

# FEDERAL RESERVE statistical release



G.17 (419)

For release at 9:15 a.m. (EST)  
December 15, 1997

## INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Total industrial production rose 0.8 percent in November following a gain of 0.5 percent in October. Increases were widespread among most major market groups. Information processing equipment, and parts used in high-technology equipment, contributed notably to the gain. In addition, the production of motor vehicles, which had declined some in October, increased sharply. At 127.3 percent of its 1992 average, industrial production in November was 5.6 percent higher than in November 1996. The rate of industrial capacity utilization rose 0.3 percentage point, to 83.2 percent—its highest rate since September 1995.

### Market Groups

The output of consumer goods rose 0.6 percent, with an increase in the production of durable consumer goods accounting for the gain. Automotive products rebounded sharply, and the output of other durables, including appliances, carpeting, and furniture, rose also. The production of nondurable consumer goods was little changed, as gains

(over)

### INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

Industrial Production	Index, 1992=100				Percent change				Nov. 96 to Nov. 97
	1997 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	1997 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total index</b>	125.2	125.7	126.4	127.3	.6	.4	.5	.8	5.6
Previous estimates	125.2	125.8	126.3		.5	.5	.4		
<b>Major market groups:</b>									
Products, total	119.2	119.2	119.9	120.8	1.0	.0	.6	.8	4.4
Consumer goods	114.6	114.6	115.4	116.0	.7	.0	.7	.6	2.5
Business equipment	144.6	144.5	145.3	147.5	2.1	.0	.5	1.5	10.9
Construction supplies	122.7	120.9	121.9	122.9	1.2	-1.4	.8	.8	.5
Materials	134.9	136.2	136.9	137.9	.0	.9	.5	.7	7.4
<b>Major industry groups:</b>									
Manufacturing	127.9	128.2	129.0	130.2	.7	.2	.6	1.0	6.3
Durable	144.3	144.6	145.5	147.6	1.3	.2	.6	1.4	9.4
Nondurable	111.0	111.3	112.0	112.4	.1	.3	.6	.4	2.6
Mining	106.3	106.5	105.8	105.6	-.2	.2	-.7	-.2	1.9
Utilities	113.0	115.0	115.7	114.7	-.7	1.7	.6	-.9	1.0
<b>Capacity Utilization</b>	Percent of capacity								Capacity growth
	Average 1967-96	1982 Low	1988-89 High	1996 Nov.	1997 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	Nov. 96 to Nov. 97
<b>Total industry</b>	82.1	71.1	85.4	82.5	82.8	82.8	82.9	83.2	4.7
Previous estimates					82.8	82.9	82.9		
Manufacturing	81.1	69.0	85.7	81.5	81.8	81.7	81.8	82.3	5.3
Advanced processing	80.5	70.4	84.2	79.5	80.0	79.8	80.1	80.6	6.3
Primary processing	82.3	66.2	88.9	86.0	85.8	85.8	85.7	86.0	3.4
Mining	87.5	80.3	88.0	88.3	90.0	90.2	89.5	89.3	.7
Utilities	87.2	75.9	92.6	90.6	89.2	90.7	91.1	90.2	1.4

in the output of food and chemical products were about offset by declines in the use of fuels and electricity by consumers. Business equipment advanced 1.5 percent; the most sizable gains were in the production of transit equipment, which includes aircraft and motor vehicles for business use, and information processing equipment, which includes computers. The output of construction supplies rose 0.8 percent in both October and November reversing the decline in September. On balance, this sector has been about flat, albeit at a high level, for much of this year. The production of materials advanced for a third month, increasing 0.7 percent in November; most of the gain was in durable materials, mainly in parts for high-technology equipment and for motor vehicles. Nondurable materials posted a moderate gain; the production of energy materials was down because of declines in electricity generation and coal mining.

### Industry Groups

Manufacturing output rose 1.0 percent, its largest monthly gain since February 1996. Output in manufacturing excluding motor vehicles and parts was up 0.7 percent, with gains in most industries. The manufacture of durable goods rose 1.4 percent; most of those industries posted sizable increases, the largest of which were in transportation equipment, lumber, and electrical machinery. The production of nondurable goods rose 0.4 percent, its third successive month of moderate advances. Output in mining and at utilities both declined in November.

The operating rate in manufacturing rose 0.5 percentage point, to 82.3 percent—its highest level since September 1995. The utilization rate in advanced-processing industries was 80.6 percent, about equal to its long-term average. The increase of 0.5 percentage point for advanced-processing industries largely reflected a jump in utilization in the motor vehicle and parts industry. The operating rate in primary-processing industries rose 0.3 percentage point, to 86.0 percent, which is about the rate that has persisted so far this year.

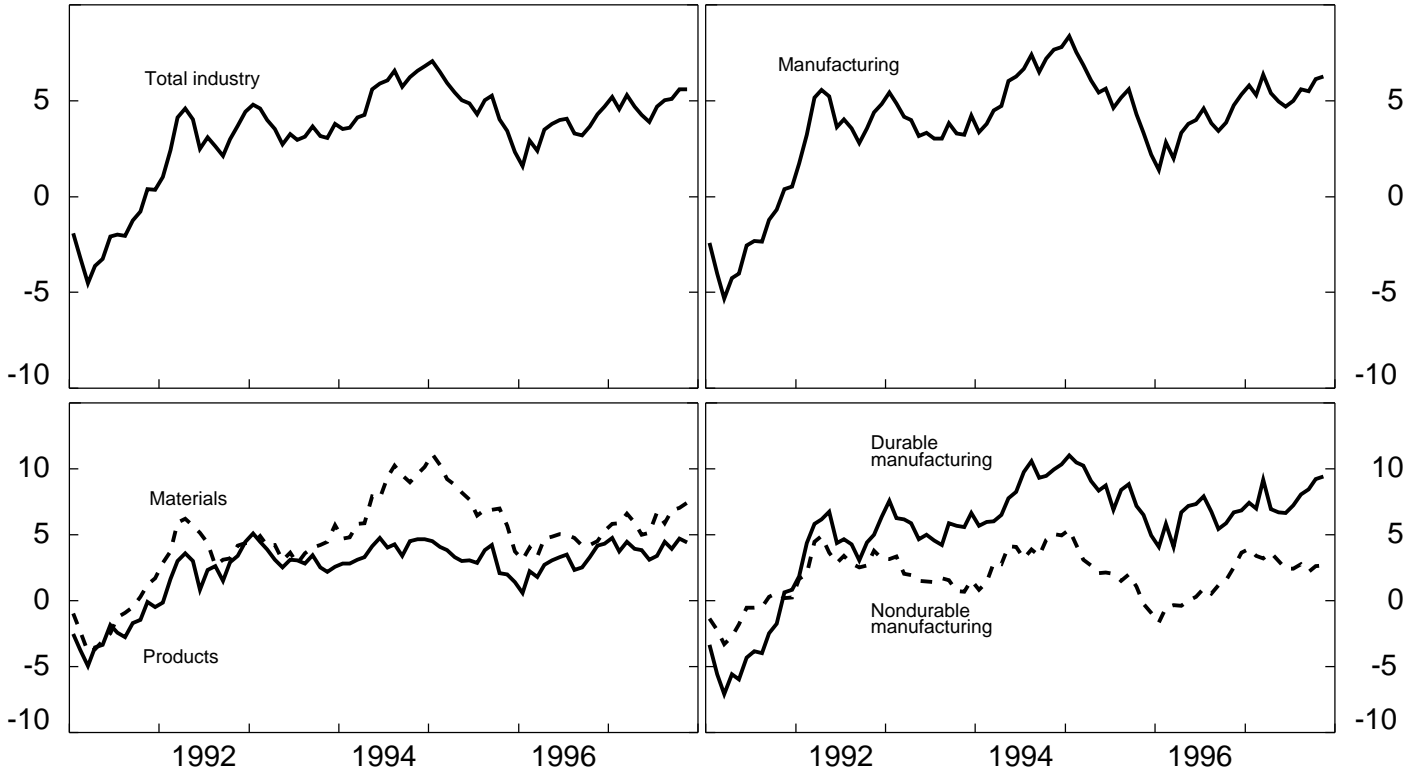
# Industrial Production and Capacity Utilization

(November data, seasonally adjusted)

## Industrial production indexes

Twelve-month percent change

Twelve-month percent change

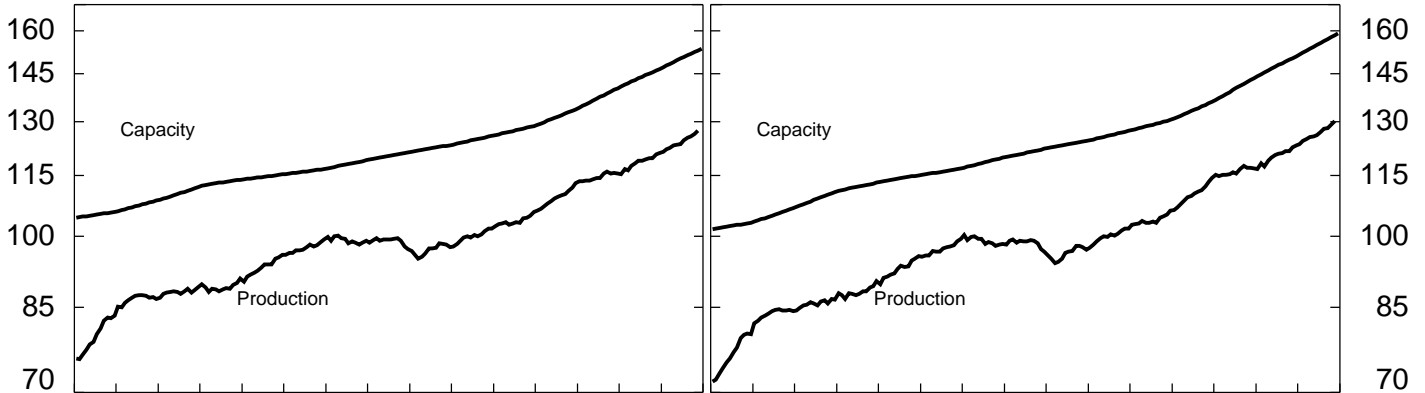


### Total industry

### Manufacturing

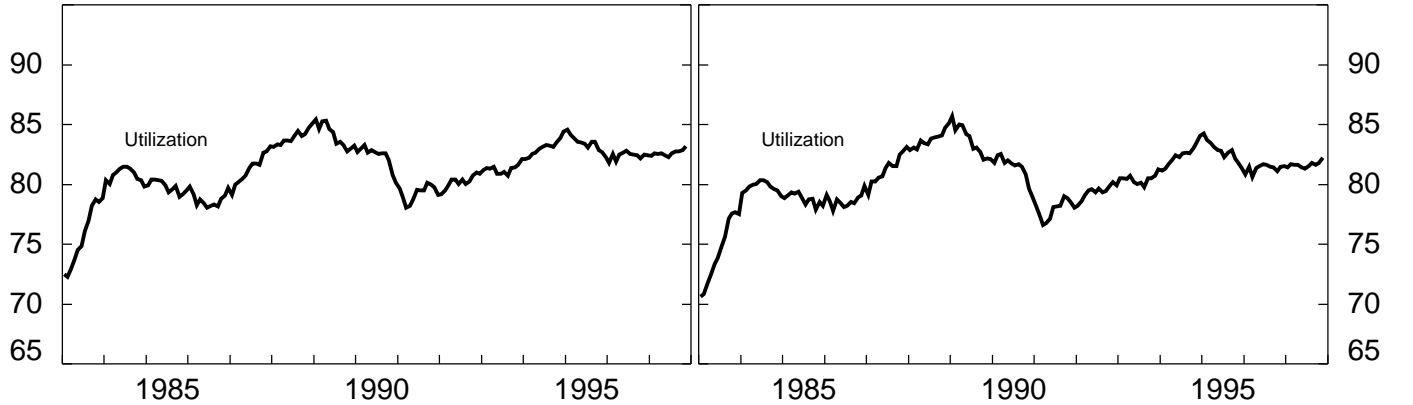
Ratio scale, 1992 production = 100

Ratio scale, 1992 production = 100



Percent of capacity

Percent of capacity





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

Percent change

Item	1995 Q4 to 1996 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				Nov. 96 to Nov. 97
		1996 Q4	1997 Q1	Q2	Q3 <sup>r</sup>	1997 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	1997 Aug. <sup>r</sup>	Sept. <sup>r</sup>	Oct. <sup>r</sup>	Nov. <sup>p</sup>	
<b>Total index</b>	4.2	3.8	5.2	4.6	6.1	.6	.4	.5	.8	4.6	.4	-.7	-1.3	5.6
<b>Products, total</b>	3.9	3.6	3.9	3.6	4.6	1.0	.0	.6	.8	5.2	.3	-1.2	-2.2	4.4
<b>Final products</b>	4.0	3.0	4.0	3.7	5.7	1.1	-.1	.6	.8	6.0	.3	-1.1	-1.9	5.0
<b>Consumer goods</b>	2.4	3.2	.9	1.4	2.7	.7	.0	.7	.6	6.0	-.1	-1.4	-2.5	2.5
<b>Durable</b>	3.4	-5.0	9.1	-2.1	6.7	3.1	-.1	-.7	2.5	16.9	2.3	2.9	-3.5	5.9
Automotive products	1.6	-12.5	15.8	-11.3	12.5	9.4	.9	-1.2	4.1	36.2	4.0	5.3	-4.8	9.8
Autos and trucks	1.6	-20.1	20.2	-20.9	18.2	14.5	2.4	-.8	5.7	69.0	5.4	10.2	-5.8	13.9
Autos	-3.8	-40.1	14.6	-15.8	22.9	5.0	1.0	-3.9	4.5	54.9	-1.2	10.5	-6.3	2.8
Trucks	8.0	-.1	23.6	-24.9	14.6	22.3	3.3	1.3	6.6	80.5	10.1	9.9	-5.5	21.8
Auto parts and allied goods	1.3	2.1	8.6	6.6	4.2	2.1	-1.4	-1.8	1.5	4.9	1.7	-2.5	-2.9	3.3
Other durable goods	4.8	1.3	4.2	5.5	2.5	-1.4	-.9	-.2	1.1	5.2	1.0	1.0	-2.3	2.8
Appliances and electronics	8.0	.6	.5	6.6	12.5	-2.9	-2.1	.3	3.0	4.1	1.4	3.0	-4.1	6.0
Appliances and air cond.	1.8	-7.2	1.2	-5.3	-4.8	-6.6	-4.8	-.3	4.8	1.4	1.2	6.1	-5.6	-2.0
Home electronics	15.3	10.4	-.3	21.4	39.5	1.9	1.2	1.0	1.0	7.1	1.6	-.2	-2.3	16.6
Carpeting and furniture	5.4	3.1	-2.2	10.0	-3.0	1.1	-1.0	-.1	1.5	8.6	-.5	-.8	-5.8	.7
Miscellaneous	2.5	.9	10.0	2.6	.4	-1.9	-.3	-.6	-.1	4.1	1.5	1.0	.4	2.3
<b>Nondurable</b>	2.1	5.6	-1.2	2.4	1.7	.0	.0	1.0	.1	3.6	-.7	-2.6	-2.2	1.7
Nonenergy	2.0	5.0	.9	1.1	1.3	.0	.0	1.0	.4	4.5	.1	-2.3	-4.5	2.3
Foods and tobacco	1.9	3.7	3.7	-2.6	2.0	-.7	.4	.6	.7	6.2	.4	-1.5	-5.4	2.4
Clothing	-4.1	-3.6	-3.7	-.6	.2	.2	.1	.5	-.4	5.5	-.1	-.9	-3.7	-1.1
Chemical products	4.6	12.8	-.7	6.4	-2.0	1.8	-1.1	1.7	.7	2.8	-.4	-5.9	-6.1	3.0
Paper products	2.4	3.4	-2.9	6.9	4.8	-.9	.2	1.4	-.4	.7	-.3	-.4	.9	2.9
Energy products	2.8	9.0	-12.6	10.5	4.3	.4	.0	1.1	-2.1	-1.5	-5.6	-4.0	13.7	-1.8
Fuels	3.3	3.1	-2.3	15.7	-2.2	2.1	-.3	1.1	-4.3	1.6	.7	-.8	-.2	-.3
Utilities	2.6	12.0	-17.3	8.0	7.5	-.5	.1	1.1	-1.0	-3.0	-9.0	-6.0	22.6	-2.6
<b>Equipment, total</b>	6.7	2.7	9.4	7.6	10.7	1.8	-.1	.4	1.3	6.0	1.0	-.5	-.9	9.1
<b>Business equipment</b>	8.2	4.8	10.7	8.3	13.7	2.1	.0	.5	1.5	7.0	1.2	-.7	-1.1	10.9
Information processing & related	11.8	8.6	10.5	12.6	16.9	1.1	1.3	.5	1.1	1.0	1.9	-2.4	-.1	13.1
Computer and office	37.4	25.4	30.9	32.9	50.4	4.0	2.9	2.0	1.8	-.3	2.6	-1.9	-1.2	36.1
Industrial	.0	2.1	2.5	4.5	9.0	1.5	-1.4	.8	.6	4.9	.8	-2.4	-1.9	4.8
Transit	19.1	-.9	21.6	3.0	21.1	5.9	.6	-.4	4.2	23.6	.9	5.1	-.8	16.8
Autos and trucks	.0	-24.9	19.0	-16.2	14.0	7.9	-.1	-1.7	6.2	53.1	-.6	8.9	-4.5	8.7
Other	4.8	10.3	20.4	13.6	3.5	1.2	-2.0	1.4	.6	10.6	.2	.4	-3.3	11.5
<b>Defense and space equipment</b>	-1.5	-3.9	-4.8	.3	-4.2	.2	-.5	.2	.4	1.1	1.0	.3	1.3	-1.8
Oil and gas well drilling	7.0	-9.0	31.5	15.9	4.8	.7	-.1	-2.2	.4	-.1	.3	-2.0	1.1	10.5
Manufactured homes	-.9	-19.4	5.4	6.0	-3.5	-2.8	-1.7	3.0	-.7	18.7	-4.7	8.1	-13.3	.1
<b>Intermediate products</b>	3.7	5.4	3.7	3.1	1.2	.7	.1	.6	.5	2.6	.1	-1.4	-3.0	2.6
Construction supplies	5.8	3.3	3.4	3.3	-1.4	1.2	-1.4	.8	.8	3.6	.0	-.2	-4.6	.5
Business supplies	2.4	6.7	3.9	2.9	2.8	.3	1.0	.4	.4	2.1	.2	-2.1	-2.0	4.0
<b>Materials</b>	4.7	4.1	7.2	6.1	8.5	.0	.9	.5	.7	3.7	.5	.0	.0	7.4
<b>Durable</b>	6.7	5.7	9.9	10.8	12.3	.6	.8	1.0	1.3	6.2	1.5	.4	-.3	11.4
Consumer parts	.1	-5.1	5.5	-.4	13.7	.7	1.1	.5	1.8	25.2	-.1	3.1	-3.2	7.0
Equipment parts	14.9	15.1	23.2	23.1	21.1	1.3	1.0	1.7	1.5	2.3	2.2	.7	2.4	21.5
Other	3.0	3.2	1.2	5.4	4.7	.0	.5	.6	.9	2.8	1.5	-.9	-1.3	4.9
Basic metals	2.6	6.8	.2	8.0	5.2	.5	-.1	.4	.8	1.9	2.8	-.4	.2	5.0
<b>Nondurable</b>	3.7	5.7	5.8	.1	2.6	-1.1	.8	.1	.4	1.1	.7	1.1	-1.7	3.0
Textile	.9	-1.1	-1.8	2.8	10.9	-3.5	2.7	-.6	.5	5.5	-.1	2.1	-2.0	2.8
Paper	2.9	7.5	8.1	1.5	5.7	.4	-1.4	1.7	.6	2.1	-2.6	1.8	.6	5.5
Chemical	6.1	9.2	6.5	-1.9	1.6	-1.1	1.2	-.1	-.1	-.5	2.4	-.9	-1.0	2.6
Other	.6	-.1	5.8	2.1	-1.9	-1.4	.9	-.8	1.3	1.4	.8	4.5	-5.1	1.5
<b>Energy</b>	.4	-1.5	1.6	-.2	4.3	-.7	1.5	-.2	-.5	.2	-2.4	-2.3	2.5	1.6
Primary	-1.0	-6.1	4.2	-1.1	2.8	.1	-.1	-.5	-.4	.9	-2.1	-2.3	2.7	1.0
Converted fuel	3.0	7.6	-3.0	1.6	7.2	-2.1	4.5	.4	-.6	-1.1	-3.0	-2.1	2.1	2.8
<b>SPECIAL AGGREGATES</b>														
<b>Total excluding:</b>														
Autos and trucks	4.3	4.7	4.8	5.4	5.8	.3	.3	.6	.6	3.5	.3	-1.0	-1.2	5.4
Motor vehicles and parts	4.5	5.0	4.7	5.4	5.4	.3	.3	.6	.6	2.8	.4	-1.2	-1.1	5.3
Computers	3.7	3.5	4.8	4.1	5.5	.5	.3	.5	.7	4.7	.3	-.7	-1.3	5.1
Computers and semiconductors	2.9	2.6	3.4	2.7	4.3	.5	.3	.4	.7	4.7	.3	-.8	-1.5	3.9
<b>Consumer goods excluding:</b>														
Autos and trucks	2.4	4.9	-.2	3.0	1.9	-.1	-.2	.8	.2	3.9	-.4	-2.1	-2.3	1.9
Energy	2.3	2.5	2.8	.3	2.5	.7	.0	.6	.9	7.0	.5	-1.1	-4.2	3.1
<b>Business equipment excluding:</b>														
Autos and trucks	9.2	8.7	9.9	11.2	13.6	1.6	.0	.8	1.0	3.8	1.4	-1.7	-.8	11.1
Computer and office equipment	5.7	3.2	9.0	6.2	11.1	2.0	-.3	.4	1.5	7.6	1.1	-.6	-1.1	9.0
<b>Materials excluding:</b>														
Energy	5.8	5.7	8.7	7.8	9.6	.2	.8	.7	1.1	4.8	1.3	.6	-.7	9.0

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

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

Item	SIC	1996 IP Proportion <sup>1</sup>	Index, 1992=100											
			Seasonally Adjusted						Not seasonally adjusted					
			1997 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>	1997 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>
<b>Total index</b>		100.00	123.5	124.5	125.2	125.7	126.4	127.3	125.7	122.8	128.5	128.9	128.0	126.3
<b>Manufacturing</b>		85.91	126.1	126.9	127.9	128.2	129.0	130.2	129.2	124.7	131.5	132.7	132.2	129.4
<b>Primary processing</b>		27.60	117.7	118.3	118.5	118.7	119.0	119.8	120.0	116.6	120.1	121.3	121.2	119.3
<b>Advanced processing</b>		58.31	130.2	131.2	132.5	132.9	133.9	135.5	133.8	128.8	137.2	138.5	137.7	134.5
<b>Durable</b>		46.12	141.2	142.4	144.3	144.6	145.5	147.6	144.5	136.4	146.3	148.3	148.8	147.2
Lumber and products	24	2.09	117.0	116.1	115.4	113.6	113.8	116.1	120.7	114.3	119.6	119.1	120.4	114.2
Furniture and fixtures	25	1.37	123.5	124.2	121.1	122.2	122.7	123.9	124.5	122.4	129.8	129.2	124.0	122.6
Stone, clay, and glass products	32	2.20	120.0	120.9	120.5	121.2	120.9	121.6	124.3	121.8	125.2	125.4	125.6	121.5
<b>Primary metals</b>	33	3.40	124.9	125.2	125.5	125.5	127.4	128.6	125.2	119.7	122.7	126.9	127.7	127.9
Iron and steel	331,2	1.84	122.6	122.2	121.8	124.5	126.5	127.8	122.8	117.7	118.3	125.6	127.0	126.7
Raw steel		.09	114.9	115.5	116.1	119.2	117.7	120.1	115.1	110.6	112.2	118.1	117.2	118.5
Nonferrous	333-6,9	1.55	127.7	128.8	129.9	126.8	128.5	129.5	128.0	122.0	128.0	128.4	128.5	129.3
Fabricated metal products	34	5.27	121.9	122.4	122.8	123.5	124.1	125.0	124.0	121.3	126.2	128.5	126.4	125.4
<b>Industrial machinery and equipment</b>	35	8.66	168.8	172.2	175.9	174.1	176.1	177.8	174.5	171.5	178.5	181.2	178.5	174.0
Computer and office equip.	357	1.57	372.3	388.5	403.9	415.7	423.9	431.6	391.2	424.0	422.9	434.1	426.0	421.0
<b>Electrical machinery</b>	36	8.42	229.7	235.5	236.8	238.4	241.1	245.2	231.1	231.1	238.8	243.4	244.2	247.5
Semiconductors	3672-9	3.35	480.5	499.0	511.3	516.9	530.4	543.8	482.4	490.1	507.4	518.4	529.6	549.1
<b>Transportation equipment</b>	37	8.62	113.0	112.2	117.0	118.7	118.5	122.0	118.4	92.8	117.5	118.7	124.4	122.1
Motor vehicles and parts	371	5.15	132.5	130.0	138.9	141.2	139.9	146.2	142.9	92.0	141.4	141.7	152.8	145.9
Autos and light trucks		2.62	122.4	115.0	129.5	132.3	130.4	137.6	131.8	77.3	128.4	133.9	147.6	138.9
Aerospace and misc.	372-6,9	3.47	93.8	94.6	95.5	96.7	97.4	98.3	94.5	92.8	94.1	96.2	96.8	98.8
Instruments	38	4.76	107.9	108.0	109.2	109.1	109.6	110.9	109.5	109.4	111.4	112.3	110.0	110.2
Miscellaneous	39	1.34	126.0	127.0	126.7	126.1	126.3	125.7	126.3	121.7	127.1	129.0	130.1	130.0
<b>Nondurable</b>	39	39.79	110.5	110.9	111.0	111.3	112.0	112.4	113.3	112.3	116.2	116.6	115.2	111.4
Foods	20	9.41	108.8	110.0	108.9	109.4	110.3	111.2	111.3	112.5	115.8	117.8	115.8	111.0
Tobacco products	21	1.29	109.0	110.5	112.5	112.0	113.6	111.6	124.0	94.3	123.7	115.0	124.1	109.8
Textile mill products	22	1.56	109.1	110.7	110.7	111.4	110.7	111.4	115.2	107.6	114.6	114.0	116.4	108.8
Apparel products	23	1.89	99.6	99.7	99.1	99.1	99.7	99.6	102.2	97.5	102.1	102.2	101.4	100.2
Paper and products	26	3.48	111.7	114.2	114.4	113.7	114.0	115.6	113.3	113.0	115.4	113.4	115.6	114.5
Printing and publishing	27	6.49	104.1	104.1	104.4	105.1	106.4	106.4	105.3	108.3	111.0	111.5	109.5	106.3
Chemicals and products	28	9.97	114.6	114.3	114.5	115.0	115.5	116.1	117.6	118.6	119.8	121.1	117.1	112.9
Petroleum products	29	1.83	111.3	108.9	109.7	110.1	111.0	108.3	115.9	113.4	114.4	114.4	111.4	109.8
Rubber and plastics products	30	3.68	125.6	126.0	127.9	127.6	127.4	128.8	127.7	121.8	129.2	129.3	129.3	128.8
Leather and products	31	.19	74.0	74.0	71.2	70.9	72.1	72.7	76.1	69.8	72.4	72.7	73.3	73.7
<b>Mining</b>		6.41	105.7	106.5	106.3	106.5	105.8	105.6	107.0	106.5	108.0	108.4	107.5	106.9
Metal mining	10	.44	109.9	105.2	106.0	105.4	107.8	107.5	113.1	106.5	107.8	108.4	106.5	105.9
Coal mining	12	.87	107.4	112.1	107.7	109.5	109.6	106.9	106.5	104.0	111.3	112.1	111.6	105.8
Oil and gas extraction	13	4.51	102.9	103.9	104.1	104.4	103.1	103.5	102.3	103.0	103.1	103.8	102.9	105.4
Stone and earth minerals	14	.60	120.9	117.8	119.9	117.8	117.6	117.0	139.7	135.9	140.3	137.6	137.8	117.2
<b>Utilities</b>		7.68	110.9	113.8	113.0	115.0	115.7	114.7	103.9	114.8	112.6	105.7	101.0	109.3
Electric	491,3pt	6.08	110.7	113.8	113.1	115.7	116.1	115.2	114.7	128.9	126.5	118.0	106.9	106.7
Gas	492,3pt	1.60	111.9	113.5	112.5	111.9	114.0	112.7	63.3	62.0	60.0	59.3	79.1	120.4
<b>SPECIAL AGGREGATES</b>														
Computers, communications eq. and semiconductors		6.92	346.0	357.4	364.0	370.5	376.6	383.2	350.4	360.2	366.9	376.1	378.3	386.6
<b>Manufacturing excluding:</b>														
Motor vehicles and parts		80.76	125.7	126.7	127.2	127.4	128.3	129.3	128.4	126.7	131.0	132.2	131.0	128.5
Computer and office equipment		84.33	123.2	123.9	124.8	125.0	125.8	127.0	126.2	121.5	128.3	129.4	128.9	126.2
Computers and semiconductors		80.99	116.2	116.7	117.5	117.6	118.2	119.3	119.1	114.5	121.0	122.0	121.4	118.5
Computers, communications eq. and semiconductors		78.99	115.1	115.6	116.3	116.5	117.1	118.1	118.1	113.4	119.9	120.9	120.3	117.3
<b>Memo: Motor vehicle assemblies<sup>2</sup></b>														
Total			11.7	11.0	12.3	12.5	12.3	13.0	12.0	7.8	11.7	12.7	14.6	12.0
Autos			5.7	5.8	6.1	6.1	5.9	6.1	5.9	4.1	5.8	6.0	7.0	5.7
Trucks			6.0	5.2	6.2	6.4	6.5	6.9	6.2	3.7	5.9	6.7	7.7	6.3
Light			5.7	4.9	5.9	6.1	6.2	6.6	5.9	3.4	5.6	6.4	7.4	6.0
Heavy and medium			0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	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. 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	1995 Q4 to 1996 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				Nov. 96 to Nov. 97
			1996 Q4	1997 Q1	Q2	Q3 <sup>r</sup>	1997 Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>	1997 Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>	
			<b>Total index</b>		4.2	3.8	5.2	4.6	6.1	.6	.4	.5	.8	4.6	
<b>Manufacturing</b>		4.7	4.2	6.2	4.9	6.2	.7	.2	.6	1.0	5.4	.9	-.4	-2.1	6.3
<b>Primary processing</b>		3.5	3.2	3.4	3.7	2.7	.1	.2	.3	.6	3.0	1.0	-.1	-1.6	3.4
<b>Advanced processing</b>		5.2	4.6	7.6	5.4	8.0	1.1	.3	.8	1.1	6.6	.9	-.5	-2.3	7.6
<b>Durable</b>		6.5	3.8	9.4	8.1	10.4	1.3	.2	.6	1.4	7.2	1.4	.3	-1.1	9.4
Lumber and products	24	2.8	-.8	4.2	10.8	-4.7	-.5	-1.6	.2	2.0	4.6	-.5	1.1	-5.1	.8
Furniture and fixtures	25	7.3	9.0	2.7	10.7	-2.9	-2.5	1.0	.3	1.0	6.0	-.4	-4.0	-1.1	3.5
Stone, clay, and glass products	32	3.8	1.1	8.8	3.3	2.4	-.3	.6	-.3	.6	2.7	.2	.1	-3.2	3.6
Primary metals	33	3.5	4.5	-.4	9.9	5.3	.2	.1	1.5	.9	2.5	3.4	.7	.1	6.4
Iron and steel	331,2	2.2	5.7	-.8	10.9	.8	-.4	2.2	1.6	1.0	.5	6.2	1.1	-.3	7.2
Raw steel		-1.7	-6.9	5.8	8.7	6.5	.5	2.6	-1.2	2.0	1.4	5.2	-.7	1.1	9.5
Nonferrous	333-6,9	4.9	3.2	.1	8.7	10.8	.8	-2.4	1.3	.8	4.9	.3	.1	.6	5.5
Fabricated metal products	34	3.2	2.1	2.3	2.9	1.8	.3	.6	.5	.7	4.0	1.8	-1.6	-.8	3.4
Industrial machinery and equipment	35	7.6	7.0	11.2	10.8	14.7	2.2	-1.1	1.2	.9	4.1	1.5	-1.5	-2.5	11.1
Computer and office equip.	357	36.5	26.4	32.7	34.9	52.1	4.0	2.9	2.0	1.8	-.2	2.6	-1.9	-1.2	37.5
Electrical machinery	36	12.6	11.6	18.0	20.0	19.6	.5	.6	1.2	1.7	3.3	1.9	.3	1.3	18.0
Semiconductors	3672-9	25.5	30.1	46.2	41.4	40.8	2.5	1.1	2.6	2.5	3.5	2.2	2.2	3.7	39.7
Transportation equipment	37	5.5	-4.6	14.0	-.1	17.1	4.2	1.5	-.2	3.0	26.5	1.1	4.8	-1.9	12.1
Motor vehicles and parts	371	-1.4	-16.2	15.8	-8.9	20.5	6.8	1.6	-.9	4.5	53.7	.2	7.8	-4.5	11.9
Autos and light trucks		1.0	-24.0	19.0	-20.2	19.0	12.7	2.1	-1.4	5.5	66.2	4.2	10.2	-5.9	11.8
Aerospace and misc.	372-6,9	17.0	15.4	11.5	13.4	12.6	.9	1.3	.7	.9	1.4	2.3	.6	2.0	12.3
Instruments	38	4.2	3.0	2.1	3.2	5.3	1.1	-.1	.5	1.2	1.8	.8	-2.0	.1	4.7
Miscellaneous	39	5.2	6.2	11.4	3.1	3.3	-.3	-.4	.2	-.5	4.5	1.4	.9	-.1	4.1
<b>Nondurable</b>		2.5	4.6	2.5	1.2	1.5	.1	.3	.6	.4	3.5	.4	-1.2	-3.3	2.6
Foods	20	1.7	6.2	4.6	-1.9	1.3	-1.0	.5	.8	.9	2.9	1.7	-1.7	-4.2	2.8
Tobacco products	21	2.4	-9.7	.9	-6.6	1.9	1.7	-.4	1.5	-1.7	31.2	-7.0	7.9	-11.5	-.7
Textile mill products	22	.1	-2.0	.6	4.4	9.3	.0	.6	-.6	.6	6.5	-.4	2.0	-6.5	3.1
Apparel products	23	-3.4	-5.8	-3.7	-1.2	-1.8	-6	.0	.6	-.1	4.7	.2	-.9	-1.2	-1.6
Paper and products	26	2.3	4.6	6.1	1.8	6.9	.2	-.6	.3	1.4	2.2	-1.7	2.0	-1.0	4.9
Printing and publishing	27	1.6	5.3	1.6	3.7	.9	.3	.7	1.2	.0	2.4	.5	-1.8	-2.9	3.2
Chemicals and products	28	5.4	9.9	2.2	1.0	-.5	.2	.4	.5	.5	1.0	1.0	-3.3	-3.6	2.3
Petroleum products	29	3.3	3.3	.8	12.7	-5.0	.7	.4	.8	-2.4	.9	.0	-2.6	-1.5	1.1
Rubber and plastics products	30	3.4	.5	1.9	1.7	6.6	1.5	-.3	-.1	1.1	6.0	.1	.0	-.4	4.2
Leather and products	31	-4.0	-2.9	-4.4	-6.5	-15.3	-3.8	-.3	1.7	.8	3.7	.4	.7	.6	-5.0
<b>Mining</b>		1.7	-5.2	7.1	1.9	1.9	-.2	.2	-.7	-.2	1.4	.4	-.8	-.6	1.9
Metal mining	10	3.3	8.0	-1.8	3.9	-5.5	.7	-.6	2.3	-.3	1.2	.6	-1.8	-.5	1.7
Coal mining	12	2.5	-4.0	2.2	5.0	.6	-3.9	1.7	.0	-2.4	7.0	.7	-.5	-5.2	-.9
Oil and gas extraction	13	.9	-7.7	8.7	2.4	3.1	.2	.3	-1.2	.3	.1	.6	-.9	2.4	3.1
Stone and earth minerals	14	5.4	3.9	10.2	-6.6	-.5	1.8	-1.7	-.2	-.5	3.3	-2.0	.2	-15.0	-2.6
<b>Utilities</b>		1.5	7.6	-6.8	3.3	8.1	-.7	1.7	.6	-.9	-1.9	-6.1	-4.5	8.2	1.0
Electric	491,3pt	1.0	4.8	-3.5	-.9	11.1	-.6	2.3	.3	-.8	-1.8	-6.7	-9.4	-.2	2.2
Gas	492,3pt	3.1	19.4	-18.7	21.0	-2.9	-.8	-.6	1.9	-1.2	-3.2	-1.1	33.3	52.3	-3.5
<b>SPECIAL AGGREGATES</b>															
Computers, communications eq. and semiconductors		22.8	21.0	31.8	31.9	34.8	1.9	1.8	1.7	1.8	1.9	2.5	.6	2.2	30.5
<b>Manufacturing excluding:</b>															
Motor vehicles and parts		5.1	5.7	5.6	5.8	5.4	.4	.2	.7	.7	3.4	1.0	-.9	-1.9	5.9
Computer and office equipment		4.0	3.8	5.7	4.3	5.5	.7	.2	.6	1.0	5.6	.9	-.4	-2.1	5.7
Computers and semiconductors		3.2	2.8	4.1	2.7	4.1	.6	.2	.5	.9	5.6	.8	-.5	-2.4	4.3
Computers, communications eq. and semiconductors		3.0	2.8	4.0	2.4	3.9	.6	.1	.5	.9	5.8	.8	-.5	-2.5	4.2

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	1996 Proportion	1967- 1996 Ave.	1973 High	1978- 1980 High	1982 Low	1988- 1989 High	1990- 1991 Low	1996 Nov.	1997 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>
<b>Total industry</b>		100.00	82.1	89.2	87.3	71.1	85.4	78.1	82.5	82.3	82.6	82.8	82.8	82.9	83.2
<b>Manufacturing</b>		87.25	81.1	88.5	86.9	69.0	85.7	76.6	81.5	81.3	81.5	81.8	81.7	81.8	82.3
<b>Primary processing</b>		26.51	82.3	91.2	88.1	66.2	88.9	77.7	86.0	85.8	86.0	85.8	85.8	85.7	86.0
<b>Advanced processing</b>		60.74	80.5	87.2	86.7	70.4	84.2	76.1	79.5	79.4	79.6	80.0	79.8	80.1	80.6
<b>Durable</b>		47.47	79.4	89.2	87.7	63.9	84.6	73.1	80.7	80.7	80.8	81.4	81.1	81.1	81.7
Lumber and products	24	2.03	82.6	88.7	87.9	60.8	93.6	75.5	84.8	84.2	83.2	82.5	80.9	80.8	82.1
Furniture and fixtures	25	1.39	81.6	96.8	85.5	68.9	86.6	72.5	81.1	81.4	81.5	79.2	79.6	79.6	80.1
Stone, clay, and glass products	32	2.22	78.1	88.8	88.0	64.3	83.5	69.7	81.7	81.9	82.2	81.7	81.9	81.5	81.7
Primary metals	33	3.07	80.8	100.2	94.2	45.1	92.7	73.7	90.6	91.6	91.5	91.4	91.2	92.3	92.9
Iron and steel	331,2	1.68	80.7	105.8	95.8	37.0	95.2	71.8	89.9	90.3	89.7	89.1	90.9	92.1	92.7
Raw steel		.08	80.6	102.7	95.8	35.2	92.7	71.5	87.4	88.8	88.9	88.9	90.8	89.2	90.5
Nonferrous	333-6.9	1.39	81.2	90.8	91.1	60.1	89.3	74.2	91.6	93.3	93.8	94.3	91.8	92.8	93.2
Primary copper	3331	.07	74.3	93.4	81.5	42.1	86.3	73.5	84.9	88.0	96.4	96.2	95.7	93.2	
Primary aluminum	3334	.12	88.5	95.7	97.6	58.6	100.4	97.3	85.6	85.9	85.8	85.9	85.6	86.5	86.2
Fabricated metal products	34	5.30	77.9	87.8	83.9	63.7	82.0	71.9	80.6	79.0	79.1	78.9	79.1	79.2	79.4
Industrial machinery and equipment	35	8.49	81.3	96.0	93.2	64.0	85.4	72.3	85.0	84.0	85.0	86.1	84.4	84.6	84.7
Computer and office equip.	357	1.79	81.0	90.9	92.6	65.5	86.9	66.9	82.6	80.2	81.4	82.2	82.2	81.5	80.6
Electrical machinery	36	8.71	81.0	89.2	89.4	71.6	84.0	75.0	82.1	81.7	82.7	81.9	81.3	81.1	81.2
Transportation equipment	37	9.92	75.8	86.1	84.8	57.2	85.8	68.5	72.5	73.9	73.1	76.0	76.9	76.5	78.6
Motor vehicles and parts	371	5.74	76.6	93.4	95.0	45.5	89.1	55.9	73.2	72.3	70.7	75.2	76.2	75.2	78.3
Autos and light trucks <sup>1</sup>		2.79			94.6	40.6	92.3	53.3	77.4	76.0	71.2	80.1	81.6	80.3	84.6
Aerospace and misc.	372-6.9	4.18	75.1	78.4	81.9	66.6	87.3	79.2	71.4	75.9	76.4	76.9	77.8	78.2	78.7
Instruments	38	4.94	81.7	89.9	92.7	78.4	81.4	77.2	79.4	80.1	80.1	80.8	80.6	80.9	81.7
Miscellaneous	39	1.40	75.2	82.9	79.4	65.4	79.0	71.7	78.9	80.8	81.2	80.8	80.2	80.1	79.5
<b>Nondurable</b>		39.78	83.4	87.8	87.5	76.4	87.3	80.7	82.5	82.1	82.3	82.2	82.3	82.7	82.8
Foods	20	9.51	83.0	86.0	84.6	79.1	85.4	82.7	80.8	80.1	80.8	79.8	80.1	80.6	81.1
Textile mill products	22	1.55	85.5	91.4	91.2	72.3	90.4	77.7	83.2	83.1	84.2	84.1	84.5	83.8	84.2
Apparel products	23	1.99	81.2	84.2	87.5	77.5	85.1	75.5	77.0	75.8	75.8	75.4	75.4	75.9	75.8
Paper and products	26	3.36	89.3	97.1	96.1	80.6	93.5	85.0	88.5	88.9	90.8	90.8	90.1	90.2	91.2
Pulp and paper	261-3	1.50	92.4	97.2	98.3	82.0	98.0	89.9	92.3	91.7	93.8	94.7	94.0	95.3	
Printing and publishing	27	6.55	85.8	89.7	93.9	82.0	91.7	79.6	81.6	81.9	81.9	82.1	82.6	83.6	83.6
Chemicals and products	28	10.44	79.5	87.6	84.6	69.9	86.2	79.3	79.5	78.8	78.4	78.3	78.4	78.5	78.7
Plastics materials	2821	.78	86.5	102.0	90.9	63.4	97.0	74.8	92.8	92.0	94.4	92.0	93.6		
Synthetic fibers	2823,4	.34	85.0	93.8	98.6	64.4	99.7	77.6	90.4	84.3	90.9	85.8	89.4	87.9	
Petroleum products	29	1.59	86.3	96.7	90.0	66.8	88.5	85.1	94.2	96.9	94.7	95.2	95.4	96.0	93.6
Rubber and plastics products	30	3.42	84.8	95.5	91.2	72.7	89.6	77.4	87.6	86.9	86.8	87.9	87.3	87.0	87.6
Leather and products	31	.22	81.2	81.3	92.1	75.8	83.3	76.1	70.6	69.4	69.5	67.0	67.0	68.3	69.0
<b>Mining</b>		5.88	87.5	94.3	96.0	80.3	88.0	87.0	88.3	89.6	90.3	90.0	90.2	89.5	89.3
Metal mining	10	.42	78.6	89.6	87.9	44.4	89.4	79.9	89.7	93.2	89.1	89.7	89.1	91.1	90.7
Coal mining	12	.84	86.9	91.0	99.4	76.6	91.5	83.4	86.3	85.2	88.7	85.1	86.5	86.4	84.2
Oil and gas extraction	13	4.06	88.5	96.9	97.3	82.3	88.2	88.7	88.5	90.5	91.4	91.6	91.8	90.7	91.0
Oil and gas well drilling	138	.75	73.8	93.0	104.3	50.9	69.3	60.0	78.1	86.3	86.9	87.4	87.3	85.2	85.5
Stone and earth minerals	14	.56	84.8	95.0	92.7	63.3	89.0	79.4	88.5	87.1	84.5	85.7	84.0	83.5	82.9
<b>Utilities</b>		6.87	87.2	96.2	89.1	75.9	92.6	83.4	90.6	87.7	89.9	89.2	90.7	91.1	90.2
Electric	491,3pt	5.37	89.1	99.0	88.2	78.9	95.0	87.1	91.1	88.7	91.2	90.5	92.5	92.7	91.9
Gas	492,3pt	1.51	82.4	94.1	93.7	69.1	85.0	67.1	87.4	82.8	83.8	83.0	82.4	83.9	82.8

1. Series begins in 1977.

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					1996 Nov.	1997 June	July	Aug.	Sept.	Oct.	Nov.
		1967- 1997 Ave.	1967- 1975 Ave.	1975- 1997 Ave.	1993	1994	1995	1996	1997 <sup>p</sup>							
<b>Total industry</b>		3.0	3.8	2.7	2.3	3.9	5.0	4.5	4.7	146.1	150.2	150.7	151.3	151.9	152.4	153.0
<b>Manufacturing</b>		3.3	4.0	3.0	2.5	4.2	5.6	5.1	5.3	150.4	155.0	155.7	156.3	157.0	157.6	158.3
<b>Primary processing</b>		2.3	4.1	1.5	1.4	2.4	3.0	3.4	3.4	134.7	137.3	137.7	138.0	138.4	138.8	139.2
<b>Advanced processing</b>		3.8	4.0	3.8	3.0	5.2	6.9	5.9	6.3	158.2	164.1	164.9	165.7	166.5	167.3	168.1
<b>Durable</b>		3.8	3.7	3.8	3.1	6.1	8.5	7.4	8.0	167.2	175.0	176.1	177.2	178.3	179.4	180.6
Lumber and products	24	2.0	2.9	1.7	.8	3.0	3.9	4.5	4.0	135.8	139.1	139.5	140.0	140.4	140.9	141.3
Furniture and fixtures	25	3.2	4.5	2.6	2.3	2.5	4.0	6.0	4.8	147.5	151.8	152.3	152.9	153.5	154.1	154.7
Stone, clay, and glass products	32	1.5	2.5	1.1	.0	.9	2.4	3.4	3.7	143.6	146.6	147.1	147.5	148.0	148.4	148.9
<b>Primary metals</b>		.3	1.7	-.2	-.3	2.7	2.4	3.7	3.7	133.4	136.4	136.8	137.2	137.6	138.0	138.5
Iron and steel	331,2	-.4	.7	-.8	-.8	3.1	1.4	4.5	3.8	132.7	135.8	136.2	136.6	137.0	137.4	137.9
Raw steel		-.7	.3	-1.2	-4.3	1.4	3.3	2.7	6.1	125.4	129.4	130.0	130.7	131.3	132.0	132.7
Nonferrous	333-6,9	1.7	3.8	.8	.4	2.2	3.5	2.8	3.7	134.0	136.9	137.3	137.7	138.1	138.5	138.9
Primary copper	3331	.7	1.8	.2	6.3	3.2	8.3	-1.8	1.2	143.2	143.6	143.8	144.0	144.1	144.3	144.5
Primary aluminum	3334	1.2	5.2	-.4	.0	.5	.0	.2	.2	104.0	104.1	104.1	104.1	104.1	104.1	104.1
<b>Fabricated metal products</b>		1.9	3.1	1.4	2.7	2.5	4.1	4.7	5.1	149.9	154.2	154.9	155.5	156.2	156.8	157.5
Industrial machinery and equipment	35	5.4	4.7	5.7	4.9	8.6	11.0	11.4	11.6	188.1	200.9	202.7	204.4	206.2	208.1	210.0
Computer and office equip.	357	20.7	12.0	24.4	20.4	21.9	32.0	40.6	41.0	379.7	464.0	477.5	491.3	505.6	520.3	535.4
Electrical machinery	36	8.2	5.9	9.2	10.4	19.1	26.5	18.6	19.3	253.1	280.9	284.9	289.0	293.2	297.5	301.8
<b>Transportation equipment</b>		2.7	3.0	2.5	.7	3.4	3.8	2.3	3.5	150.2	153.0	153.5	153.9	154.3	154.8	155.2
Motor vehicles and parts	371	3.4	4.4	3.0	2.6	7.5	8.1	4.5	4.6	178.6	183.3	184.0	184.7	185.4	186.0	186.7
Autos and light trucks <sup>1</sup>					.0	5.9	5.7	.8	2.4	159.1	161.1	161.4	161.7	162.1	162.4	162.7
Aerospace and misc.	372-6,9	1.6	1.1	1.7	-1.7	-1.1	-1.2	-.7	2.1	122.5	123.6	123.9	124.1	124.3	124.5	124.8
Instruments	38	4.6	7.6	3.4	1.1	.0	.5	.8	1.9	133.4	134.7	134.9	135.1	135.3	135.5	135.7
Miscellaneous	39	2.3	4.4	1.5	1.9	1.9	2.9	3.2	3.2	153.0	155.9	156.3	156.8	157.2	157.6	158.0
<b>Nondurable</b>		2.8	4.3	2.2	1.8	2.0	2.4	2.4	2.2	132.9	134.5	134.7	135.0	135.2	135.5	135.7
Foods	20	2.4	3.0	2.2	1.8	2.1	2.9	2.5	2.4	133.9	135.8	136.1	136.3	136.6	136.9	137.1
Textile mill products	22	2.2	4.4	1.3	2.8	3.9	3.1	2.0	1.8	129.9	131.3	131.5	131.7	131.9	132.1	132.3
Apparel products	23	1.2	2.3	.7	.8	1.6	2.2	.1	.0	131.4	131.4	131.4	131.4	131.4	131.4	131.4
Paper and products	26	2.8	3.9	2.3	1.9	1.3	2.5	2.3	1.8	124.4	125.7	125.8	126.0	126.2	126.5	126.7
Pulp and paper	261-3	2.4	2.9	2.2	1.8	2.0	2.9	2.0	1.8	119.4	120.6	120.8	120.9	121.1	121.3	121.5
Printing and publishing	27	2.7	3.0	2.6	.0	.8	.7	1.0	.7	126.4	127.0	127.1	127.2	127.2	127.3	127.4
<b>Chemicals and products</b>		3.8	6.8	2.6	3.1	2.7	2.8	3.6	3.3	142.8	145.5	145.9	146.3	146.7	147.1	147.5
Plastics materials	2821	6.5	12.7	4.1	.1	6.2	5.3	6.6	5.5	134.3	138.7	139.4	140.0	140.6	141.2	141.9
Synthetic fibers	2823,4	3.8	9.7	1.5	.6	.4	.4	-.4	3.9	119.7	121.8	122.2	122.6	123.1	123.5	123.9
Petroleum products	29	1.5	4.2	.4	-.5	2.1	-.5	.4	1.8	113.8	114.8	115.0	115.2	115.4	115.6	115.7
Rubber and plastics products	30	5.4	8.4	4.1	3.4	4.4	5.1	4.4	4.2	141.1	144.6	145.0	145.5	146.0	146.5	147.0
Leather and products	31	-.3	-.5	-.4	-.2	-.1	-.2	-.3	-.2	108.4	106.6	106.4	106.1	105.9	105.6	105.4
<b>Mining</b>		.2	-.1	.3	.7	1.1	-.7	.4	.7	117.3	118.0	118.0	118.1	118.1	118.2	118.2
Metal mining	10	1.3	.5	1.6	1.4	-1.8	1.2	.5	.8	117.7	118.0	118.0	118.1	118.2	118.4	118.5
Coal mining	12	2.4	2.4	2.3	1.9	4.3	-.7	1.2	1.7	124.9	126.1	126.3	126.5	126.7	126.9	127.1
Oil and gas extraction	13	-.5	-1.0	-.3	-.2	.3	-1.2	-.1	.1	113.4	113.7	113.7	113.7	113.7	113.7	113.6
Oil and gas well drilling	138	.7	.8	.6	-1.0	-.6	-1.6	-1.2	1.1	174.2	174.9	175.1	175.2	175.4	175.6	175.7
Stone and earth minerals	14	1.4	2.6	.9	4.2	2.3	2.4	3.5	4.0	135.8	138.9	139.4	139.8	140.3	140.7	141.2
<b>Utilities</b>		2.8	6.1	1.5	.8	1.2	2.1	1.5	1.3	125.4	126.4	126.5	126.7	126.8	126.9	127.1
Electric	491,3pt	3.8	7.8	2.2	1.3	1.0	2.8	1.5	1.3	123.7	124.7	124.8	125.0	125.1	125.2	125.4
Gas	492,3pt	.4	2.3	-.4	.2	.4	.5	2.2	1.9	133.6	135.1	135.3	135.6	135.8	136.0	136.2

p. Preliminary estimate for current year.

1. Series begins in 1977.





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

Item	SIC	1996 IP Proportion	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Metal mining</b>	<b>10</b>	.44	105.9	109.9	105.2	106.0	105.4	107.8	105.9	113.1	106.5	107.8	108.4	106.5
Iron ore	101	.06	110.9	112.4	100.2	111.7	111.5		114.1	116.0	107.8	120.0	120.4	
Nonferrous ores	102-4,8,9	.38	105.2	109.5	106.0	105.1	104.4	106.6	104.7	112.7	106.4	106.0	106.7	105.4
Copper	102	.14	109.0	118.3	112.8	110.8	105.6	106.9	106.3	124.1	112.9	112.4	107.6	107.6
<b>Coal mining</b>	<b>12</b>	.87	115.9	107.4	112.1	107.7	109.5	109.6	109.6	106.5	104.0	111.3	112.1	111.6
<b>Oil and gas extraction</b>	<b>13</b>	4.51	103.4	102.9	103.9	104.1	104.4	103.1	102.9	102.3	103.0	103.1	103.8	102.9
Crude oil and natural gas	131	3.50	95.8	95.2	96.2	96.3	96.6	95.6	95.6	94.4	94.6	94.8	95.4	94.8
Crude oil, total		1.88	87.5	87.3	88.4	87.2	87.9	86.9	87.7	86.9	86.6	86.0	87.1	87.3
Natural gas		1.61	107.3	106.0	107.1	108.8	108.7		106.5	104.8	105.6	107.0	107.0	
Natural gas liquids	132	.24	108.6	109.4	110.3	109.9	110.3	110.4	108.6	109.6	110.5	110.2	111.6	112.1
Oil and gas well drilling	138	.77	150.7	150.9	152.1	153.2	153.1	149.7	148.6	151.1	155.5	155.3	155.8	152.7
<b>Stone and earth minerals</b>	<b>14</b>	.60	118.2	120.9	117.8	119.9	117.8	117.6	128.2	139.7	135.9	140.3	137.6	137.8
<b>Foods</b>	<b>20</b>	9.41	109.2	108.8	110.0	108.9	109.4	110.3	106.9	111.3	112.5	115.8	117.8	115.8
Meat products	201	1.34	113.4	112.6	114.4	114.4	112.1	114.2	113.2	116.6	110.9	117.3	114.7	119.9
Beef		.45	111.1	108.1	112.5	113.2	106.6	112.9	112.1	116.3	113.2	118.6	111.1	115.5
Pork		.28	95.8	99.3	101.8	100.2	102.7	102.9	91.2	95.6	90.7	96.4	104.0	110.8
Poultry		.60	128.0	126.5	126.0	126.5	124.8	124.7	128.5	130.8	122.5	130.3	125.6	130.9
Miscellaneous meats		.02	94.2	93.8	90.8	89.4	91.9	88.1	89.0	91.3	83.4	85.5	90.8	88.7
Dairy products	202	.81	103.1	104.0	106.1	105.4	104.9	104.2	111.7	113.3	107.1	101.8	98.7	97.1
Butter	2021	.01	86.2	84.9	91.1	85.9	86.3	76.6	89.8	75.9	69.8	63.8	70.8	71.5
Cheese	2022	.20	113.0	114.0	117.7	114.6	114.6	113.5	116.7	118.2	112.2	109.6	114.1	112.9
Concentrated milk	2023	.13	88.1	90.7	97.6	96.5	96.7	88.1	106.7	102.4	93.1	80.4	74.8	73.3
Frozen desserts	2024	.13	109.8	110.1	105.3	106.2	106.9	114.5	122.9	140.5	130.8	122.6	106.6	98.6
Milk and misc. dairy products	2026	.34	103.7	104.0	105.2	105.5	103.9	104.6	108.2	107.7	104.1	102.2	100.6	101.0
Canned and frozen food	203	1.26	102.9	102.7	104.7	98.2	101.0	100.1	96.1	100.2	107.0	115.1	124.6	112.6
Grain mill products	204	1.42	118.5	118.2	119.7	117.8	119.0	118.7	116.4	117.0	119.2	120.5	124.3	123.7
Bakery products	205	1.03	102.6	101.6	105.6	103.1	104.1	104.6	99.6	106.4	115.1	114.7	116.7	108.4
Sugar and confectionery	206	.63	108.4	107.0	102.8	106.0	105.7	107.8	93.2	95.7	91.8	103.7	113.4	126.3
Fats and oils	207	.24	97.9	98.0	97.7	97.4	98.0	104.6	94.1	94.4	88.8	91.5	95.3	109.2
Beverages	208	1.67	111.0	110.6	110.3	111.9	113.5	114.7	112.1	120.0	120.3	123.3	122.2	118.6
Beer and ale	2082,3	.55	102.2	106.4	102.4	102.4			111.1	121.2	114.0	108.9		
Soft drinks	2086,7	.92	120.7	117.2	119.3	122.0	126.4	129.0	117.8	125.2	134.2	139.6	145.8	134.7
Coffee and miscellaneous	209	1.02	112.7	113.1	114.5	113.5	113.1	114.9	107.9	115.5	122.3	124.5	124.0	119.4
Roasted coffee	2095	.13	93.2	87.2	88.0	85.4	84.0		87.3	76.8	81.1	86.0	78.6	
<b>Tobacco products</b>	<b>21</b>	1.29	111.5	109.0	110.5	112.5	112.0	113.6	106.7	124.0	94.3	123.7	115.0	124.1
<b>Textile mill products</b>	<b>22</b>	1.56	107.2	109.1	110.7	110.7	111.4	110.7	109.8	115.2	107.6	114.6	114.0	116.4
Fabrics	221-4	.39	106.7	108.3	114.3	108.0	111.5	112.9	111.6	109.5	105.9	109.8	109.1	115.7
Cotton and synthetic	221,2	.32	104.5	106.0	112.6	105.0	109.3		108.7	105.9	103.6	108.6	108.3	
Narrow fabrics	224	.04	111.6	110.1	110.8	109.6	109.2	111.0	112.7	113.7	104.9	111.5	111.8	110.6
Knit goods	225	.42	108.8	108.8	111.6	112.7	112.7	112.4	113.9	122.2	113.4	121.2	121.8	121.7
Knit garments	2253,4,7-9	.31	110.2	110.3	114.3	114.0	113.0	113.4	114.4	121.6	119.2	130.7	127.1	118.1
Fabric finishing	226	.15	87.1	90.8	95.3	86.3	87.7		91.3	89.6	86.7	90.9	86.5	
Carpeting	227	.20	109.1	114.3	101.0	117.6	108.7	107.2	100.1	124.8	107.1	118.0	113.3	120.8
Yarns and miscellaneous	228,9	.40	113.5	115.3	117.4	118.1	121.2	118.1	116.3	119.2	111.8	120.2	122.4	119.6
Cotton and synthetic yarns	2281,2,4	.19	107.2	110.2	113.5	114.0	120.2	113.7	113.0	115.1	105.8	117.1	120.0	115.7
<b>Apparel products</b>	<b>23</b>	1.89	99.8	99.6	99.7	99.1	99.1	99.7	99.8	102.2	97.5	102.1	102.2	101.4
<b>Lumber and products</b>	<b>24</b>	2.09	116.4	117.0	116.1	115.4	113.6	113.8	115.1	120.7	114.3	119.6	119.1	120.4
Logging and lumber	241,2	.82	109.4	110.4	108.3	109.5	107.0	106.9	105.7	114.9	107.4	113.8	114.5	115.0
Logging	241	.29	94.4	93.4	93.3	91.9	93.0	93.7	90.3	96.1	98.1	101.4	102.3	100.7
Lumber products	243-5,9	1.27	121.8	122.1	122.0	120.0	118.7	119.1	122.1	125.2	119.7	124.2	122.7	124.6
Millwork and plywood	243	.68	117.4	117.9	118.2	116.0	117.0	117.7	118.7	121.2	119.2	120.4	120.5	120.9
Plywood	2435,6	.16	104.3	105.9	104.5	100.2	102.6	101.1	106.5	108.9	102.2	103.8	105.9	104.7
Manufactured homes	245	.22	141.9	139.1	143.5	139.5	137.2	141.3	146.0	151.2	128.9	153.1	145.9	157.7

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	1996 IP Proportion <sup>1</sup>	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Furniture and fixtures</b>	<b>25</b>	1.37	123.3	123.5	124.2	121.1	122.2	122.7	119.6	124.5	122.4	129.8	129.2	124.0
Household furniture	251	.63	120.6	120.6	121.6	117.7	119.2	119.5	117.0	121.3	114.8	124.1	124.9	121.0
<b>Paper and products</b>	<b>26</b>	3.48	112.6	111.7	114.2	114.4	113.7	114.0	110.9	113.3	113.0	115.4	113.4	115.6
Pulp and paper	261-3	1.60	111.6	110.6	113.3	114.5	113.8	115.6	110.6	112.2	112.6	115.1	113.2	115.2
Wood pulp	261	.14	100.5	100.2	101.6	104.7	103.3		98.0	101.0	104.2	104.3	102.8	
Paper	262	.95	110.5	109.6	111.2	111.1	110.9		108.9	110.2	110.1	112.3	109.7	
Paperboard	263	.51	116.9	115.6	120.9	124.0	122.6		117.4	119.3	119.8	123.7	123.0	
Paper products	265.7	1.88	113.2	112.4	114.8	114.1	113.4	112.5	111.0	113.9	113.0	115.4	113.3	115.8
Paperboard containers	265	.66	116.1	119.0	117.2	118.9	118.9	112.8	111.4	122.3	115.9	120.0	120.2	124.5
Converted paper products	267	1.22	111.6	109.0	113.4	111.6	110.5	112.2	110.5	109.4	111.2	112.7	109.6	111.2
<b>Printing and publishing</b>	<b>27</b>	6.49	104.5	104.1	104.1	104.4	105.1	106.4	101.5	105.3	108.3	111.0	111.5	109.5
Newspapers	271	1.50	97.0	95.9	95.1	95.5	96.7	97.8	94.7	94.3	92.4	90.7	97.3	106.1
Periodicals, books, and cards	272,3,7	2.04	109.7	111.0	111.5	111.5	112.0	113.8	109.8	110.4	111.4	112.5	112.0	111.5
Job printing	274-6,8,9	2.95	105.1	103.9	104.1	104.6	105.1	106.2	99.7	107.8	115.1	121.1	118.9	109.8
<b>Chemicals and products</b>	<b>28</b>	9.97	114.5	114.6	114.3	114.5	115.0	115.5	113.1	117.6	118.6	119.8	121.1	117.1
Industrial chemicals and synthetic materials	281,2,6	3.81	111.4	111.1	112.2	111.1	112.9	112.5	111.9	111.9	111.0	110.5	113.8	112.4
Basic chemicals	281	.79	92.3	91.9	90.0	89.2	91.1	90.3	92.2	93.4	87.5	89.7	93.2	92.3
Alkalies and chlorine	2812	.07	113.9	115.5	118.6	117.2	118.9	117.5	110.6	117.3	118.4	119.4	118.8	117.7
Inorganic pigments	2816	.08	92.9	92.9	104.7	91.4	98.6	101.9	94.5	96.2	101.5	90.8	97.0	96.8
Inorganic chemicals, nec	2819	.50	86.5	85.6	80.4	81.4	83.0	81.4	86.4	87.3	77.4	81.6	85.9	85.0
Acids and other		.35	101.2	100.0	99.4	99.2	99.3	99.6	98.7	102.7	94.8	99.7	103.8	105.2
Synthetic materials	282	1.39	119.0	119.0	123.9	121.1	125.3	124.8	120.4	121.0	121.6	119.6	125.4	126.1
Plastics materials	2821	.90	127.3	127.6	131.6	128.8	131.5		128.5	129.4	128.9	126.5	131.9	
Synthetic fibers	2823,4	.36	101.5	102.7	111.1	105.3	110.0	108.6	102.3	104.5	109.4	103.9	110.2	110.8
Industrial organic chemicals	286	1.63	116.8	116.3	116.2	116.1	116.0	115.8	117.1	115.9	116.5	115.8	116.8	113.5
Chemical products	283-5,9	5.54	117.9	118.1	116.8	118.2	117.6	118.9	114.7	123.4	126.0	128.7	128.3	121.7
Drugs and medicines	283	2.96	121.7	119.2	116.7	120.0	118.7	120.8	117.2	125.7	128.2	132.6	132.7	124.2
Soap and toiletries	284	1.54	114.2	118.5	118.2	118.0	116.6	118.5	109.5	121.0	126.2	128.3	126.6	120.6
Paints	285	.44	106.0	104.6	103.9	104.2	104.4	104.8	115.6	120.3	109.4	110.5	107.6	110.0
Agricultural chemicals	287	.62	104.4	104.7	105.2	103.8	104.4	104.8	105.3	102.8	102.2	101.2	103.5	105.5
<b>Petroleum products</b>	<b>29</b>	1.83	111.4	111.3	108.9	109.7	110.1	111.0	113.5	115.9	113.4	114.4	114.4	111.4
Petroleum refining and misc.	291,9	1.65	110.5	110.5	108.0	109.3	109.5	110.5	112.5	114.6	111.9	112.9	112.7	109.6
Miscellaneous petroleum products		.36	114.1	110.6	108.9	108.6	109.5	110.8	121.8	124.6	123.4	123.8	119.4	109.9
Distillate fuel oil		.30	117.7	118.0	114.4	116.0	112.9	115.5	118.6	118.3	113.1	115.3	116.1	118.6
Residual fuel oil		.06	71.5	84.2	76.1	71.8	77.5	81.9	69.2	81.4	72.3	72.1	77.1	77.1
Aviation fuel and kerosene		.15	112.2	114.0	114.2	115.0	114.4	111.5	107.6	112.6	115.9	114.2	115.1	110.8
Automotive gasoline		.78	108.9	109.0	106.6	109.1	109.9	110.6	110.5	111.8	108.7	110.3	111.1	109.0
Paving and roofing materials	295	.18	118.2	116.5	114.6	110.5	113.0	112.3	120.2	125.1	124.9	125.6	127.6	126.4
<b>Rubber and plastics products</b>	<b>30</b>	3.68	125.4	125.6	126.0	127.9	127.6	127.4	124.8	127.7	121.8	129.2	129.3	129.3
Tires	301	.33	117.3	123.9	125.5	131.5	125.1	118.7	115.2	128.9	107.6	132.3	125.3	127.2
Other rubber products	302,5,6	.64	121.1	121.8	122.8	123.7	124.4	126.3	119.4	125.4	123.6	130.6	130.0	128.9
Plastics products, nec	308	2.70	127.6	127.0	127.0	128.7	128.8	128.9	127.4	128.3	123.3	128.6	129.8	129.8
<b>Leather and products</b>	<b>31</b>	.19	75.3	74.0	74.0	71.2	70.9	72.1	75.4	76.1	69.8	72.4	72.7	73.3
Shoes	314	.08	74.0	71.7	71.3	69.9	69.2	70.0	73.9	73.8	67.6	71.7	70.5	71.3
<b>Stone, clay, and glass products</b>	<b>32</b>	2.20	119.4	120.0	120.9	120.5	121.2	120.9	120.6	124.3	121.8	125.2	125.4	125.6
Pressed and blown glass	322	.30	100.1	100.3	103.2	101.8	105.6	101.5	101.9	104.3	104.8	105.3	105.8	104.4
Glass containers	3221	.12	72.4	72.2	74.2	75.7	79.5	74.9	75.5	79.0	77.7	78.2	77.0	77.2
Cement	324	.18	123.2	121.6	125.6	121.3	127.0		135.4	147.1	143.7	148.7	150.0	
Structural clay products	325	.10	135.0	133.6	132.6	132.5	131.5	130.5	143.6	143.8	125.1	136.1	133.7	133.7
Concrete and miscellaneous	326-9	1.31	123.0	124.6	124.3	125.1	124.2	124.5	122.4	126.5	123.7	127.3	127.2	127.0

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	1996 IP Proportion <sup>1</sup>	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>
<b>Instruments</b>	<b>38</b>	4.76	107.6	107.9	108.0	109.2	109.1	109.6	105.7	109.5	109.4	111.4	112.3	110.0
Scientific and medical	381-4	3.89	106.4	106.5	106.7	107.8	107.5	108.6	104.1	108.3	108.6	110.7	111.4	108.9
Medical instruments	384	1.45	109.4	109.7	110.5	112.5	112.3	114.4	105.2	115.0	120.0	122.9	123.3	115.9
<b>Misc. manufactures</b>	<b>39</b>	1.34	125.5	126.0	127.0	126.7	126.1	126.3	124.7	126.3	121.7	127.1	129.0	130.1
Consumer goods	391,3,4,6	.66	123.4	122.9	124.4	122.8	122.2	121.3	122.5	121.9	116.5	122.1	124.9	126.2
Business supplies	395,9	.68	127.7	129.1	129.7	130.6	130.1	131.4	127.0	130.6	126.9	132.1	133.0	134.0
<b>Electric utilities</b>	<b>491,3pt</b>	6.08	110.4	110.7	113.8	113.1	115.7	116.1	102.4	114.7	128.9	126.5	118.0	106.9
Generation		2.43	109.0	110.8	112.7	112.2	115.4	115.7	104.6	117.5	125.8	122.5	113.1	104.1
Fossil fuel		1.15	108.2	108.8	113.1	108.7	118.3		99.5	114.4	132.1	126.6	120.8	
Hydro and nuclear		1.27	109.9	113.0	112.5	115.8	113.0		109.8	120.7	120.3	119.1	106.2	
Sales		3.66	111.4	110.6	114.7	113.8	116.0	116.4	100.9	113.0	131.2	129.5	121.6	109.1
Residential		1.56	110.6	108.1	116.0	115.8	116.5		90.6	107.0	139.9	136.8	121.3	
Nonresidential		2.10	112.0	112.4	113.8	112.3	115.8	116.1	108.4	117.3	124.9	124.3	121.9	116.1
Commercial and other		1.30	115.6	116.1	118.7	116.0	120.4		109.2	121.7	135.0	131.7	128.7	
Industrial		.80	106.7	107.1	106.8	107.1	109.1		107.3	110.8	110.0	113.5	111.9	
<b>Gas utilities</b>	<b>492,3pt</b>	1.60	117.1	111.9	113.5	112.5	111.9	114.0	85.5	63.3	62.0	60.0	59.3	79.1
Residential		.73	115.6	106.5	106.7	105.4			73.2	40.9	33.5	30.2		
Commercial and other		.27	122.2	118.7	113.4	120.1			88.6	62.9	58.2	59.1		
Gas transmission		.48	112.3	110.9	117.6	113.6			97.0	86.5	93.3	91.8		

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	1996	1996 Q2	Q3	Q4	1997 Q1	Q2	Q3 <sup>f</sup>	1997 June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>f</sup>	Nov. <sup>p</sup>
<b>Products, total</b>	2001.9	2288.5	2288.2	2304.6	2317.4	2343.8	2361.5	2390.0	2365.3	2368.4	2402.0	2399.4	2411.4	2431.6
<b>Final products</b>	1552.1	1786.7	1788.9	1800.0	1805.9	1828.0	1840.7	1868.7	1844.6	1849.1	1879.3	1877.7	1887.0	1903.4
Consumer goods	1049.6	1174.6	1177.3	1177.9	1182.5	1188.3	1190.7	1200.3	1190.2	1191.0	1205.2	1204.7	1211.9	1217.4
Durable	238.3	301.4	307.2	308.7	302.2	309.4	305.4	311.9	308.1	302.0	316.5	317.1	314.6	323.8
Automotive products	123.8	154.9	158.8	160.7	154.4	160.5	154.7	159.9	157.4	148.7	164.2	166.6	164.5	171.9
Other durable goods	114.4	146.8	148.6	148.1	148.2	149.1	151.1	152.3	151.0	154.2	152.4	150.3	150.1	151.6
Nondurable	811.3	873.5	870.8	869.7	880.3	879.3	885.4	888.9	882.4	888.6	889.5	888.5	897.6	894.8
Equipment, total	502.5	611.4	610.8	621.4	622.7	639.3	649.6	668.2	654.1	657.8	674.0	672.9	675.0	686.2
Business and defense	483.9	585.2	583.9	594.9	597.2	612.3	621.8	640.5	626.5	629.7	646.3	645.3	647.8	659.0
Business	399.2	519.6	518.1	529.2	531.9	547.9	557.4	577.0	561.9	566.2	582.7	582.0	584.3	595.4
Defense and space	84.7	65.5	65.7	65.7	65.2	64.5	64.5	63.7	64.7	63.7	63.8	63.6	63.7	63.9
<b>Intermediate products</b>	449.9	502.3	500.0	505.2	511.7	516.1	521.1	522.1	521.0	519.9	523.7	522.8	525.3	529.2
Construction supplies	177.2	207.9	207.1	210.9	212.4	214.3	216.6	215.6	217.0	215.0	217.5	214.1	215.8	218.1
Business supplies	272.7	294.1	292.6	294.0	299.0	301.6	304.2	306.2	303.7	304.6	305.8	308.3	309.2	310.8
Commercial energy products	70.4	79.7	79.3	79.2	80.8	80.3	81.9	82.0	81.7	81.9	81.5	82.6	82.5	82.7

**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>												
1995	58.9	43.8	49.8	44.2	51.7	49.8	49.8	59.6	57.0	43.0	51.3	47.2
1996	38.9	63.8	56.6	57.4	59.6	61.9	54.0	55.5	54.3	50.6	57.0	56.4
1997	50.2	64.9	54.0	54.2	50.2	52.8	57.2	52.3	54.0	60.4		
<b>Three Months Earlier</b>												
1995	69.8	58.9	52.1	47.5	47.5	52.5	52.5	56.2	61.5	55.5	49.4	47.9
1996	43.0	53.6	54.0	69.1	66.0	67.5	62.3	60.8	56.6	58.1	55.8	58.9
1997	53.2	63.0	58.9	63.0	54.7	52.8	55.1	59.3	55.5	54.9		
<b>Six Months Earlier</b>												
1995	67.9	66.8	62.6	61.1	55.8	50.6	43.8	50.6	55.5	49.4	54.3	52.5
1996	48.7	49.4	55.5	58.9	61.5	69.1	67.5	63.8	66.0	60.4	60.8	57.0
1997	63.0	65.3	64.2	60.8	59.1	61.5	63.9	60.8	60.1	60.8		

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 (continued)**  
**ELECTRIC POWER USE: MANUFACTURING AND MINING**

Item	1987 SIC	1992 Billion KWH	Index, 1992 = 100											
			Seasonally adjusted						Not seasonally adjusted					
			1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>P</sup>	1997 May	June	July	Aug. <sup>f</sup>	Sept. <sup>f</sup>	Oct. <sup>P</sup>
<b>Chemicals and Products (cont.)</b>														
Synthetic materials	282	29.2	112.3	111.8	112.7	112.1	109.4	109.0	112.0	113.6	114.9	114.9	111.6	109.6
Plastics materials	2821	18.3	127.7	125.3	128.9	128.3	129.6	131.5	126.6	128.0	131.2	131.3	132.4	130.5
Drugs and medicines	283	6.7	133.2	130.5	127.9	130.8	129.4	134.4	128.3	137.7	140.6	144.6	144.8	138.3
Soap and toiletries	284	3.0	106.8	110.8	110.4	110.2	108.5	110.7	102.5	113.1	117.9	119.9	117.8	112.7
Industrial organic chemicals	286	39.2	112.8	116.0	115.0	121.9	123.8	122.6	112.3	115.0	114.6	124.4	126.3	124.4
Agricultural chemicals	287	9.7	116.0	112.7	112.9	112.7	114.0	114.1	117.0	112.4	112.4	112.3	112.6	113.0
<b>Petroleum products</b>	<b>29</b>	47.0	109.8	104.4	106.3	106.3	104.4	109.6	107.6	105.8	108.3	109.0	108.6	109.1
<b>Rubber and plastics products</b>														
Tires	301	4.3	108.2	105.3	108.4	104.0	107.2	108.2	105.6	108.5	110.4	112.7	115.4	111.8
Rubber products, nec	306	3.2	112.3	112.6	113.3	114.8	114.6	116.0	110.6	115.9	114.1	121.2	120.0	118.5
Plastics products, nec	308	28.9	128.6	126.4	128.7	125.9	125.2	126.3	128.3	130.9	129.9	130.5	131.0	129.1
<b>Leather and products</b>														
Shoes	314	.3	82.4	80.5	83.5	77.7	75.2	82.0	79.6	85.1	86.5	87.6	85.4	83.3
<b>Stone, clay, &amp; glass products</b>														
Flat glass	321	1.5	103.1	109.4	107.4	99.7	103.6	101.6	103.2	111.4	108.5	102.8	107.4	103.3
Pressed and blown glass	322	7.3	102.5	102.7	105.5	101.9	105.5	101.0	102.9	103.6	105.2	105.4	107.8	103.6
Cement	324	9.6	112.5	112.7	109.7	113.7	108.8	106.4	115.8	118.0	112.5	120.4	114.1	114.0
Structural clay products	325	1.4	105.6	105.1	106.1	102.7	104.5	99.1	107.1	107.5	106.8	104.8	107.6	100.4
Concrete products	327	4.7	110.5	111.0	113.6	111.6	110.7	112.0	110.7	113.1	113.4	114.3	114.3	114.6
<b>Primary metals</b>														
Basic steel and mill products	331	57.0	110.8	110.7	111.2	110.5	111.0	113.5	113.9	111.2	106.2	109.6	108.8	112.6
Iron and steel foundries	332	9.9	111.3	112.9	110.1	110.6	111.3	109.4	111.0	111.9	104.1	106.4	114.5	112.9
Primary nonferrous metals	333	66.2	73.8	75.0	75.5	76.6	77.3	76.1	76.1	75.9	76.7	76.8	75.5	76.6
Aluminum	3334	60.3	60.8	58.6	59.7	64.6	66.4	64.4	65.9	63.3	63.7	63.9	63.5	64.4
Nonferrous foundries	336	2.7	117.3	116.9	120.7	126.7	128.1	128.5	116.3	116.3	114.6	126.7	131.4	131.9
<b>Fabricated metal products</b>														
Metal containers	341	2.9	111.3	105.5	109.4	108.3	107.1	108.1	110.0	108.5	112.5	110.2	111.6	108.1
Hardware, tools, and cutlery	342	2.7	110.0	106.0	108.2	108.4	108.5	112.0	107.1	108.8	111.2	115.2	115.8	113.3
Structural metal products	344	5.4	111.6	109.8	112.7	115.3	111.6	114.3	109.7	109.4	113.2	117.2	114.5	114.1
Fasteners	345	1.7	112.8	116.5	114.8	110.8	113.4	113.0	110.5	118.5	115.9	116.9	119.8	114.7
Metal stampings	346	6.7	121.9	117.7	118.3	118.3	117.2	121.1	121.8	121.2	114.7	120.2	122.9	123.4
<b>Industrial machinery and equipment</b>														
Engines and turbines	351	2.6	105.0	105.1	110.3	103.6	103.3	105.7	104.9	107.2	104.3	109.6	108.4	106.2
Farm	352	2.0	107.3	103.8	114.7	109.7	111.3	110.9	109.2	103.5	105.8	106.4	108.9	106.3
Construction and allied	353	3.8	103.6	101.6	105.3	105.5	102.8	109.7	102.0	105.1	111.2	110.9	110.9	107.8
Metalworking	354	4.1	105.9	105.7	110.2	111.7	109.0	112.1	103.6	108.1	114.6	120.6	117.4	112.8
Special industry	355	2.4	122.9	123.2	125.0	120.3	123.9	124.1	119.5	125.9	131.4	130.5	133.5	125.3
General industrial	356	5.2	108.6	108.8	113.2	109.2	108.9	112.2	107.3	111.7	115.8	117.5	116.9	112.6
Computer and office equip.	357	5.1	84.4	82.4	85.3	88.2	87.8	86.5	82.2	86.7	93.1	92.4	91.7	87.0
Service industry machines	358	3.5	107.4	106.1	110.3	107.8	106.8	109.3	108.5	111.8	116.1	116.8	115.2	109.9
<b>Electrical machinery</b>														
Electrical distribution	361	1.3	94.0	95.3	93.7	92.5	92.2	90.0	90.6	97.3	98.3	102.2	101.0	91.6
Electrical industrial	362	4.0	95.9	94.2	94.1	92.7	91.1	94.3	95.4	97.0	97.6	96.4	95.0	94.0
Household appliances	363	2.4	95.6	96.7	96.4	92.1	96.5	95.8	95.9	98.9	98.0	96.7	100.3	97.0
Lighting and wiring products	364	3.0	110.7	107.5	112.5	115.4	114.2	116.4	110.8	112.7	113.5	118.0	120.2	118.4
TV and radio sets	365	.8	127.3	122.3	122.8	119.4	122.6	125.6	125.3	124.3	125.6	130.2	130.8	129.0
Communication equipment	366	3.3	103.6	104.0	106.9	104.8	104.1	108.3	99.8	108.7	115.3	114.9	114.9	108.2
Electronic components	367	14.5	124.0	122.8	125.8	123.4	124.8	127.7	121.5	127.0	131.7	132.5	133.8	128.7
<b>Transportation equipment</b>														
Motor vehicles and parts	371	22.8	121.0	118.6	116.7	117.3	120.4	126.8	120.0	124.7	116.7	125.8	129.3	128.2
Aircraft and parts	372	10.7	89.7	89.4	93.3	92.6	92.6	92.9	88.4	93.1	96.9	99.1	98.5	94.4
Ships and boats	373	2.2	86.8	85.2	80.0	82.6	82.1	86.0	84.2	85.5	81.3	83.7	83.1	84.1
<b>Instruments</b>														
Photographic equip. & supplies	386	1.8	93.3	90.4	95.3	91.1	91.2	84.6	90.5	92.0	98.7	97.8	96.0	87.3
<b>Miscellaneous manufactures</b>														
	<b>39</b>	4.5	122.7	121.6	127.7	124.5	122.7	130.4	122.2	126.1	132.8	134.6	132.1	131.9
<b>SUPPLEMENTARY GROUPS</b>														
Total, excluding nuclear nondefense		909.8	106.6	106.2	106.9	106.1	106.6	107.5	105.7	108.0	108.0	110.4	110.5	108.6
Utility sales to industry		835.3	106.2	106.3	106.1	105.7	106.4	106.0	105.9	108.0	106.8	109.4	110.1	107.3
Industrial generation		98.8	102.4	100.5	99.7	100.2	100.2	103.5	99.7	97.8	101.0	101.5	98.4	104.2

## 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. Data in the release and historical data are available under statistical releases at <http://www.bog.frb.fed.us>, the Board's World Wide Web site. These data are also available on line on the day of issue through the Economic Bulletin Board of the Department of Commerce. For information, call (202) 482-1986. 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 1997; for other series, the factors were estimated with data through at least June 1997. 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 1987-96 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 1987-96 period. In most cases (about 81 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 December 9, 1997 will be described more completely in the February 1998 *Federal Reserve Bulletin*.

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). The basic methodology used to estimate capacity and utilization is discussed in the June 1990 *Federal Reserve Bulletin*.

### Release Schedule for 1998

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