1	134.5	128.2	133.5	133.6	135.3	134.7
Leather and products	31	.22	74.5	75.3	74.0	73.4	73.0	73.1	76.7	72.4	75.4	73.9	74.3	73.5
<b>Mining</b>		5.94	104.7	104.6	103.7	102.7	101.9	100.7	105.9	105.7	105.7	104.5	103.9	101.0
Metal mining	10	.39	108.0	105.7	109.0	106.4	110.5	110.2	111.9	106.4	111.2	110.6	111.0	109.6
Coal mining	12	.85	110.4	112.8	109.7	115.8	110.8	108.6	107.3	109.9	111.8	116.7	116.6	107.5
Oil and gas extraction	13	4.08	100.4	100.0	99.2	97.2	96.8	95.4	99.8	99.4	98.3	97.0	96.2	96.6
Stone and earth minerals	14	.62	125.6	125.4	124.3	120.5	120.3	120.8	146.1	146.9	148.2	138.6	137.8	120.9
<b>Utilities</b>		6.28	118.7	118.3	120.2	120.5	116.1	112.2	113.2	122.1	121.9	113.5	102.6	106.9
Electric	491,3pt	5.18	121.0	119.8	121.2	122.6	117.5	114.0	124.9	135.9	135.6	125.9	109.1	106.0
Gas	492,3pt	1.10	108.4	111.7	115.7	110.8	109.3	103.9	62.4	61.9	62.0	59.5	76.1	115.6
<b>SPECIAL AGGREGATES</b>														
Computers, communications eq. and semiconductors <sup>2</sup>		7.64	502.9	511.8	522.5	539.3	551.5	563.0	527.4	504.1	532.9	574.3	552.9	568.9
<b>Manufacturing excluding:</b>														
Motor vehicles and parts		82.52	134.5	135.1	134.6	134.3	135.2	135.1	137.7	135.0	138.5	139.2	137.9	134.4
Computer and office equipment		85.87	128.8	128.6	130.6	129.9	130.6	130.4	132.0	126.5	134.1	134.5	133.9	129.8
Computers and semiconductors <sup>2</sup>		82.17	119.2	118.9	120.6	119.8	120.3	120.0	121.7	117.1	123.9	123.6	123.3	119.0
Computers, communications eq. and semiconductors <sup>2</sup>		80.13	117.5	117.2	119.0	118.1	118.6	118.3	120.1	115.5	122.3	121.9	121.7	117.3
<b>Memo: Motor vehicle assemblies<sup>3</sup></b>														
Total			10.3	8.2	13.2	12.8	13.0	12.9	10.6	5.8	12.7	13.5	14.7	11.9
Autos			4.8	3.9	6.3	6.5	6.1	5.8	4.9	2.8	6.1	6.6	6.8	5.4
Trucks			5.6	4.3	6.9	6.3	6.9	7.1	5.7	3.0	6.5	6.9	7.8	6.6
Light			5.2	4.0	6.6	5.9	6.6	6.7	5.4	2.7	6.2	6.5	7.5	6.2
Heavy and medium			0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.3

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, and stone, clay, and glass products. 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, transportation equipment, instruments, and miscellaneous manufactures.

**Table 2B**  
**INDUSTRIAL PRODUCTION: INDUSTRY GROUPS**

Percent change

Item	SIC	1996 Q4 to 1997 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				Nov. 97 to Nov. 98
			1997 Q4	1998 Q1	Q2	Q3 <sup>r</sup>	1998 Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>	1998 Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>	
<b>Total index</b>		6.6	6.6	1.6	2.8	.9	1.4	-.4	.2	-.3	5.1	-.1	-1.1	-2.6	1.5
<b>Manufacturing</b>		7.3	7.5	2.4	2.5	.4	1.6	-.4	.6	.0	5.9	.4	-5	-3.0	2.0
<b>Primary processing</b>		3.9	4.9	.8	-.6	-2.9	-.1	-1.1	.3	-.2	2.4	-.6	.5	-2.3	-1.4
<b>Advanced processing</b>		8.8	8.7	3.2	3.9	1.9	2.4	-.1	.7	.1	7.5	.9	-1.0	-3.3	3.6
<b>Durable</b>		11.1	10.7	3.5	4.6	4.6	3.5	-.2	.8	-.2	9.1	1.2	-.2	-2.6	4.7
Lumber and products	24	3.1	1.1	4.0	2.9	4.0	.9	-1.5	1.0	1.2	5.4	-2.2	2.8	-3.8	3.9
Furniture and fixtures	25	3.3	6.9	.8	4.8	-1.2	-.6	1.2	1.8	-.2	6.9	-.6	-2.0	-2.1	3.2
Stone, clay, and glass products	32	2.6	5.8	1.5	-1.3	7.5	1.3	-.4	.7	.1	4.0	-.6	.3	-3.4	3.0
Primary metals	33	4.9	6.3	-.9	-8.6	-9.5	1.5	-3.7	.3	-2.7	3.4	-.6	-.1	-3.3	-9.6
Iron and steel	331,2	5.0	10.3	1.1	-12.7	-16.2	1.9	-7.6	1.0	-5.0	1.9	-3.2	.7	-6.5	-15.2
Raw steel		7.3	8.2	8.8	-6.0	-9.7	1.7	-6.4	-2.6	-7.2	3.6	-3.6	-3.2	-6.8	-15.3
Nonferrous	333-6,9	4.9	1.8	-3.2	-3.3	-1.1	1.1	.7	-.5	-.1	5.2	2.4	-1.0	.2	-3.1
Fabricated metal products	34	4.5	7.4	.4	3.2	-4.3	-1.1	-.1	.4	-.1	1.9	.3	-.4	-1.7	-.3
Industrial machinery and equipment	35	13.4	11.5	14.8	19.5	10.4	-.9	.5	1.3	-.1	2.1	1.9	-1.7	-3.2	12.5
Computer and office equip.	357	43.6	40.2	72.6	58.1	38.9	2.5	3.9	3.2	3.0	1.7	3.6	-3.0	.4	54.7
Electrical machinery	36	24.2	17.6	6.7	6.8	14.4	.5	2.2	1.3	1.1	5.7	7.0	-3.2	1.5	10.7
Semiconductors and related electronic components	3672-9	48.6	30.0	8.9	9.6	37.6	3.1	4.0	3.4	3.4	10.8	15.9	-6.5	5.4	25.4
Transportation equipment	37	13.1	16.0	-4.7	-2.6	3.6	20.4	-2.1	.3	-.6	41.6	-1.4	3.8	-6.0	2.8
Motor vehicles and parts	371	12.8	18.5	-17.1	-14.5	5.7	43.4	-2.8	-.2	.2	104.5	-1.7	5.8	-10.1	.6
Autos and light trucks		10.9	27.8	-15.0	-14.9	-8.7	63.4	-3.9	2.9	-1.4	143.8	2.2	9.4	-15.0	-.5
Aerospace and misc.	372-6,9	13.4	12.8	14.2	14.1	1.9	-.2	-1.1	1.0	-1.6	.8	-1.0	1.2	-.4	6.1
Instruments	38	3.6	4.0	.5	2.9	.4	.3	.8	.6	-.4	1.1	.7	-1.2	-1.4	2.1
Miscellaneous	39	1.4	.3	2.5	-2.1	-5.0	-.7	-.6	-.7	-1.4	2.7	-.7	1.5	-.8	-3.4
<b>Nondurable</b>		2.6	3.6	1.1	-.2	-4.7	-.8	-.6	.4	.2	2.0	-.6	-.9	-3.6	-1.3
Foods	20	1.9	1.8	5.8	-.1	-6.5	-1.0	-.2	1.1	.9	2.6	.6	-1.2	-4.0	.8
Tobacco products	21	-.8	2.6	-2.9	-2.6	-10.3	.9	-2.5	-2.2	-2.1	26.5	-5.4	1.7	-11.3	-11.0
Textile mill products	22	3.5	.8	.5	-1.3	-4.0	-1.3	-.5	1.2	-.8	5.5	-1.3	3.8	-7.7	-2.1
Apparel products	23	-2.0	-1.5	-2.1	-4.3	-5.5	-1.0	-.8	-1.0	-1.2	3.9	-2.4	-1.4	-2.4	-5.5
Paper and products	26	4.2	1.7	-.9	-1.8	.2	-.5	-1.2	1.4	-1.4	.4	-2.0	3.1	-4.3	-1.9
Printing and publishing	27	3.6	5.6	-2.8	-2.0	-1.8	-.5	.0	.0	-.2	.7	.0	-1.3	-2.6	-2.4
Chemicals and products	28	3.1	6.5	.6	.6	-8.4	-1.2	-.9	.5	.2	-1.1	-.3	-2.8	-4.5	-1.8
Petroleum products	29	2.0	2.0	4.9	1.3	2.7	.7	-3.1	-2.8	3.9	1.0	-3.3	-5.9	4.2	2.4
Rubber and plastics products	30	4.3	4.1	2.5	5.4	-1.0	-.4	.5	.4	.6	4.1	.1	1.3	-.4	2.4
Leather and products	31	-8.7	-4.1	-6.7	-11.2	-6.9	-1.7	-.8	-.5	.1	4.1	-2.0	.6	-1.1	-7.2
<b>Mining</b>		2.1	-.8	4.3	-6.2	-5.8	-.9	-1.0	-.8	-1.2	.0	-1.1	-.6	-2.8	-4.1
Metal mining	10	4.4	8.5	8.3	-21.4	-2.7	3.1	-2.4	3.8	-.3	4.5	-.5	.3	-1.2	-4.9
Coal mining	12	2.2	3.5	-4.9	4.5	19.5	-2.8	5.6	-4.3	-2.0	1.7	4.4	-.1	-7.8	8.3
Oil and gas extraction	13	1.8	-3.1	5.3	-8.2	-11.5	-.8	-2.1	-.4	-1.4	-1.1	-1.4	-.8	.4	-7.0
Stone and earth minerals	14	3.4	2.9	7.7	3.1	-3.4	-.9	-3.0	-.2	.4	.9	-6.5	-.6	-12.3	-1.0
<b>Utilities</b>		1.9	1.7	-11.1	17.9	14.9	1.6	.2	-3.7	-3.4	-.2	-6.9	-9.6	4.2	-1.2
Electric	491,3pt	2.6	3.1	-7.9	21.3	10.0	1.2	1.1	-4.1	-3.0	-.2	-7.1	-13.4	-2.9	-.2
Gas	492,3pt	-1.3	-4.5	-25.5	1.3	44.1	3.6	-4.2	-1.4	-5.0	.2	-4.1	27.9	52.0	-6.4
<b>SPECIAL AGGREGATES</b>															
Computers, communications eq. and semiconductors <sup>1</sup>		38.5	27.5	22.7	23.5	29.1	2.1	3.2	2.3	2.1	5.7	7.8	-3.7	2.9	26.8
<b>Manufacturing excluding:</b>															
Motor vehicles and parts		6.9	6.8	3.8	3.6	.0	-.4	-.2	.6	.0	2.6	.6	-1.0	-2.5	2.1
Computer and office equipment		6.5	6.8	1.0	1.1	-.6	1.6	-.5	.5	-.1	6.0	.3	-.5	-3.1	.8
Computers and semiconductors <sup>1</sup>		4.6	5.7	.6	.7	-2.1	1.5	-.7	.4	-.3	5.8	-.3	-.2	-3.5	-.2
Computers, communications eq. and semiconductors <sup>1</sup>		4.3	5.6	.4	.3	-2.3	1.5	-.7	.4	-.2	5.9	-.3	-.2	-3.6	-.4

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	1997 Proportion	1967- 1997 Ave.	1973 High	1978- 1980 High	1982 Low	1988- 1989 High	1990- 1991 Low	1997 Nov.	1998 June	July	Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>
<b>Total industry</b>		100.00	82.1	89.2	87.3	71.1	85.4	78.1	83.4	81.5	81.1	82.0	81.3	81.2	80.6
<b>Manufacturing</b>		88.27	81.1	88.5	86.9	69.0	85.7	76.6	82.6	80.2	79.8	80.7	80.1	80.2	79.8
<b>Primary processing</b>		26.59	82.3	91.2	88.1	66.2	88.9	77.7	85.4	83.3	83.4	83.1	82.0	82.1	81.7
<b>Advanced processing</b>		61.68	80.5	87.2	86.7	70.4	84.2	76.1	81.6	79.2	78.5	79.9	79.5	79.6	79.3
<b>Durable</b>		49.69	79.4	89.2	87.7	63.9	84.6	73.1	82.2	79.3	78.6	80.9	80.2	80.4	79.8
Lumber and products	24	2.12	82.5	88.7	87.9	60.8	93.6	75.5	81.5	81.5	81.8	82.3	80.9	81.5	82.3
Furniture and fixtures	25	1.44	81.4	96.8	85.5	68.9	86.6	72.5	78.0	78.5	77.6	77.1	78.0	79.3	79.0
Stone, clay, and glass products	32	2.38	78.2	88.8	88.0	64.3	83.5	69.7	80.5	80.0	81.2	82.2	81.8	82.4	82.4
Primary metals	33	3.22	81.1	100.2	94.2	45.1	92.7	73.7	92.6	85.8	85.9	86.9	83.4	83.4	81.0
Iron and steel	331,2	1.77	81.1	105.8	95.8	37.0	95.2	71.8	91.9	83.5	83.5	84.7	77.9	78.4	74.1
Raw steel		.08	80.9	102.7	95.8	35.2	92.7	71.5	90.6	84.1	85.3	86.3	80.4	77.8	71.8
Nonferrous	333-6,9	1.45	81.3	90.8	91.1	60.1	89.3	74.2	93.6	88.6	88.9	89.7	90.3	89.8	89.5
Primary copper	3331	.05	75.2	93.4	81.5	42.1	86.3	73.5	94.8	84.2	85.7	89.3	86.0	91.2	
Primary aluminum	3334	.10	88.4	95.7	97.6	58.6	100.4	97.3	86.3	88.9	89.6	89.7	90.1	88.3	
Fabricated metal products	34	5.65	78.0	87.8	83.9	63.7	82.0	71.9	78.6	77.3	77.0	75.8	75.5	75.6	75.2
Industrial machinery and equipment	35	9.28	81.3	96.0	93.2	64.0	85.4	72.3	85.3	86.6	87.0	85.2	84.7	84.8	83.7
Computer and office equip.	357	2.12	81.2	90.9	92.6	65.5	86.9	66.9	82.9	84.7	83.4	82.1	82.0	81.3	80.5
Electrical machinery	36	9.43	81.1	89.2	89.4	71.6	84.0	75.0	82.0	76.8	76.8	76.2	76.9	76.9	76.7
Semiconductors and related electronic components	3672-9	4.16	80.0	95.6	91.6	75.7	81.1	75.6	83.8	75.0	75.1	75.7	77.0	77.9	78.8
Transportation equipment	37	9.82	75.9	86.1	84.8	57.2	85.8	68.5	80.4	73.3	69.3	83.3	81.4	81.6	80.9
Motor vehicles and parts	371	5.54	76.8	93.4	95.0	45.5	89.1	55.9	82.2	65.7	58.3	83.4	80.9	80.6	80.6
Autos and light trucks <sup>1</sup>		2.60			94.6	40.6	92.3	53.3	90.3	70.3	55.3	90.2	86.5	88.8	87.5
Aerospace and misc.	372-6,9	4.27	75.0	78.4	81.9	66.6	87.3	79.2	78.1	83.2	83.8	83.5	82.5	83.2	81.7
Instruments	38	4.97	81.7	89.9	92.7	78.4	81.4	77.2	80.6	80.0	80.0	80.1	80.6	80.9	80.4
Miscellaneous	39	1.38	75.6	82.9	79.4	65.4	79.0	71.7	79.3	78.4	78.3	77.6	77.0	76.4	75.1
<b>Nondurable</b>		38.58	83.4	87.8	87.5	76.4	87.3	80.7	83.4	81.8	81.7	80.9	80.2	80.4	80.3
Foods	20	8.93	83.0	86.0	84.6	79.1	85.4	82.7	82.5	81.3	81.0	80.0	79.6	80.3	80.8
Textile mill products	22	1.55	85.7	91.4	91.2	72.3	90.4	77.7	85.2	83.0	83.9	82.8	82.3	83.3	82.6
Apparel products	23	1.95	81.1	84.2	87.5	77.5	85.1	75.5	75.8	75.0	74.8	74.2	73.6	72.9	72.1
Paper and products	26	3.19	89.2	97.1	96.1	80.6	93.5	85.0	89.6	87.1	87.7	87.0	85.7	86.7	85.3
Pulp and paper	261-3	1.25	92.4	97.2	98.3	82.0	98.0	89.9	94.7	93.1	93.5	92.6	91.4	92.4	
Printing and publishing	27	6.51	85.8	89.7	93.9	82.0	91.7	79.6	85.3	82.7	82.4	81.7	81.5	81.2	80.8
Chemicals and products	28	10.10	79.5	87.6	84.6	69.9	86.2	79.3	79.5	78.3	77.9	76.7	75.9	76.2	76.2
Plastics materials	2821	.72	86.6	102.0	90.9	63.4	97.0	74.8	93.1	89.7	91.6	92.9	87.1		
Synthetic fibers	2823,4	.34	85.0	93.8	98.6	64.4	99.7	77.6	83.6	86.3	85.5	85.0	85.5	81.7	
Petroleum products	29	1.34	86.6	96.7	90.0	66.8	88.5	85.1	94.2	95.7	97.2	97.7	94.6	91.9	95.4
Rubber and plastics products	30	3.59	84.5	95.5	91.2	72.7	89.6	77.4	85.9	84.6	84.4	83.7	83.8	83.8	84.0
Leather and products	31	.27	80.8	81.3	92.1	75.8	83.3	76.1	66.5	63.3	63.9	62.8	62.3	61.9	62.0
<b>Mining</b>		5.96	87.5	94.3	96.0	80.3	88.0	87.0	87.9	87.3	87.2	86.3	85.4	84.7	83.5
Metal mining	10	.38	79.1	89.6	87.9	44.4	89.4	79.9	95.2	88.1	86.3	88.9	86.8	90.1	89.8
Coal mining	12	.85	86.6	91.0	99.4	76.6	91.5	83.4	78.5	85.5	87.3	84.7	89.3	85.3	83.6
Oil and gas extraction	13	4.15	88.6	96.9	97.3	82.3	88.2	88.7	89.4	87.5	87.1	86.4	84.5	84.1	82.8
Oil and gas well drilling	138	.81	74.2	93.0	104.3	50.9	69.3	60.0	86.3	77.0	74.2	71.7	69.1	66.8	63.7
Stone and earth minerals	14	.58	84.8	95.0	92.7	63.3	89.0	79.4	86.0	86.6	86.2	85.1	82.2	81.8	81.9
<b>Utilities</b>		5.77	87.3	96.2	89.1	75.9	92.6	83.4	90.3	94.0	93.7	95.1	95.2	91.6	88.5
Electric	491,3pt	4.65	89.2	99.0	88.2	78.9	95.0	87.1	92.4	97.7	96.7	97.8	98.8	94.6	91.7
Gas	492,3pt	1.13	82.4	94.1	93.7	69.1	85.0	67.1	81.5	78.9	81.2	84.0	80.4	79.2	75.1
<b>SPECIAL AGGREGATES</b>															
Computers, communications eq. and semiconductors <sup>2</sup>		8.50	80.3	84.0	90.9	77.3	81.9	72.4	82.1	77.9	77.4	77.1	77.7	77.5	77.2
Manufacturing ex. computers, communications eq., and semiconductors <sup>2</sup>		79.77	81.2	88.8	87.0	68.0	86.1	76.8	82.7	80.7	80.2	81.3	80.5	80.7	80.3

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 plastic products, lumber and products, primary metals, fabricated metals, and stone, clay, and glass products. 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, transportation equipment, instruments, and miscellaneous manufactures.



**Table 4**  
**INDUSTRIAL CAPACITY: MANUFACTURING, MINING, AND UTILITIES**

Item	SIC	Percent change								Capacity indexes Percent of 1992 output						
		Annual rate			December to December					1997 Nov.	1998					
		1967- 1998 Ave.	1967- 1975 Ave.	1975- 1998 Ave.	1994	1995	1996	1997	1998 <sup>p</sup>		June	July	Aug.	Sept.	Oct.	Nov.
<b>Total industry</b>		3.1	3.8	2.8	3.8	5.5	5.7	5.1	5.0	155.7	160.3	160.9	161.5	162.2	162.8	163.5
<b>Manufacturing</b>		3.4	4.0	3.2	4.1	6.2	6.4	5.7	5.6	161.3	166.6	167.3	168.1	168.8	169.5	170.3
<b>Primary processing</b>		2.3	4.1	1.7	2.5	3.4	3.9	4.0	2.9	141.8	144.4	144.7	145.1	145.4	145.7	146.1
<b>Advanced processing</b>		4.0	4.0	4.0	5.0	7.6	7.4	6.3	6.6	170.7	177.4	178.3	179.2	180.1	181.1	182.0
<b>Durable</b>		4.0	3.7	4.1	6.1	9.7	9.6	8.5	7.8	186.5	195.2	196.4	197.5	198.7	199.9	201.2
Lumber and products	24	2.0	2.9	1.7	3.2	3.0	4.0	4.2	2.8	140.8	143.3	143.6	143.9	144.3	144.6	144.9
Furniture and fixtures	25	3.1	4.5	2.6	1.9	2.6	6.2	4.9	1.6	153.4	155.4	155.6	155.8	156.0	156.2	156.4
Stone, clay, and glass products	32	1.6	2.5	1.2	.0	6.2	4.7	2.7	.4	153.6	154.4	154.4	154.5	154.5	154.6	154.6
Primary metals	33	.5	1.7	.0	3.4	2.6	3.8	3.4	3.4	139.7	142.4	142.8	143.2	143.6	144.0	144.4
Iron and steel	331,2	-2	.7	-5	3.1	1.8	5.3	3.8	5.3	139.4	143.4	144.0	144.6	145.3	145.9	146.5
Raw steel		-5	.3	-8	1.4	3.3	2.7	6.1	6.9	132.7	137.8	138.6	139.4	140.1	140.9	141.7
Nonferrous	333-6,9	1.7	3.8	.8	3.6	3.4	2.0	2.8	1.3	139.8	141.0	141.1	141.3	141.4	141.6	141.7
Primary copper	3331	.2	1.8	-5	-1.6	2.3	-5.4	-1	.9	122.1	122.6	122.7	122.8	122.9	123.0	123.1
Primary aluminum	3334	1.2	5.2	-3	.5	.0	.4	.0	.0	104.2	104.2	104.2	104.2	104.2	104.2	104.2
Fabricated metal products	34	2.1	3.1	1.7	3.0	5.5	5.5	6.6	4.0	161.3	165.5	166.0	166.5	167.1	167.6	168.2
Industrial machinery and equipment	35	5.9	4.7	6.3	9.6	11.6	13.2	12.0	14.9	219.5	237.6	240.2	242.9	245.7	248.6	251.6
Computer and office equip.	357	22.1	12.0	26.2	21.6	36.0	47.0	42.8	61.1	580.6	757.0	788.0	820.3	853.9	889.0	925.4
Electrical machinery	36	8.9	5.9	10.1	17.1	30.0	30.1	23.1	17.9	335.1	371.9	376.7	381.6	386.5	391.5	396.6
Semiconductors and related electronic components	3672-9	19.9	13.1	22.6	32.9	61.3	55.8	46.0	32.2	737.6	880.8	900.6	920.9	941.6	962.8	984.4
Transportation equipment	37	2.6	3.0	2.5	2.8	4.3	2.3	2.0	2.1	153.9	155.8	156.1	156.4	156.6	156.9	157.2
Motor vehicles and parts	371	3.3	4.4	2.8	5.9	8.4	3.5	3.2	2.4	181.4	184.2	184.6	184.9	185.3	185.6	186.0
Autos and light trucks <sup>1</sup>					4.3	4.3	-9	1.1	2.8	154.1	156.7	157.1	157.4	157.8	158.1	158.4
Aerospace and misc.	372-6,9	1.6	1.1	1.8	-5	-3	.6	.2	1.5	126.7	127.6	127.8	128.0	128.2	128.3	128.5
Instruments	38	4.6	7.6	3.5	1.8	2.7	-1	1.5	2.5	138.7	140.5	140.8	141.1	141.4	141.7	142.0
Miscellaneous	39	2.1	4.4	1.3	1.5	1.8	2.0	1.8	1.9	149.5	151.1	151.4	151.6	151.8	152.1	152.3
<b>Nondurable</b>		2.8	4.3	2.1	1.9	2.2	2.3	2.0	2.6	135.0	136.9	137.2	137.5	137.8	138.1	138.4
Foods	20	2.3	3.0	2.1	1.7	2.2	2.0	1.2	3.0	132.2	134.2	134.6	134.9	135.3	135.6	135.9
Textile mill products	22	2.2	4.4	1.4	3.5	1.8	2.3	4.8	.6	133.9	135.0	135.0	135.1	135.1	135.1	135.2
Apparel products	23	1.2	2.3	.8	1.4	2.3	.6	1.9	-9	134.3	133.9	133.8	133.7	133.6	133.5	133.4
Paper and products	26	2.8	3.9	2.4	1.6	2.7	2.8	2.5	3.0	129.6	131.9	132.2	132.5	132.8	133.1	133.4
Pulp and paper	261-3	2.4	2.9	2.2	1.9	3.0	1.5	1.6	1.7	120.7	121.9	122.1	122.3	122.4	122.6	122.8
Printing and publishing	27	2.7	3.0	2.6	.6	.7	.3	.1	3.3	125.6	127.6	128.0	128.3	128.7	129.1	129.4
Chemicals and products	28	3.7	6.8	2.6	2.5	2.9	3.5	2.7	2.4	146.1	148.3	148.6	148.9	149.2	149.4	149.7
Plastics materials	2821	6.3	12.7	4.0	6.2	4.8	5.8	3.9	3.6	138.2	141.1	141.5	141.9	142.3	142.7	143.2
Synthetic fibers	2823,4	3.7	9.7	1.5	.4	.4	-4	2.7	2.9	122.6	124.7	125.0	125.3	125.5	125.8	126.1
Petroleum products	29	1.5	4.2	.4	2.1	-5	1.0	1.3	1.1	115.8	116.6	116.7	116.8	116.9	117.0	117.1
Rubber and plastics products	30	5.5	8.4	4.3	4.6	4.4	5.0	5.1	4.8	152.4	156.6	157.2	157.8	158.5	159.1	159.7
Leather and products	31	-2.8	-1.5	-3.3	-1.4	3.8	3.5	-4.0	.0	118.3	117.8	117.8	117.8	117.8	117.8	117.8
<b>Mining</b>		.2	-1	.3	1.0	-6	.7	1.5	.9	119.4	119.9	120.0	120.1	120.2	120.4	120.5
Metal mining	10	1.3	.5	1.7	-1.8	1.0	1.5	3.1	.5	121.7	122.5	122.6	122.6	122.6	122.7	122.7
Coal mining	12	2.4	2.4	2.3	3.4	.3	1.8	1.7	1.7	127.8	129.1	129.3	129.5	129.6	129.8	130.0
Oil and gas extraction	13	-4	-1.0	-2	.4	-1.2	.1	.9	.4	114.7	114.8	114.9	114.9	115.0	115.1	115.1
Oil and gas well drilling	138	.7	.8	.7	-6	-1.6	-1.2	1.1	2.0	175.7	177.6	177.9	178.2	178.5	178.8	179.1
Stone and earth minerals	14	1.5	2.6	1.0	2.3	2.3	3.8	4.3	4.1	141.8	145.0	145.5	146.0	146.5	147.0	147.5
<b>Utilities</b>		2.7	6.1	1.4	1.1	1.8	1.9	.1	.8	125.8	126.3	126.4	126.5	126.6	126.6	126.7
Electric	491,3pt	3.7	7.8	2.1	1.0	2.4	1.9	-3	.7	123.5	123.9	123.9	124.0	124.1	124.2	124.3
Gas	492,3pt	.4	2.3	-3	.4	.5	2.2	1.9	1.5	136.2	137.4	137.6	137.7	137.9	138.1	138.2
<b>SPECIAL AGGREGATES</b>																
Computers, communications eq. and semiconductors <sup>2</sup>		16.3	9.5	19.0	23.8	42.7	46.4	36.6	34.7	540.8	645.2	661.0	677.3	694.1	711.3	729.1
Manufacturing ex. computers, communications eq., and semiconductors <sup>2</sup>		2.4	3.7	1.9	2.6	3.3	2.9	2.7	2.6	143.5	145.7	146.0	146.3	146.6	147.0	147.3

p. Preliminary estimate for current year.

1. Series begins in 1977.

2. Semiconductors include related electronic components.

**Table 5A**  
**INDUSTRIAL PRODUCTION, CAPACITY AND UTILIZATION FOR TOTAL INDUSTRY: HISTORICAL DATA**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>Industrial Production, Percent Change<sup>1</sup></b>																	
1986	.6	-.7	-1.0	.8	-.2	-.3	.3	.3	-.1	.9	.5	.9	2.0	-1.7	.7	6.5	1.1
1987	-.6	1.2	.4	.4	.4	.9	.6	.1	-.1	1.4	.3	.6	4.2	6.7	5.6	7.1	4.6
1988	.1	.3	.0	.6	.1	.1	.7	.5	-.4	.3	.8	.5	3.2	3.1	3.9	3.6	4.5
1989	.6	-.8	.9	.2	-.6	-.2	-1.0	.4	-.2	-.5	.4	.5	3.8	.5	-4.4	-.1	1.8
1990	-.5	.5	.5	-.6	.4	.0	.0	.2	.1	-.6	-1.3	-.6	2.0	.6	1.0	-5.8	-.2
1991	-.5	-.8	-.9	.3	.8	1.2	.1	.1	1.0	-.1	-.1	-.6	-8.3	1.5	6.2	1.1	-2.0
1992	.2	.6	.7	.7	.2	-.1	.8	-.3	.4	.6	.5	.1	1.3	6.1	2.7	4.6	3.1
1993	.5	.5	.2	.4	-.5	.2	.2	-.4	1.0	.4	.5	.8	4.3	1.5	1.2	6.4	3.5
1994	.2	.5	.7	.4	.7	.5	.3	.5	.2	.7	.8	1.1	6.1	7.1	5.2	7.6	5.4
1995	.5	-.1	.2	-.1	.3	.4	-.3	1.1	.3	.0	.2	.0	6.3	1.3	3.5	3.0	4.9
1996	-.2	1.3	-.2	1.2	.9	.7	.2	.5	.1	.1	.6	.3	2.8	9.6	5.5	3.5	4.5
1997	.5	.7	.4	.6	.3	.5	.7	.6	.5	.6	.5	.3	6.6	6.0	7.2	6.6	6.0
1998	.0	-.1	.4	.5	.4	-.9	-.1	1.4	-.4	.2	-.3		1.6	2.8	.9		
<b>Industrial Production</b>																	
1986	89.6	89.0	88.1	88.7	88.6	88.2	88.5	88.8	88.7	89.5	89.9	90.8	88.9	88.5	88.7	90.1	89.0
1987	90.2	91.2	91.6	92.0	92.4	93.2	93.7	93.8	93.7	95.0	95.3	95.9	91.0	92.5	93.8	95.4	93.2
1988	95.9	96.2	96.3	96.8	96.9	97.0	97.6	98.1	97.8	98.0	98.8	99.3	96.1	96.9	97.8	98.7	97.4
1989	99.8	99.0	100.0	100.2	99.6	99.4	98.4	98.8	98.6	98.2	98.6	99.0	99.6	99.7	98.6	98.6	99.1
1990	98.6	99.1	99.6	99.0	99.4	99.3	99.3	99.5	99.6	99.1	97.7	97.2	99.1	99.2	99.5	98.0	98.9
1991	96.7	95.9	95.0	95.4	96.1	97.2	97.3	97.4	98.4	98.3	98.1	97.5	95.9	96.2	97.7	98.0	97.0
1992	97.7	98.2	98.9	99.6	99.9	99.7	100.5	100.2	100.6	101.2	101.7	101.8	98.3	99.8	100.4	101.5	100.0
1993	102.3	102.7	102.9	103.3	102.7	103.0	103.2	102.8	103.9	104.3	104.8	105.7	102.6	103.0	103.3	104.9	103.5
1994	105.9	106.4	107.2	107.6	108.4	108.9	109.3	109.8	110.0	110.8	111.6	112.9	106.5	108.3	109.7	111.7	109.1
1995	113.4	113.4	113.6	113.4	113.8	114.3	113.9	115.1	115.4	115.5	115.7	115.8	113.5	113.8	114.8	115.7	114.4
1996	115.5	117.0	116.8	118.2	119.2	120.0	120.3	120.9	121.1	121.2	121.9	122.3	116.5	119.2	120.8	121.8	119.5
1997	123.0	123.9	124.4	125.1	125.5	126.1	127.0	127.8	128.5	129.3	129.9	130.3	123.7	125.6	127.8	129.8	126.8
1998	130.3	130.2	130.7	131.3	131.9	130.6	130.5	132.4	131.9	132.2	131.8		130.4	131.3	131.6		
<b>Capacity</b>																	
1986	112.2	112.4	112.6	112.7	112.9	113.0	113.2	113.3	113.5	113.6	113.7	113.9	112.4	112.9	113.3	113.7	113.1
1987	114.0	114.1	114.2	114.3	114.4	114.5	114.6	114.7	114.9	115.0	115.1	115.2	114.1	114.4	114.7	115.1	114.6
1988	115.3	115.5	115.6	115.7	115.8	115.9	116.0	116.2	116.3	116.4	116.5	116.7	115.5	115.8	116.2	116.5	116.0
1989	116.8	117.0	117.2	117.4	117.6	117.8	118.0	118.2	118.4	118.6	118.8	119.0	117.0	117.6	118.2	118.8	117.9
1990	119.2	119.3	119.5	119.7	119.9	120.1	120.2	120.4	120.6	120.8	121.0	121.2	119.3	119.9	120.4	121.0	120.2
1991	121.4	121.6	121.7	121.9	122.1	122.2	122.4	122.6	122.7	122.9	123.0	123.2	121.6	122.1	122.6	123.0	122.3
1992	123.4	123.6	123.8	124.0	124.2	124.5	124.7	124.9	125.1	125.3	125.5	125.7	123.6	124.2	124.9	125.5	124.5
1993	125.9	126.2	126.4	126.6	126.9	127.1	127.4	127.6	127.8	128.1	128.3	128.6	126.2	126.9	127.6	128.3	127.2
1994	128.9	129.3	129.7	130.1	130.5	130.9	131.3	131.7	132.1	132.6	133.0	133.4	129.3	130.5	131.7	133.0	131.1
1995	133.9	134.5	135.1	135.7	136.4	137.0	137.6	138.2	138.8	139.5	140.1	140.8	134.5	136.4	138.2	140.1	137.3
1996	141.4	142.1	142.8	143.4	144.1	144.8	145.5	146.1	146.8	147.4	148.1	148.8	142.1	144.1	146.1	148.1	145.1
1997	149.4	150.1	150.7	151.3	152.0	152.6	153.2	153.8	154.4	155.0	155.7	156.3	150.1	152.0	153.8	155.7	152.9
1998	157.0	157.6	158.3	158.9	159.6	160.3	160.9	161.5	162.2	162.8	163.5		157.6	159.6	161.5		
<b>Utilization</b>																	
1986	79.8	79.2	78.2	78.7	78.4	78.1	78.2	78.3	78.2	78.8	79.1	79.7	79.1	78.4	78.2	79.2	78.7
1987	79.1	80.0	80.2	80.5	80.7	81.4	81.8	81.8	81.6	82.6	82.8	83.2	79.8	80.8	81.7	82.9	81.3
1988	83.2	83.4	83.3	83.7	83.7	83.6	84.1	84.5	84.1	84.2	84.8	85.1	83.3	83.7	84.2	84.7	84.0
1989	85.4	84.6	85.3	85.3	84.7	84.4	83.4	83.6	83.3	82.8	83.0	83.2	85.1	84.8	83.4	83.0	84.1
1990	82.7	83.0	83.3	82.7	82.9	82.7	82.6	82.6	82.6	82.0	80.8	80.2	83.0	82.8	82.6	81.0	82.3
1991	79.6	78.9	78.1	78.2	78.7	79.6	79.5	79.5	80.2	80.0	79.8	79.2	78.9	78.8	79.7	79.6	79.3
1992	79.2	79.5	79.9	80.3	80.4	80.1	80.6	80.2	80.4	80.8	81.0	81.0	79.5	80.3	80.4	80.9	80.3
1993	81.2	81.4	81.4	81.5	81.0	81.0	81.0	80.6	81.3	81.4	81.7	82.2	81.3	81.2	81.0	81.8	81.3
1994	82.1	82.3	82.6	82.7	83.1	83.2	83.2	83.4	83.3	83.5	83.9	84.6	82.4	83.0	83.3	84.0	83.2
1995	84.7	84.3	84.1	83.5	83.4	83.4	82.7	83.3	83.1	82.8	82.6	82.3	84.3	83.5	83.1	82.6	83.4
1996	81.7	82.4	81.8	82.4	82.7	82.9	82.7	82.8	82.5	82.2	82.3	82.2	82.0	82.7	82.7	82.2	82.4
1997	82.3	82.6	82.5	82.7	82.6	82.6	82.9	83.1	83.2	83.4	83.4	83.4	82.5	82.6	83.1	83.4	82.9
1998	83.0	82.6	82.6	82.6	82.6	81.5	81.1	82.0	81.3	81.2	80.6		82.7	82.3	81.5		

1. Quarterly percent changes are at annual rates. Annual percent changes are calculated from annual averages.

**Table 5B  
INDUSTRIAL PRODUCTION, CAPACITY AND UTILIZATION FOR MANUFACTURING: HISTORICAL DATA**

Seasonally adjusted

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Q1	Q2	Q3	Q4	Annual
<b>Industrial Production, Percent Change<sup>1</sup></b>																	
1986	1.5	-.5	-.9	1.4	-.1	-.3	.3	.6	.0	.8	.4	1.2	4.5	1.7	1.7	6.7	2.8
1987	-.8	1.6	.2	.5	.3	1.0	.7	-.2	.1	1.3	.5	.6	5.0	7.0	5.5	7.6	5.3
1988	-.2	.4	-.1	1.0	-.1	.0	.7	.3	.2	.2	.9	.6	2.3	4.1	3.7	5.2	4.7
1989	.9	-1.2	.8	.1	-.7	.0	-1.1	.3	-.3	-.6	.4	.1	4.3	-.7	-4.5	-1.4	1.9
1990	-.2	.9	.3	-.8	.4	-.1	.0	.3	-.1	-.6	-1.3	-.6	2.9	-.1	.8	-6.3	-.5
1991	-.9	-.7	-1.1	.3	.7	1.4	.2	.2	1.1	-.1	-.2	-.5	-9.7	1.2	7.8	1.7	-2.4
1992	.3	.7	.8	.6	.4	.0	.7	-.2	.3	.5	.6	-.1	2.7	6.8	3.4	4.0	4.0
1993	.9	.2	.2	.6	-.4	.0	.2	-.5	1.2	.4	.5	.9	4.9	2.1	.5	6.9	3.7
1994	.1	.6	.9	.7	.8	.2	.5	.6	.3	.8	.9	1.1	6.3	8.8	5.8	9.2	6.0
1995	.6	-.2	.2	-.1	.1	.5	-.5	.9	.7	.1	.1	.1	6.7	1.1	2.9	3.8	5.4
1996	-.3	1.3	-.3	1.4	1.0	.8	.5	.5	.2	.0	.7	.4	2.1	10.6	7.0	3.9	4.7
1997	.5	.9	.5	.6	.3	.7	.7	.8	.4	.6	.8	.3	7.2	6.6	7.7	7.5	6.8
1998	.1	-.1	.3	.6	.3	-1.2	-.1	1.6	-.4	.6	.0		2.4	2.5	.4		
<b>Industrial Production</b>																	
1986	87.9	87.4	86.6	87.8	87.7	87.5	87.7	88.2	88.2	88.9	89.3	90.3	87.3	87.7	88.0	89.5	88.1
1987	89.6	91.0	91.2	91.6	91.9	92.8	93.4	93.3	93.4	94.6	95.1	95.6	90.6	92.1	93.4	95.1	92.8
1988	95.4	95.8	95.7	96.7	96.6	96.6	97.3	97.5	97.7	97.9	98.9	99.4	95.6	96.6	97.5	98.7	97.1
1989	100.3	99.1	99.9	100.0	99.4	99.4	98.3	98.7	98.4	97.8	98.2	98.3	99.8	99.6	98.5	98.1	99.0
1990	98.1	99.0	99.3	98.6	99.0	98.9	98.8	99.1	99.0	98.4	97.2	96.6	98.8	98.8	99.0	97.4	98.5
1991	95.8	95.1	94.1	94.4	95.0	96.3	96.6	96.8	97.8	97.8	97.6	97.1	95.0	95.2	97.0	97.5	96.2
1992	97.4	98.1	98.9	99.5	99.9	99.9	100.6	100.4	100.7	101.2	101.8	101.7	98.1	99.7	100.6	101.6	100.0
1993	102.6	102.8	103.0	103.6	103.2	103.2	103.4	102.9	104.1	104.5	105.1	106.0	102.8	103.3	103.5	105.2	103.7
1994	106.1	106.7	107.6	108.4	109.3	109.5	110.1	110.7	111.1	112.0	113.0	114.3	106.8	109.1	110.7	113.1	109.9
1995	115.0	114.8	115.1	115.0	115.1	115.7	115.1	116.2	117.0	117.1	117.2	117.3	115.0	115.3	116.1	117.2	115.9
1996	116.9	118.4	118.1	119.7	120.9	121.8	122.4	123.0	123.3	123.3	124.2	124.7	117.8	120.8	122.9	124.1	121.4
1997	125.3	126.4	127.0	127.7	128.1	129.0	129.8	130.8	131.4	132.2	133.3	133.7	126.2	128.3	130.7	133.1	129.7
1998	133.8	133.7	134.1	134.9	135.4	133.7	133.6	135.7	135.2	136.0	135.9		133.8	134.7	134.8		
<b>Capacity</b>																	
1986	111.0	111.2	111.4	111.6	111.7	111.9	112.1	112.3	112.5	112.7	112.9	113.0	111.2	111.7	112.3	112.9	112.0
1987	113.2	113.4	113.6	113.8	113.9	114.1	114.2	114.4	114.6	114.7	114.9	115.0	113.4	113.9	114.4	114.9	114.1
1988	115.2	115.3	115.4	115.6	115.7	115.8	116.0	116.1	116.3	116.5	116.6	116.8	115.3	115.7	116.1	116.6	115.9
1989	117.0	117.3	117.5	117.8	118.0	118.3	118.5	118.7	119.0	119.2	119.5	119.7	117.3	118.0	118.7	119.5	118.4
1990	119.9	120.1	120.3	120.5	120.7	120.9	121.1	121.3	121.5	121.7	122.0	122.2	120.1	120.7	121.3	122.0	121.0
1991	122.4	122.6	122.8	123.0	123.1	123.3	123.5	123.7	123.8	124.0	124.2	124.3	122.6	123.1	123.7	124.2	123.4
1992	124.5	124.8	125.0	125.2	125.5	125.7	125.9	126.2	126.4	126.6	126.9	127.1	124.8	125.5	126.2	126.9	125.8
1993	127.4	127.6	127.9	128.2	128.4	128.7	129.0	129.3	129.5	129.8	130.1	130.3	127.6	128.4	129.3	130.1	128.8
1994	130.7	131.1	131.6	132.0	132.5	132.9	133.4	133.8	134.3	134.8	135.2	135.7	131.1	132.5	133.8	135.2	133.2
1995	136.3	137.0	137.7	138.4	139.1	139.8	140.5	141.2	141.9	142.6	143.4	144.2	137.0	139.1	141.2	143.4	140.2
1996	144.9	145.7	146.4	147.2	148.0	148.8	149.5	150.3	151.0	151.8	152.5	153.3	145.7	148.0	150.3	152.5	149.1
1997	154.1	154.8	155.5	156.2	157.0	157.8	158.4	159.1	159.9	160.6	161.3	162.1	154.8	157.0	159.1	161.3	158.1
1998	162.8	163.5	164.3	165.1	165.8	166.6	167.3	168.1	168.8	169.5	170.3		163.5	165.8	168.1		
<b>Utilization</b>																	
1986	79.1	78.6	77.8	78.7	78.5	78.1	78.2	78.6	78.4	78.9	79.1	79.9	78.5	78.5	78.4	79.3	78.7
1987	79.1	80.2	80.3	80.6	80.7	81.4	81.8	81.5	81.5	82.5	82.8	83.1	79.9	80.9	81.6	82.8	81.3
1988	82.9	83.1	82.9	83.7	83.5	83.4	83.8	84.0	84.0	84.1	84.8	85.1	83.0	83.5	83.9	84.7	83.8
1989	85.7	84.5	85.0	85.0	84.2	84.1	83.0	83.1	82.7	82.1	82.2	82.1	85.1	84.4	82.9	82.1	83.6
1990	81.8	82.5	82.6	81.8	82.0	81.8	81.6	81.7	81.5	80.9	79.7	79.0	82.3	81.9	81.6	79.9	81.4
1991	78.2	77.5	76.6	76.8	77.1	78.1	78.2	78.2	79.0	78.9	78.6	78.1	77.5	77.3	78.5	78.5	77.9
1992	78.2	78.6	79.1	79.4	79.6	79.5	79.9	79.6	79.7	79.9	80.2	80.0	78.6	79.5	79.7	80.1	79.5
1993	80.5	80.6	80.5	80.8	80.4	80.1	80.1	79.6	80.4	80.5	80.8	81.4	80.5	80.4	80.0	80.9	80.5
1994	81.2	81.4	81.8	82.2	82.5	82.4	82.6	82.8	82.7	83.1	83.6	84.2	81.5	82.4	82.7	83.6	82.5
1995	84.4	83.8	83.6	83.1	82.8	82.7	81.9	82.3	82.4	82.1	81.7	81.3	83.9	82.9	82.2	81.7	82.7
1996	80.7	81.3	80.6	81.3	81.7	81.9	81.9	81.8	81.6	81.2	81.4	81.3	80.9	81.6	81.8	81.3	81.4
1997	81.3	81.7	81.7	81.7	81.6	81.7	81.9	82.2	82.2	82.3	82.6	82.5	81.6	81.7	82.1	82.5	82.0
1998	82.2	81.8	81.6	81.7	81.6	80.2	79.8	80.7	80.1	80.2	79.8		81.8	81.2	80.2		

1. Quarterly percent changes are at annual rates. Annual percent changes are calculated from annual averages.

**Table 6**  
**INDUSTRIAL PRODUCTION: INDUSTRY SUBTOTALS AND INDIVIDUAL SERIES**

Item	SIC	1997 IP Proportion	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Metal mining</b>	<b>10</b>	.39	108.5	108.0	105.7	109.0	106.4	110.5	108.2	111.9	106.4	111.2	110.6	111.0
Iron ore	101	.06	115.8	117.5	111.1	115.9	109.3	111.8	118.4	123.4	114.8	125.5	117.8	111.5
Nonferrous ores	102-4,8,9	.33	107.4	106.6	105.1	108.0	106.2	110.6	106.6	110.1	105.1	108.8	109.6	111.3
Copper	102	.11	108.0	99.2	103.1	109.2	104.0	102.8	106.4	104.2	104.0	112.2	105.8	103.5
<b>Coal mining</b>	<b>12</b>	.85	106.0	110.4	112.8	109.7	115.8	110.8	105.7	107.3	109.9	111.8	116.7	116.6
<b>Oil and gas extraction</b>	<b>13</b>	4.08	102.4	100.4	100.0	99.2	97.2	96.8	101.8	99.8	99.4	98.3	97.0	96.2
Crude oil and natural gas	131	3.01	95.4	95.1	96.2	95.7	94.0	94.4	94.9	94.3	94.9	94.2	93.3	93.6
Crude oil, total		1.61	87.0	86.1	87.9	86.4	83.8	84.1	86.7	85.3	86.3	85.1	83.7	84.5
Natural gas		1.41	107.0	107.6	107.8	108.5	108.2	108.8	106.4	106.9	106.8	107.0	106.6	106.2
Natural gas liquids	132	.21	107.6	103.3	94.2	102.1	100.5	99.5	107.6	102.7	93.9	101.4	101.7	100.6
Oil and gas well drilling	138	.86	147.1	136.7	131.9	127.7	123.4	119.4	145.9	137.3	134.5	129.4	125.8	120.0
<b>Stone and earth minerals</b>	<b>14</b>	.62	124.4	125.6	125.4	124.3	120.5	120.3	136.0	146.1	146.9	148.2	138.6	137.8
<b>Foods</b>	<b>20</b>	8.95	110.7	109.2	109.0	107.9	107.7	108.9	108.3	111.5	111.9	114.7	115.5	114.1
Meat products	201	1.17	116.0	114.2	117.1	116.9	115.8	118.5	115.3	116.6	113.0	119.1	117.8	123.7
Beef		.38	111.9	110.4	111.0	112.8	110.5	112.7	113.4	117.5	111.0	118.9	114.8	114.4
Pork		.30	108.1	106.6	113.2	111.9	109.4	112.0	101.3	100.8	102.5	107.3	111.1	120.2
Poultry		.48	126.6	124.6	126.6	125.4	126.5	129.9	128.2	128.1	123.2	128.6	125.8	134.9
Miscellaneous meats		.01	78.1	74.4	75.0	74.6	75.6	75.2	73.8	72.3	69.2	71.9	76.0	76.0
Dairy products	202	.78	104.3	103.6	103.3	103.4	103.6	105.7	113.4	113.0	105.8	101.3	97.1	97.7
Butter	2021	.01	89.8	84.1	83.4	82.9	78.6	84.4	93.8	71.8	63.7	62.1	66.3	78.5
Cheese	2022	.17	113.1	114.2	112.9	111.8	107.3	112.9	116.5	118.1	109.1	106.1	106.7	112.2
Concentrated milk	2023	.15	98.0	98.4	97.0	96.6	93.5	101.9	117.1	109.9	94.5	82.8	73.1	83.1
Frozen desserts	2024	.14	115.1	111.9	113.7	116.1	126.2	120.5	131.6	143.2	139.8	134.3	121.7	104.5
Milk and misc. dairy products	2026	.31	99.3	98.7	98.5	98.4	98.5	99.2	103.9	101.8	97.5	95.9	95.0	95.7
Canned and frozen food	203	1.21	105.9	105.2	104.6	99.2	99.8	101.5	99.1	103.3	107.8	114.7	121.6	113.4
Grain mill products	204	1.02	104.3	102.9	104.2	101.6	99.0	100.4	101.6	101.2	103.5	103.0	103.6	103.8
Bakery products	205	1.03	105.9	103.3	104.5	101.8	102.8	104.2	102.7	108.0	113.8	113.1	114.9	108.3
Sugar and confectionery	206	.63	111.8	110.8	109.7	110.3	108.0	107.3	97.7	100.4	97.5	106.2	111.7	125.4
Fats and oils	207	.22	106.6	105.1	107.0	104.3	107.2	106.2	101.9	101.3	98.8	97.9	104.0	110.3
Beverages	208	1.78	118.7	116.7	114.4	116.5	116.4	116.3	119.6	125.6	123.7	128.0	125.0	120.2
Beer and ale	2082,3	.57	108.1	102.6	98.9	101.9	104.9	100.5	117.9	116.8	109.4	107.2	100.0	95.2
Soft drinks	2086,7	.98	128.0	127.9	126.0	128.0	126.0	128.3	125.1	135.8	140.8	146.2	144.8	134.8
Coffee and miscellaneous	209	1.11	115.3	113.7	111.9	111.4	112.5	113.7	110.9	115.8	119.4	122.0	122.0	118.4
Roasted coffee	2095	.17	102.1	94.7	95.0	97.9	99.8		97.6	83.8	88.0	97.9	91.1	
<b>Tobacco products</b>	<b>21</b>	1.32	111.5	104.7	106.0	107.0	104.2	101.9	104.5	115.9	91.3	115.6	109.4	111.3
<b>Textile mill products</b>	<b>22</b>	1.60	114.5	112.0	113.2	111.8	111.2	112.6	117.2	117.3	110.2	116.2	114.7	119.1
Fabrics	221-4	.40	108.4	108.8	108.3	102.9	104.7	105.4	112.3	109.8	100.8	104.3	103.5	110.4
Cotton and synthetic	221,2	.33	110.3	110.9	110.1	103.6	105.5		113.7	110.5	101.6	105.8	105.2	
Narrow fabrics	224	.04	113.3	112.5	114.4	114.7	115.8	115.7	114.1	115.9	109.9	115.9	115.7	116.5
Knit goods	225	.45	119.5	118.1	117.6	120.0	121.1	119.2	124.3	131.7	119.3	129.4	131.3	129.2
Knit garments	2253,4,7-9	.32	119.8	118.0	117.6	121.5	123.3	121.4	123.3	128.7	122.7	140.2	139.4	126.6
Fabric finishing	226	.14	99.7	97.7	96.3	94.1	94.7		104.9	96.9	87.5	98.1	92.7	
Carpeting	227	.20	119.8	107.1	118.5	113.6	107.1	116.3	113.8	113.3	122.5	117.6	113.0	128.7
Yarns and miscellaneous	228,9	.41	118.4	117.1	117.8	118.4	116.1	118.0	121.3	119.8	112.6	120.8	117.8	119.5
Cotton and synthetic yarns	2281,2,4	.19	107.0	105.0	107.7	106.4	101.0	106.5	111.8	107.0	100.2	109.6	102.7	108.4
<b>Apparel products</b>	<b>23</b>	1.83	100.4	100.5	100.1	99.2	98.3	97.3	100.1	102.8	98.7	102.5	100.1	98.6
<b>Lumber and products</b>	<b>24</b>	2.11	116.4	116.7	117.5	118.5	116.7	117.8	115.4	121.1	116.4	122.7	120.0	123.4
Logging and lumber	241,2	.85	106.7	107.3	107.5	110.9	106.4	108.3	102.8	112.5	106.1	115.3	110.8	114.5
Logging	241	.30	93.3	93.4	93.5	93.4	91.6	92.6	89.3	96.1	98.3	100.4	94.7	99.5
Lumber products	243-5,9	1.26	123.7	123.9	125.0	124.3	124.5	125.1	124.9	127.7	124.2	128.4	127.0	130.2
Millwork and plywood	243	.67	119.2	120.3	121.3	120.5	120.7	121.0	120.3	123.9	124.1	124.4	122.0	123.8
Plywood	2435,6	.13	100.3	100.7	103.0	100.3	101.4	100.5	103.0	104.5	102.3	103.8	103.5	103.9
Manufactured homes	245	.22	149.0	146.1	151.1	145.7	147.8	150.9	155.6	157.7	140.0	161.1	156.9	167.6

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	1997 IP Proportion <sup>1</sup>	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Furniture and fixtures</b>	<b>25</b>	1.38	120.6	122.0	120.8	120.1	121.6	123.9	118.1	123.7	120.1	128.4	127.6	125.0
Household furniture	251	.62	118.9	120.4	116.9	117.8	119.4	121.2	116.5	121.9	110.7	123.6	123.5	122.6
<b>Paper and products</b>	<b>26</b>	3.50	115.0	114.9	115.9	115.3	113.9	115.5	113.1	115.9	115.7	116.2	113.8	117.4
Pulp and paper	261-3	1.45	112.7	113.5	114.1	113.2	111.9	113.3	111.3	114.3	114.4	114.0	111.5	113.2
Wood pulp	261	.10	104.9	100.6	101.7	100.0	98.1	96.0	102.0	100.3	104.7	101.1	97.7	95.9
Paper	262	.90	111.2	111.4	112.0	112.3	111.6	113.6	109.4	111.5	111.6	113.0	110.5	113.2
Paperboard	263	.45	118.0	121.3	121.8	118.7	116.2	117.2	117.5	123.4	122.5	119.1	116.8	117.3
Paper products	265.7	2.04	116.6	115.8	117.2	116.8	115.2	117.0	114.4	117.1	116.6	117.7	115.5	120.4
Paperboard containers	265	.73	119.0	117.6	118.7	118.3	117.1	114.3	114.5	121.8	117.5	119.7	119.7	126.1
Converted paper products	267	1.31	115.3	114.9	116.4	116.0	114.3	118.6	114.3	114.4	116.0	116.6	113.2	117.3
<b>Printing and publishing</b>	<b>27</b>	6.74	105.6	105.5	105.4	104.9	104.9	104.8	103.1	106.0	108.5	109.3	109.3	107.9
Newspapers	271	1.60	99.5	98.4	97.3	97.3	97.9	98.5	97.1	96.6	94.4	92.5	98.6	106.9
Periodicals, books, and cards	272,3,7	2.10	106.5	105.9	106.7	108.0	106.7	105.3	106.1	104.9	106.3	108.9	105.7	103.6
Job printing	274-6,8,9	3.05	108.3	109.1	108.9	106.8	107.3	107.8	104.3	111.8	117.9	118.9	117.6	110.9
<b>Chemicals and products</b>	<b>28</b>	9.82	116.9	116.2	115.7	114.3	113.2	113.8	115.0	119.1	120.6	119.4	119.1	115.7
Industrial chemicals and synthetic materials	281,2,6	3.54	112.8	111.1	110.1	108.9	107.8	107.3	112.7	111.9	109.5	107.9	108.4	107.3
Basic chemicals	281	.81	93.7	90.4	87.2	84.3	84.6	86.8	92.2	92.3	86.2	85.3	85.8	88.3
Alkalies and chlorine	2812	.08	121.7	109.8	115.1	115.5	113.8	116.7	117.8	110.7	115.9	117.0	114.1	116.4
Inorganic pigments	2816	.10	101.9	109.9	103.6	101.8	104.9	100.5	101.9	113.8	103.7	98.7	103.1	99.1
Inorganic chemicals, nec	2819	.50	87.4	83.0	78.6	74.5	74.7	78.5	85.5	85.3	77.3	76.2	76.4	80.8
Acids and other		.37	109.7	109.7	109.5	102.0	95.6		106.4	113.3	107.3	104.8	98.4	
Synthetic materials	282	1.27	120.4	119.4	121.2	121.8	118.9	117.6	120.8	120.7	120.2	119.0	119.8	118.8
Plastics materials	2821	.80	127.2	126.5	129.6	131.8	123.9		128.2	127.4	127.9	128.8	125.1	
Synthetic fibers	2823,4	.36	107.4	107.5	106.8	106.4	107.3	102.9	106.0	108.8	106.9	103.4	108.2	106.3
Industrial organic chemicals	286	1.46	118.8	117.5	115.6	114.1	113.5		119.1	117.0	115.7	113.2	113.6	
Chemical products	283-5,9	5.66	120.8	120.4	119.8	117.8	116.8	118.2	117.5	125.5	129.4	128.0	127.0	121.4
Drugs and medicines	283	3.06	122.5	121.0	120.6	116.9	116.3	116.3	118.3	127.5	131.8	129.7	128.9	120.7
Soap and toiletries	284	1.58	122.1	126.0	124.9	122.8	120.1	123.9	116.5	128.2	134.7	132.2	130.7	126.7
Paints	285	.43	109.0	99.7	100.7	108.7	110.5	111.3	120.1	115.4	106.6	114.3	112.4	113.3
Agricultural chemicals	287	.62	107.3	108.8	112.2	113.0	112.1	112.8	108.1	106.7	109.4	111.2	111.8	113.6
<b>Petroleum products</b>	<b>29</b>	1.56	111.5	111.6	113.4	114.1	110.6	107.5	113.4	116.3	118.3	119.5	115.6	108.8
Petroleum refining and misc.	291,9	1.39	109.9	109.9	111.6	111.9	108.1	104.8	111.8	114.2	115.7	116.0	111.7	104.4
Miscellaneous petroleum products		.29	108.7	107.8	112.1	113.1	112.2	111.5	116.4	121.5	127.1	128.6	123.1	110.8
Distillate fuel oil		.27	117.7	117.8	121.9	117.1	111.6		118.5	118.6	120.5	116.8	114.3	
Residual fuel oil		.04	90.7	87.9	93.0	88.4	83.8		86.6	83.9	87.7	87.2	84.0	
Aviation fuel and kerosene		.13	112.5	112.3	106.5	116.3	105.2		107.0	111.4	107.8	117.7	107.1	
Automotive gasoline		.65	108.3	109.1	109.7	110.3	107.2		110.1	112.4	112.5	112.0	108.8	
Paving and roofing materials	295	.18	123.9	124.2	127.3	131.7	131.0	129.4	126.4	132.6	139.2	148.5	147.3	145.2
<b>Rubber and plastics products</b>	<b>30</b>	3.75	133.1	132.4	132.7	132.2	132.8	133.4	132.8	134.5	128.2	133.5	133.6	135.3
Tires	301	.33	134.8	121.1	125.9	133.6	126.0	125.3	132.6	125.9	109.8	136.9	127.6	132.9
Other rubber products	302,5,6	.61	125.4	126.1	123.6	121.0	125.6	125.0	123.4	129.4	123.8	127.9	131.0	128.1
Plastics products, nec	308	2.81	134.8	135.5	135.8	134.8	135.5	136.5	135.2	136.9	131.7	134.6	135.1	137.5
<b>Leather and products</b>	<b>31</b>	.22	75.8	74.5	75.3	74.0	73.4	73.0	76.7	76.7	72.4	75.4	73.9	74.3
Shoes	314	.09	67.6	67.3	67.3	65.9	65.5	63.5	68.1	69.5	65.5	68.4	66.1	65.8
<b>Stone, clay, and glass products</b>	<b>32</b>	2.35	124.5	123.5	125.4	127.0	126.4	127.3	125.3	127.9	127.1	132.2	131.5	131.9
Pressed and blown glass	322	.32	106.8	108.4	107.8	107.7	110.2	109.0	108.1	111.1	110.0	111.8	111.2	112.1
Glass containers	3221	.12	80.6	80.3	81.8	82.1	84.9	83.1	83.3	84.7	85.2	85.9	82.7	85.6
Cement	324	.19	124.3	124.4	127.5	124.0	125.3		136.8	150.2	147.3	150.8	148.8	
Structural clay products	325	.11	126.5	127.6	128.5	128.7	128.2	128.9	132.5	136.8	124.1	135.6	130.5	131.3
Concrete and miscellaneous	326-9	1.40	126.6	125.0	128.8	131.3	129.6	131.2	125.7	127.4	128.4	133.9	133.2	133.4

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	1997 IP Proportion <sup>1</sup>	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Primary metals</b>	<b>33</b>	3.61	126.5	122.1	122.6	124.4	119.8	120.1	127.2	123.0	117.6	121.7	120.9	120.8
Iron and steel	331.2	1.96	125.5	119.8	120.2	122.5	113.2	114.4	126.3	120.8	116.4	118.6	114.8	115.5
Basic steel and mill products	331	1.50	125.6	118.0	119.6	122.5	110.6	112.5	126.5	119.5	116.6	118.6	111.8	113.1
Basic iron and steel		.30	108.9	103.1	105.9	107.2	99.9	99.0	108.8	103.2	102.0	104.5	100.2	97.6
Pig iron		.17	108.0	101.1	104.5	105.5	97.7	98.0	107.9	101.3	100.7	102.6	98.2	96.0
Raw steel		.09	121.9	116.0	118.3	120.3	112.6	109.7	122.5	116.1	112.3	116.3	112.1	108.5
Steel mill products		1.21	130.5	122.4	123.6	127.0	113.8	116.5	131.7	124.3	120.8	122.8	115.3	117.7
Consumer durable steel		.19	130.5	113.9	107.0	131.0	122.2	137.3	137.8	114.6	86.9	126.6	127.2	140.3
Equipment steel		.13	125.3	114.0	116.7	116.4	104.6	104.8	125.2	116.1	111.2	111.8	105.9	105.2
Construction steel		.15	157.7	151.4	164.0	154.6	142.2	146.4	159.7	156.0	165.6	153.5	145.6	154.6
Can and closure steel		.05	99.5	102.9	100.7	97.7	93.9	96.7	99.1	102.6	102.5	100.2	97.3	93.1
Miscellaneous steel		.69	129.0	122.6	123.8	125.3	109.8	109.5	128.6	124.3	124.8	120.0	109.7	109.3
Iron and steel foundries	332	.46	125.4	125.5	122.4	122.4	121.7	120.4	125.5	125.2	115.8	118.6	124.5	123.5
Nonferrous metals	333-6.9	1.65	127.6	124.9	125.4	126.7	127.7	127.0	128.4	125.6	119.1	125.3	128.3	127.0
Primary nonferrous metals	333	.22	105.0	102.5	108.1	107.8	107.0	107.3	104.1	100.5	106.0	104.1	106.5	108.2
Copper	3331	.05	101.8	103.2	105.1	109.7	105.6	112.1	96.4	100.5	102.8	105.4	106.8	116.4
Aluminum	3334	.11	92.2	92.6	93.4	93.5	93.8	92.0	92.2	92.6	93.1	92.9	93.2	91.9
Nonferrous products	335.6	1.19	129.4	126.4	125.1	126.7	129.3	128.6	131.0	127.8	117.8	126.3	129.6	127.9
Nonferrous mill products	335	.88	123.9	121.6	120.3	120.0	123.3	121.7	126.1	123.3	114.2	120.2	124.3	120.7
Aluminum	3353-5	.32	109.1	106.3	107.9	103.6	108.7	106.7	111.5	109.8	103.1	104.9	110.9	104.9
Nonferrous foundries	336	.31	147.5	142.1	140.9	148.8	149.2	151.3	147.0	142.5	129.7	146.5	146.9	152.1
<b>Fabricated metal products</b>	<b>34</b>	5.48	128.7	128.0	127.8	126.3	126.2	126.7	127.4	129.9	126.9	129.3	129.7	129.2
Metal containers	341	.19	104.2	106.0	103.7	105.0	106.6	107.0	114.8	125.1	115.4	118.8	111.5	102.9
Hardware, tools, and cutlery	342	.59	129.2	126.4	127.2	125.4	125.9	127.7	126.2	129.1	128.7	130.9	133.4	130.2
Hardware and tools	3423,5.9	.50	128.2	125.0	126.3	123.5	123.1	125.0	125.0	128.1	128.7	129.9	131.5	127.1
Structural metal products	344	1.46	127.4	127.4	128.1	126.4	126.0	127.5	126.3	128.8	128.3	128.8	126.3	129.7
Other fabricated metal products	345-9	3.03	131.2	130.4	129.7	128.5	128.1	127.8	130.5	131.6	127.2	129.7	130.5	129.4
Fasteners, stampings, etc.	345-7	1.74	139.8	138.6	136.6	136.0	136.0	136.8	138.8	140.5	135.4	139.2	142.1	140.0
<b>Industrial machinery and equipment</b>	<b>35</b>	9.43	202.5	205.8	209.0	207.0	208.1	210.8	203.4	210.6	206.4	210.7	214.6	211.0
Engines and turbines	351	.54	136.0	131.8	131.0	140.4	139.6	136.6	136.1	131.3	126.2	136.0	140.6	136.7
Farm	352	.56	177.2	179.2	190.0	148.2	171.8	169.5	214.2	164.4	128.0	123.7	150.7	155.6
Construction and allied	353	.96	161.6	181.1	187.9	190.4	176.4	179.5	164.3	190.7	165.1	182.4	179.0	187.1
Metalworking	354	1.16	133.9	135.4	136.9	132.5	131.2	133.2	130.2	137.9	143.3	143.3	141.7	134.4
Special industry machinery	355	.98	154.1	156.7	155.6	154.5	152.6	154.0	154.2	156.3	150.6	151.3	149.1	153.3
General industrial machinery	356	1.17	125.5	127.1	125.9	123.6	123.6	125.3	123.8	129.0	127.4	129.4	129.2	125.7
Bearings and gears	3562,6.8	.33	118.7	117.2	116.3	115.7	113.1	113.3	118.6	117.1	111.3	113.6	110.5	112.8
Equipment	3561,3-5,7.9	.84	128.3	131.4	130.0	127.0	128.1	130.5	126.0	134.1	134.3	136.3	137.4	131.2
Computer and office equip.	357	1.91	623.9	641.4	657.0	673.6	700.2	722.7	605.9	664.7	707.4	719.2	745.1	722.5
Service industry machines	358	.83	151.2	142.3	148.8	151.7	147.9	147.5	158.9	151.4	138.7	139.1	142.3	143.2
Refrig. and heating equip.	3585	.56	153.3	140.0	148.4	152.9	147.0	148.1	164.4	153.2	135.5	134.9	140.6	141.9
Miscellaneous machinery	359	1.33	156.9	155.9	155.0	152.8	155.3	156.7	153.2	159.8	163.8	165.0	167.7	157.6
<b>Electrical machinery</b>	<b>36</b>	8.77	282.0	285.5	289.4	290.8	297.1	300.9	275.4	297.8	278.7	294.4	315.0	305.0
Major electrical and parts	361.2	1.02	126.8	126.8	125.1	122.8	125.2	123.6	125.2	130.2	130.1	129.8	132.6	124.2
Electric distribution equip.	361	.33	120.6	118.8	120.1	116.5	118.0	118.5	115.9	121.2	125.5	128.6	130.2	120.6
Household appliances	363	.44	123.6	118.9	121.8	119.8	118.4	118.1	123.1	123.2	113.6	121.3	121.9	125.5
Cooking equipment	3631	.06	124.3	116.1	124.0	116.2	118.8	117.0	124.4	115.5	115.7	123.1	123.4	126.1
Refrigerators and freezers	3632	.10	141.4	135.0	139.2	133.1	135.1	137.2	150.6	151.1	138.1	137.0	138.1	144.0
Laundry	3633	.08	147.0	136.2	139.1	132.6	133.3	135.3	142.0	141.8	118.1	131.5	138.8	148.4
Miscellaneous	3634,5.9	.20	106.4	105.4	106.4	109.0	104.6	102.9	103.2	105.9	99.5	108.7	107.1	108.1
Electrical housewares	3634	.05	105.8	104.2	101.6	103.2	101.0	98.6	104.2	105.8	97.1	104.6	106.0	106.2
Appliances, nec	3639	.09	98.7	95.6	97.7	102.1	94.9	94.4	98.1	97.0	84.4	97.8	94.0	102.8
Audio and video equipment	365	.12	57.4	55.3	59.0	55.6	60.5	60.2	55.5	52.4	53.0	57.7	65.2	67.3
Communication equipment	366	2.04	216.3	220.1	220.0	220.2	222.7	221.2	211.4	217.3	213.3	219.7	219.4	220.5
Electronic components	367	3.78	621.7	638.0	653.9	672.0	698.4	720.5	602.7	691.5	604.2	669.8	772.0	723.7
Semiconductors and related electronic components	3672-9	3.70	643.1	660.3	676.7	697.4	725.4	750.1	623.3	718.3	624.3	691.8	801.7	749.4
Misc. electrical supplies	369	.69	135.8	133.3	132.6	132.5	130.5	134.7	131.5	134.4	125.0	133.6	135.0	137.8
Storage batteries	3691	.10	132.5	130.0	125.7	130.0	117.0	136.4	113.2	135.5	115.1	137.0	157.9	149.3
<b>Transportation equipment</b>	<b>37</b>	9.16	125.2	114.2	108.2	130.3	127.6	128.0	129.8	117.1	92.2	130.6	128.8	133.7
Motor vehicles and parts	371	5.25	144.1	121.1	107.6	154.2	149.9	149.6	153.5	126.4	76.6	156.6	154.0	162.9
Autos		1.26	102.0	88.2	71.3	117.1	120.8	112.8	111.2	89.2	49.7	117.5	121.1	125.4
Trucks and truck trailers		1.71	176.5	147.6	122.8	181.9	167.0	182.1	185.8	150.3	85.0	177.3	179.7	201.4
Trucks and buses		1.62	175.5	145.3	118.3	179.4	164.8	180.2	184.9	148.0	79.5	174.8	177.6	200.6
Consumer trucks		1.01	177.1	142.2	110.0	178.9	161.1	181.0	187.5	144.2	69.1	173.2	175.8	201.7
Business trucks		.62	171.2	149.1	131.0	178.8	169.5	177.3	179.6	153.4	96.1	176.4	179.4	197.7
Motor vehicle parts	3714	2.22	155.5	128.6	125.3	165.0	162.1	156.2	165.6	139.6	90.9	174.4	162.7	165.8
Motor homes	3716	.06	122.5	124.8	125.7	145.9	140.6	142.6	120.9	119.8	113.8	137.9	143.1	151.7
Aerospace and miscellaneous transportation equipment	372-6.9	3.90	106.3	106.3	107.1	106.9	105.7	106.7	106.4	107.0	104.7	105.5	104.4	105.7
Aircraft and parts	372	2.69	114.2	113.9	115.0	114.8	113.6	115.0	113.9	114.4	111.9	113.3	113.1	114.2
Ships and boats	373	.38	93.9	94.0	97.7	97.1	94.6	98.0	94.8	93.3	94.7	94.8	92.0	96.6
Railroad and miscellaneous	374-6.9	.84	87.5	88.0	87.1	86.8	86.1	85.2	88.5	90.0	86.5	85.9	83.0	83.6

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	1997 IP Proportion <sup>1</sup>	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Instruments</b>	<b>38</b>	4.85	113.8	112.4	112.6	113.0	113.9	114.6	111.5	114.1	114.4	115.6	116.5	115.0
Scientific and medical	381-4	4.02	114.8	113.3	113.8	114.1	115.5	116.5	112.2	115.2	116.1	117.3	118.5	116.9
Medical instruments	384	1.56	124.8	121.1	122.2	121.6	125.1	128.8	119.4	127.1	132.8	133.0	136.8	131.1
<b>Misc. manufactures</b>	<b>39</b>	1.35	119.1	118.5	118.5	117.7	117.0	116.1	118.1	118.8	115.0	118.1	117.3	119.1
Consumer goods	391,3,4,6	.63	110.7	110.4	110.2	108.5	107.4	105.3	109.6	109.6	104.6	107.5	107.5	108.6
Business supplies	395,9	.72	127.9	127.0	127.2	127.3	127.0	127.5	126.8	128.3	125.8	129.0	127.4	129.8
<b>Electric utilities</b>	<b>491,3pt</b>	5.18	118.9	121.0	119.8	121.2	122.6	117.5	110.1	124.9	135.9	135.6	125.9	109.1
Generation		1.94	116.8	118.5	117.3	116.3	119.7	114.7	112.3	125.7	130.3	127.0	118.2	104.3
Fossil fuel		.96	120.2	122.4	120.0	121.9	122.5		111.1	129.2	139.8	139.6	127.5	
Hydro and nuclear		.98	113.5	114.8	114.6	111.0	116.8		113.5	122.2	121.4	115.1	109.2	
Sales		3.23	120.2	122.6	121.4	124.3	124.4	119.4	108.9	124.6	139.4	141.0	130.8	112.1
Residential		1.35	122.1	128.9	128.0	130.9	130.7		99.8	126.9	155.9	154.2	136.8	
Nonresidential		1.89	118.8	118.0	116.7	119.6	119.9	115.7	115.4	122.9	127.9	131.8	126.6	116.1
Commercial and other		1.16	123.9	123.9	122.5	125.7	127.2		117.5	129.8	139.4	142.1	136.6	
Industrial		.72	111.4	109.5	108.3	110.8	109.3		112.2	113.0	111.3	116.9	112.1	
<b>Gas utilities</b>	<b>492,3pt</b>	1.10	98.3	108.4	111.7	115.7	110.8	109.3	73.6	62.4	61.9	62.0	59.5	76.1
Residential		.50	89.5	101.8	102.0	105.4	101.4	100.3	57.3	38.9	31.5	29.4	32.6	57.4
Commercial and other		.19	104.2	114.5	126.8	140.0	127.0		74.9	62.1	65.9	70.6	63.4	
Gas transmission		.33	105.8	113.5	117.0	118.6	115.5	114.0	91.4	88.9	95.1	96.1	88.4	94.6

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 1992 dollars at annual rates, seasonally adjusted

Item	1992	1997	1997 Q2	Q3	Q4	1998 Q1	Q2	Q3 <sup>f</sup>	1998 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>
<b>Products, total</b>	2001.9	2406.1	2384.2	2413.9	2450.4	2464.5	2486.2	2493.8	2470.3	2454.6	2525.1	2501.8	2514.9	2513.0
<b>Final products</b>	1552.1	1886.0	1863.7	1893.3	1924.5	1937.5	1955.3	1956.4	1938.2	1915.6	1985.9	1967.7	1979.3	1978.2
Consumer goods	1049.6	1198.0	1191.3	1199.7	1213.4	1216.5	1217.2	1207.4	1201.8	1185.0	1227.4	1209.8	1216.0	1220.7
Durable	238.3	309.2	303.3	309.2	318.9	321.5	318.6	314.6	303.0	283.0	334.2	326.6	335.0	334.6
Automotive products	123.8	161.6	155.4	160.6	169.7	165.7	162.8	159.2	149.5	128.9	178.0	170.7	177.2	175.8
Other durable goods	114.4	147.7	148.2	148.7	149.0	156.1	156.2	155.8	154.4	156.2	155.5	155.7	157.3	158.4
Nondurable	811.3	889.3	888.3	890.9	895.4	896.1	899.5	893.8	898.7	900.5	895.6	885.3	883.8	888.7
Equipment, total	502.5	687.3	673.5	695.6	713.5	723.7	741.4	753.1	740.1	734.3	762.5	762.4	767.8	761.6
Business and defense	483.9	660.2	646.0	668.1	686.4	695.3	715.1	729.6	715.0	709.6	739.4	739.8	745.7	740.3
Business	399.2	596.0	583.4	606.4	624.9	633.6	653.9	668.3	653.8	648.0	677.9	679.1	684.3	679.7
Defense and space	84.7	64.5	64.4	64.0	64.1	64.3	63.9	64.1	63.9	64.2	64.5	63.7	64.4	63.6
<b>Intermediate products</b>	449.9	521.1	520.5	521.1	526.7	528.0	532.0	538.0	532.6	538.4	540.3	535.2	536.9	536.1
Construction supplies	177.2	216.5	216.8	216.1	218.1	221.6	223.0	226.0	223.0	227.1	226.8	224.1	226.8	228.3
Business supplies	272.7	304.2	303.4	304.7	308.4	306.0	308.6	311.6	309.3	310.9	313.1	310.7	309.7	307.4
Commercial energy products	70.4	81.9	82.1	82.3	83.0	80.5	82.5	85.7	83.1	83.7	87.7	85.6	81.8	81.2

**Table 8**  
**DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION**

Percent

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>One Month Earlier</b>												
1996	38.8	64.9	56.0	56.3	60.1	62.3	52.6	58.2	53.4	54.1	55.2	56.7
1997	53.4	65.7	53.7	51.3	53.7	56.3	58.8	49.8	55.6	55.8	61.4	50.9
1998	55.8	47.2	50.2	53.7	49.1	39.3	54.7	46.8	39.0	51.3		
<b>Three Months Earlier</b>												
1996	44.0	54.9	55.2	67.5	66.4	67.2	61.9	60.8	56.0	59.0	56.7	57.1
1997	58.2	65.7	59.0	62.7	54.9	55.6	60.2	60.9	59.0	58.1	65.5	63.7
1998	59.6	52.1	54.3	49.1	55.4	44.2	46.8	44.6	45.7	45.7		
<b>Six Months Earlier</b>												
1996	52.6	53.7	57.5	57.8	65.3	71.3	69.8	66.4	63.8	67.5	64.2	56.3
1997	65.3	65.7	63.8	61.6	58.4	62.7	67.3	62.8	63.5	66.9	68.8	65.0
1998	63.7	63.3	61.0	58.1	56.6	48.3	46.8	46.4	43.3	44.9		

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

**Table 9**  
**ELECTRIC POWER USE: MANUFACTURING AND MINING**

Item	1987 SIC	1992 Billion KWH	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>P</sup>	1998 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>P</sup>
<b>Total</b>		934.1	106.6	106.3	105.7	105.0	105.3	106.5	106.1	107.9	107.0	108.6	109.0	108.0
<b>MAJOR INDUSTRY GROUPS</b>														
<b>Manufacturing</b>		854.0	106.8	106.6	105.8	105.0	105.3	106.8	106.3	108.3	107.5	109.1	109.4	108.4
<b>Durable</b>		365.8	106.9	107.3	107.3	107.0	106.7	106.6	106.6	109.2	108.0	110.5	110.2	107.9
<b>Nondurable</b>		488.3	106.8	106.0	104.6	103.4	104.2	106.9	106.1	107.6	107.1	108.0	108.7	108.9
<b>Mining</b>		80.1	103.9	102.8	104.3	104.4	104.2	103.3	103.6	101.7	100.2	101.9	103.4	102.8
<b>INDUSTRY GROUPS and SERIES</b>														
<b>Metal mining</b>	<b>10</b>	18.6	114.6	114.7	112.0	117.0	115.4	118.2	115.5	110.9	110.5	117.0	114.3	119.3
Iron ore	101	7.3	114.8	114.5	106.2	113.2	113.6	112.7	118.3	108.4	105.7	113.8	111.4	117.2
Copper ore	102	6.6	123.8	123.2	124.9	129.8	126.0	130.9	122.6	120.1	122.6	129.9	126.5	130.4
<b>Coal mining</b>	<b>12</b>	12.7	98.8	102.2	107.5	101.1	103.4	101.8	95.7	96.8	89.5	93.0	98.3	97.9
<b>Oil and gas extraction</b>	<b>13</b>	36.0	95.3	90.9	93.1	92.4	92.3	88.5	94.6	92.5	92.7	90.3	92.2	88.3
Crude oil and natural gas	131	31.0	94.2	89.6	91.7	91.0	90.4	86.7	94.0	91.0	91.0	87.9	89.9	86.9
Natural gas liquids	132	3.6	85.4	84.8	86.5	92.2	92.0	83.1	84.7	86.7	87.7	92.1	92.5	83.4
<b>Stone and earth minerals</b>	<b>14</b>	12.8	114.5	113.5	114.5	117.8	116.4	116.9	116.8	115.6	115.6	117.6	119.4	117.8
Crushed stone	142	3.5	155.5	154.0	155.5	159.2	157.6	157.8	164.3	163.5	163.4	167.3	168.4	168.6
Sand and gravel	144	2.7	107.0	109.0	111.1	110.3	107.1	110.9	112.1	114.9	119.4	119.5	116.4	120.9
Chemical and fertilizer materials	147	4.7	103.1	100.9	101.3	109.9	109.3	108.9	103.2	100.5	99.2	102.6	106.9	101.4
<b>Foods</b>	<b>20</b>	58.8	117.1	116.5	117.5	114.8	115.7	118.4	113.2	118.7	123.5	124.3	127.1	123.7
Meat products	201	10.3	125.3	123.6	128.0	126.2	125.0	130.2	121.5	129.4	138.7	138.2	137.7	133.8
Dairy products	202	6.8	105.0	99.9	102.7	99.6	102.6	108.5	103.8	106.6	113.1	108.9	111.7	109.7
Canned and frozen food	203	8.1	118.9	118.2	117.5	111.6	111.7	114.9	111.1	115.9	121.0	128.8	136.0	128.2
Grain mill products	204	11.4	131.8	134.9	137.5	136.4	140.7	138.1	131.2	132.4	135.6	138.0	144.1	144.8
Bakery products	205	3.5	114.3	112.4	113.6	110.5	111.8	115.4	110.9	117.5	123.7	122.7	125.0	119.9
Sugar and confectionery	206	4.0	111.8	109.2	109.7	97.0	96.0	96.1	98.6	103.4	106.6	95.6	95.7	99.7
Fats and oils	207	3.9	111.0	112.0	113.9	108.0	112.1	111.0	105.7	108.5	105.6	102.4	109.2	108.0
Beverages	208	6.1	108.7	109.4	107.2	108.9	106.7	111.3	106.2	116.1	119.7	124.3	122.5	116.9
Coffee and miscellaneous	209	4.7	107.4	107.3	105.2	103.9	105.1	106.9	103.4	111.8	114.9	115.5	117.4	110.9
<b>Tobacco products</b>	<b>21</b>	1.5	97.3	99.9	95.4	94.1	93.7	96.3	91.8	99.7	98.8	102.6	105.7	103.8
<b>Textile mill products</b>	<b>22</b>	31.5	114.0	114.6	118.9	113.7	111.6	110.0	116.7	122.7	119.8	126.6	122.7	115.1
Fabrics	221-4	11.8	108.4	106.6	107.8	105.6	107.5	103.9	111.1	114.3	108.9	118.1	118.5	108.6
Knit goods	225	4.1	109.3	107.7	107.4	110.9	113.5	110.0	112.6	117.6	112.2	128.1	128.5	114.9
Fabric finishing	226	2.5	120.4	113.9	119.0	112.2	107.3	112.2	122.2	120.9	111.8	116.9	114.1	112.3
Yarn and thread	228	8.3	110.7	118.8	129.3	119.6	105.3	103.5	114.0	128.1	129.5	134.7	117.2	109.2
Miscellaneous textiles	229	3.4	128.3	125.9	131.0	121.7	124.2	124.1	129.9	132.3	131.3	132.5	133.0	130.7
<b>Apparel products</b>	<b>23</b>	8.2	97.8	96.4	97.6	90.9	92.8	98.6	94.9	103.2	106.6	108.0	107.7	101.6
Men's outerwear	231,2	2.0	84.7	80.0	83.8	75.9	79.0	85.8	82.6	88.2	93.1	93.3	94.1	89.2
Women's outerwear	233	2.5	120.6	115.6	114.8	110.1	111.2	117.5	116.8	124.8	127.0	133.1	130.2	121.4
<b>Lumber and products</b>	<b>24</b>	19.8	118.3	120.9	121.5	121.1	121.6	119.9	117.3	119.8	118.0	120.5	121.3	118.9
Lumber	242	7.7	116.4	118.1	122.5	120.6	120.4	118.1	116.2	116.5	116.2	119.4	118.9	116.2
Millwork and plywood	243	5.6	119.4	124.3	124.1	123.4	126.4	124.3	118.3	123.4	121.0	122.8	126.4	123.6
<b>Furniture and fixtures</b>	<b>25</b>	6.0	117.0	118.9	117.2	116.0	118.2	120.0	114.4	120.5	115.9	124.1	124.6	121.4
Household furniture	251	3.2	115.4	117.1	113.6	114.5	116.5	117.5	113.1	118.6	107.7	120.1	120.4	118.8
<b>Paper and products</b>	<b>26</b>	113.3	103.3	103.5	103.0	101.7	102.6	104.9	101.8	103.9	104.5	104.7	104.6	105.4
Wood pulp	261	8.8	97.0	92.4	89.4	92.6	96.0	99.8	94.0	92.8	88.7	92.1	93.2	97.6
Paper	262	62.3	102.0	102.2	101.1	100.3	101.1	104.2	100.4	102.5	102.9	103.2	102.9	104.5
Paperboard	263	28.3	107.7	112.7	115.3	115.3	112.2	109.5	107.3	112.8	115.7	116.2	113.4	109.7
Paperboard containers	265	5.1	107.2	107.5	105.2	100.4	104.6	105.9	105.5	108.8	108.1	106.6	109.9	108.1
Converted paper products	267	8.9	107.3	104.2	108.0	103.2	104.0	106.7	106.4	105.5	109.6	107.8	108.4	108.8
<b>Printing and publishing</b>	<b>27</b>	17.3	113.9	113.7	111.6	109.3	111.4	113.4	108.6	117.5	123.5	124.6	124.9	117.6
Newspapers	271	3.6	101.0	102.5	101.3	101.4	105.5	104.1	97.7	107.3	112.6	112.3	115.9	106.2
Commercial printing	275	9.2	121.2	123.4	122.7	120.6	121.8	123.1	116.9	126.2	132.1	133.6	132.8	126.3
<b>Chemicals and products</b>	<b>28</b>	171.7	99.6	97.9	94.3	93.7	95.7	99.9	100.2	98.0	95.8	95.2	97.0	101.0
Basic chemicals	281	78.9	91.2	86.4	81.1	81.5	84.4	92.0	92.5	86.1	81.1	81.1	84.6	92.4
Alkalies and chlorine	2812	14.9	78.7	78.5	81.7	83.6	82.0	78.2	80.4	79.4	81.9	83.4	78.7	80.1
Inorganic chemicals, nec	2819	38.3	80.3	72.4	65.2	65.9	73.7	88.1	83.6	72.5	63.0	63.7	71.7	88.5
Acid and fertilizer materials		14.0	102.8	100.8	102.3	99.0	95.0	111.5	102.1	99.7	102.7	101.5	95.5	110.8
Nuclear materials, nondefense		24.3	69.1	58.4	46.9	49.5	63.2	76.5	74.4	59.0	43.3	44.9	59.9	77.4





## 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 statistical releases at <http://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 1992, the total IP index has been constructed from 264 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, and 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 Department of the Interior; 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 an annually weighted chain-type index since 1977. The components of IP are combined using estimates of value added per unit of output. For months from January to June, the weights are drawn from the year containing the month being estimated and the preceding year; for months from July to December, the weights are drawn from the current and following year. 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 1998; for other series, the factors were estimated with data through at least June 1998. In some cases, series were preadjusted for the effects of holidays or the business cycle before using X-11 ARIMA. 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 1987–97

period. The average revision to the *percent change* in total IP, without regard to sign, from the first to the fourth estimates was 0.21 percentage point during the 1987–97 period. In most cases (about 83 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 on November 24, 1998 is described more completely in the *Federal Reserve Bulletin*, vol.85 (January 1999).

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. *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. To obtain *Industrial Production—1986 Edition* (\$9.00 per copy), write to Board of Governors of the Federal Reserve System, Publications Services, Washington, DC 20551. 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, and January 1996, February 1997, February 1998, January 1999). The basic methodology used to estimate capacity and utilization is discussed in the June 1990 *Federal Reserve Bulletin*.

### Release Schedule for 1999

At 9:15 a.m. on January 15, February 17, March 16, April 16, May 14, June 16, July 16, August 17, September 16, October 15, November 16, and December 15.