

FEDERAL RESERVE statistical release



G.17 (419)

For release at 9:15 a.m. (EST)
December 14, 1995

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production rose 0.2 percent in November after having fallen 0.3 percent in October. The strike at a major aircraft producer reduced the growth rate for total output about 0.2 percentage point in October and about 0.1 percentage point in November; the effects of the strike were concentrated in business equipment and in durable goods materials. In November, small gains in production occurred in consumer goods, equipment, and materials. At 122.8 percent of its 1987 average, industrial production in November was 1.9 percent higher than it was in November 1994. Capacity utilization edged down about 0.1 percentage point, to 83.1 percent.

Market Groups

Among consumer goods, the output of durables rose 1.0 percent as light truck production rebounded and appliance output increased. The production of nondurable consumer goods increased 0.2 percent, reflecting a weather-related jump in utility output for residential use; in other categories of this sector, production again was little

(over)

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION: SUMMARY

Seasonally adjusted

	Index, 1987=100				Percent change				Nov. 94 to Nov. 95
	1995 Aug. ^f	Sept. ^f	Oct. ^f	Nov. ^P	1995 Aug. ^f	Sept. ^f	Oct. ^f	Nov. ^P	
Industrial Production									
Total index	122.7	122.9	122.5	122.8	1.0	.2	-.3	.2	1.9
Previous estimates	122.9	123.0	122.5		1.1	.1	-.4		
Major market groups:									
Products, total	119.2	119.4	118.7	119.0	1.0	.2	-.5	.2	1.3
Consumer goods	115.9	115.9	115.4	115.8	1.1	.0	-.4	.3	.8
Business equipment	157.5	158.3	156.8	157.6	1.1	.5	-1.0	.5	4.9
Construction supplies	107.0	108.8	108.5	108.0	-.3	1.8	-.3	-.5	-.7
Materials	128.1	128.3	128.4	128.7	1.0	.2	.1	.3	2.8
Major industry groups:									
Manufacturing	124.2	124.9	124.7	124.9	.7	.6	-.2	.2	1.7
Durable	133.2	134.5	133.8	134.3	1.3	1.0	-.5	.4	3.7
Nondurable	114.3	114.3	114.5	114.4	.0	.0	.2	-.2	-.7
Mining	100.0	100.0	98.9	98.8	-.8	.1	-1.2	.0	-1.1
Utilities	128.8	123.1	122.5	124.1	5.0	-4.5	-.4	1.3	6.3
	Percent of Capacity								Capacity growth
Capacity Utilization	Average 1967-94	1982 Low	1988-89 High	1994 Nov.	1995 Aug. ^f	Sept. ^f	Oct. ^f	Nov. ^P	Nov. 94 to Nov. 95
Total industry	82.0	71.8	84.9	84.6	83.8	83.7	83.2	83.1	3.8
Previous estimates					83.9	83.7	83.2		
Manufacturing	81.3	70.0	85.2	84.2	82.6	82.8	82.3	82.2	4.3
Advanced processing	80.7	71.4	83.5	82.1	81.2	81.1	80.7	80.5	4.8
Primary processing	82.5	66.8	89.0	89.1	86.1	86.8	86.4	86.0	2.8
Mining	87.4	80.6	86.5	89.2	89.2	89.3	88.2	88.2	.1
Utilities	86.7	76.2	92.6	87.0	95.3	90.9	90.5	91.5	1.0

changed, held down by continuing weakness in the output of clothing. The production of business equipment increased 0.5 percent, led by another substantial rise in the output of information processing equipment, particularly computers. The production of industrial equipment, which had eased in September and October, picked up. The decline in the output of transit equipment mainly reflected a further strike-related loss in aircraft and parts. The production of construction supplies declined on average about 0.4 percent in the last two months, reversing about half the sharp gain in September. Materials output rose 0.3 percent, held down by weakness in nondurable materials, mainly paper. The production of durables materials rose 0.5 percent, led by gains in the output of parts for the high-technology industries. The output of energy materials rose noticeably as a weather-related increase in utility production and an increase in crude oil output more than offset another sharp decline in coal mining.

Industry Groups

Manufacturing output rose 0.2 percent after having dipped the same amount in October. The production of durables increased 0.4 percent, boosted by another large gain in the output of industrial machinery and computer equipment; the only significant decline among the major industries was in the strike-affected aerospace industry. The output of nondurable goods remained sluggish overall because of ongoing weakness in paper, apparel, and textiles; over the past few months, only chemicals and rubber and plastic products have, on balance, posted noticeable gains. In mining, output was flat, while production at utilities rose in response to the unusually cold weather.

The utilization rate in manufacturing eased 0.1 percentage point in November, to 82.2 percent. Utilization rates declined a bit in both the primary- and advanced-processing industries. Among the primary-processing industries, the drop in utilization was concentrated in paper and in lumber. Among the advanced-processing industries, the utilization rate in aerospace and miscellaneous transportation equipment fell sharply; changes in most other industries were relatively small. Since the beginning of 1995, utilization rates for most manufacturing industries have eased with the exception of industrial machinery and computer equipment. In mining, the utilization rate was unchanged in November, while the operating rates at utilities moved higher at both electric and gas plants.

NOTICE

An annual revision to industrial production, capacity, and capacity utilization was published on November 30, 1995. The revisions to the production indexes begin with January 1991, and incorporate updated figures from the 1992 *Census of Manufactures*, new results from the 1993 *Annual Survey of Manufactures*, more comprehensive physical data on mining and utilities for 1994, and updated monthly source data, seasonal factors, and productivity relationships.

The revision to capacity and utilization reflects the revised production indexes and the incorporation of preliminary results of the Census Bureau's 1994 *Survey of Plant Capacity*, updated manufacturing capital stocks, and new data on physical capacity and utilization for selected industries. The estimates of capital stocks incorporate data on manufacturing investment in 1993 from the *Annual Survey of Manufactures* as well as investment plans for 1994 and 1995 reported in the Census Bureau's *Investment Plans Survey*.

Diskettes containing either historical data (through 1985) or more recent data (1986 to those most recently published in the G.17 statistical release) are available from Publications Services, Board of Governors of the Federal Reserve System, Washington, DC 20551 (202-452-3245). Files containing the revised data and the text and tables from this release are also available through the Economic Bulletin Board of the Department of Commerce; for information, call 202-482-1986.

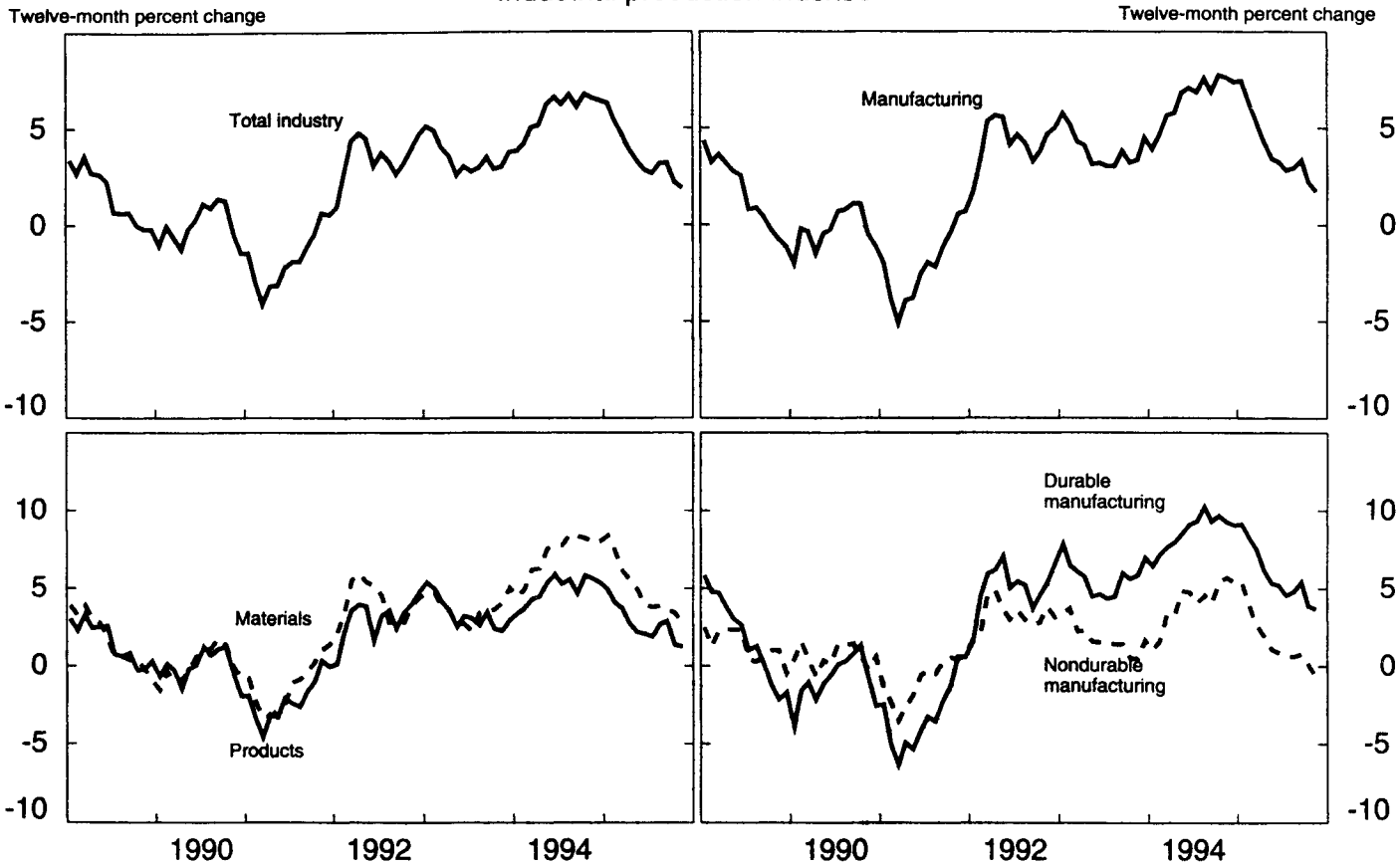
A document with printed tables of the revised estimates of series shown in G.17 release is available upon written request to the Industrial Output Section, Mail Stop 82, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551.

INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Seasonally adjusted

November data

Industrial production indexes

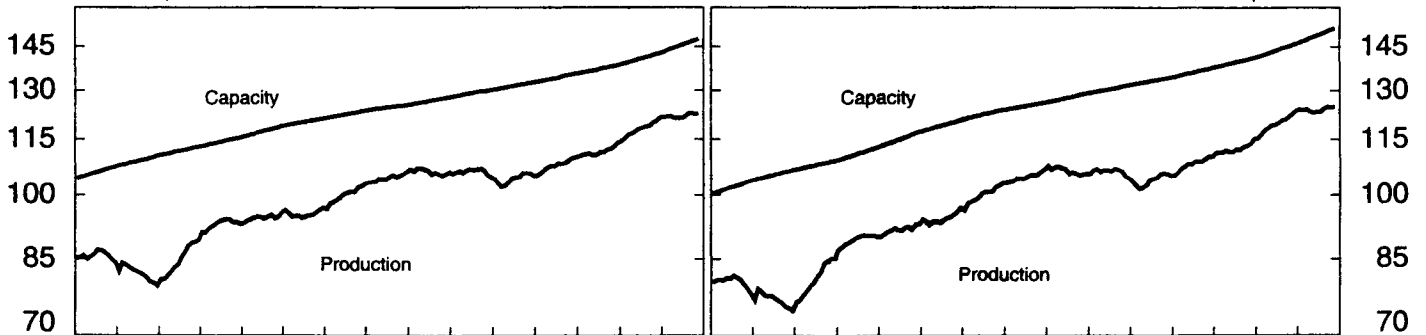


Total industry

Manufacturing

Ratio scale, 1987 production = 100

Ratio scale, 1987 production = 100



Percent of capacity

Percent of capacity

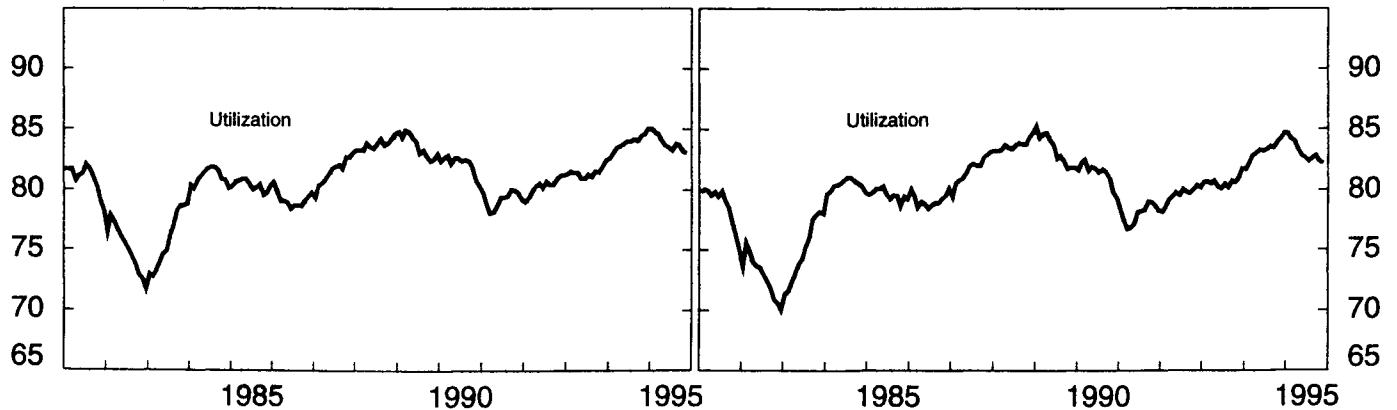


Table 2B
INDUSTRIAL PRODUCTION: INDUSTRY GROUPS

Percent change

Item	SIC	1993 Q4 to 1994 Q4	Seasonally adjusted annual rate				Seasonally adjusted				Not seasonally adjusted				Nov. 94 to Nov. 95
			1994 Q4	1995 Q1	Q2	Q3 ^r	1995 Aug. ^r	Sept. ^r	Oct. ^r	Nov. ^p	1995 Aug. ^r	Sept. ^r	Oct. ^r	Nov. ^p	
Total index		6.6	6.4	3.9	-1.4	3.2	1.0	.2	-3	.2	4.7	.4	-1.7	-1.7	1.9
Manufacturing		7.6	7.9	3.9	-2.2	2.7	.7	.6	-2	.2	4.9	1.5	-1.5	-2.6	1.7
Primary processing		7.0	6.9	2.4	-4.7	-2.1	-3	1.1	-3	-1	2.9	1.5	-3	-2.3	-7
Advanced processing		7.8	8.3	4.6	-1.1	4.8	1.2	.4	-2	.3	5.8	1.4	-2.1	-2.8	2.8
Durable		9.3	9.9	6.9	-2.0	5.3	1.3	1.0	-5	.4	5.8	2.6	-1.2	-1.9	3.7
Lumber and products	24	5.7	3.4	-2.4	-9.0	8.2	.0	3.4	-8	-7	5.5	2.8	.9	-6.7	1.3
Furniture and fixtures	25	7.3	7.9	-5	-9.6	.7	-2	1.1	.0	.6	6.9	.0	-4.0	-2.2	-1.2
Stone, clay, and glass products	32	4.0	6.1	2.3	-4.5	-2.0	-2	.6	.0	.3	3.4	.0	-1	-2.5	-5
Primary metals	33	9.8	17.2	1.2	-6.8	-2.9	-2.5	4.8	-1.3	.6	-6	7.7	-1.8	-2	.1
Iron and steel	331,2	8.3	25.6	3.4	-10.6	-1.9	-1.3	7.9	-3.8	.3	-1.4	11.2	-4.3	-6	-1
Raw steel		6.4	27.8	5.8	-8.3	4.5	2.3	3.9	-6.1	.4	1.8	6.1	-4.7	-1.5	-1.5
Nonferrous	333-6,9	11.8	7.5	-1.6	-1.8	-4.3	-4.0	1.1	2.2	1.0	.3	3.4	1.5	.2	.3
Fabricated metal products	34	8.4	6.6	3.8	-4.4	2.4	1.7	.6	-9	.5	4.7	1.5	-2.1	-1.0	1.1
Industrial machinery and equipment	35	14.9	14.0	14.8	6.1	10.9	2.0	1.2	1.4	1.6	2.6	1.5	-1.3	-1.7	12.7
Computer and office equip.	357	29.6	38.8	41.3	35.4	23.9	2.1	2.8	3.6	3.4	4.4	-1.0	1.2	-3.1	35.7
Electrical machinery	36	17.7	15.0	11.5	8.1	18.0	1.8	1.2	.7	.4	4.6	2.7	.4	-2	12.4
Transportation equipment	37	3.2	8.2	5.7	-12.9	-2.9	2.2	-1	-4.0	-8	18.3	4.4	-1.6	-4.8	-6.7
Motor vehicles and parts	371	8.6	14.2	9.7	-18.2	.5	4.0	.8	-2.4	.6	34.7	6.8	2.0	-6.1	-2.4
Autos and light trucks		6.0	9.1	13.8	-21.3	-8	5.9	.9	-3.3	1.2	71.6	10.7	4.9	-10.2	-2.1
Aerospace and misc.	372-6,9	-4.1	-4	-2	-3.9	-7.9	-4	-1.5	-6.7	-3.3	-4	.8	-7.6	-2.2	-13.4
Instruments	38	4.0	3.3	1.8	-6	1.5	1.1	-1	.2	.2	1.4	1.2	-2.6	-8	1.3
Miscellaneous	39	6.2	2.0	4.6	-3.1	-1.4	.8	.4	-6	.7	5.7	2.2	1.0	.4	.3
Nondurable		5.5	5.5	.5	-2.5	-5	.0	.0	.2	-2	3.9	.1	-2.0	-3.6	-7
Foods	20	3.6	3.0	1.7	2.4	-1.2	.2	-2	-2	.0	4.8	.8	-2.5	-4.7	.2
Tobacco products	21	24.7	26.2	-18.3	13.6	4.4	-7.9	-1.2	.1	1.7	17.7	-3.4	7.5	-11.2	-2.5
Textile mill products	22	5.0	5.4	1.5	-8.8	-9.6	2.3	-1.6	.4	-1	11.6	-2.1	2.2	-7.1	-4.3
Apparel products	23	4.0	2.1	-6.0	-11.8	-9.3	-3	-4	-1.6	-7	4.7	-2	-3.6	-1.2	-8.9
Paper and products	26	4.2	5.8	-2.4	.5	-5.8	-2.2	-3	.9	-3.0	1.0	-1.2	2.7	-5.4	-5.4
Printing and publishing	27	2.6	3.4	-4.1	-3.9	4.2	1.5	-2	-2	.7	3.1	-5	-4.9	-1.7	-4
Chemicals and products	28	7.0	5.7	6.4	-4.2	1.8	.3	.6	1.3	-2	1.6	.6	-3.6	-3.2	2.7
Petroleum products	29	.0	4.8	3.0	-1.1	4.6	-4	1.5	-1.3	.1	-2	1.2	-3.7	.7	.3
Rubber and plastics products	30	10.4	10.0	3.4	-7.2	-5	.7	.9	.0	.4	4.6	1.5	.3	-1.4	.1
Leather and products	31	-3.2	-5.6	-3.4	-13.9	-10.6	2.7	-4	-2.2	-2.1	10.8	.2	-3.2	-1.8	-10.5
Mining		1.2	-2.5	2.1	.4	-1.8	-8	.1	-1.2	.0	1.5	.6	-3	.6	-1.1
Metal mining	10	-2.8	-2.7	5.2	1.2	17.0	.0	-6	2.2	.1	.6	.4	-2.1	1.4	9.3
Coal mining	12	9.1	-3	5.1	-10.9	8.3	-6.2	5.1	-2.6	-2.5	6.7	3.4	-2.4	-4.2	-2.8
Oil and gas extraction	13	-7	-4.3	-1	3.6	-6.2	.6	-1.2	-1.3	.7	.9	-1	.6	2.3	-2.0
Stone and earth minerals	14	6.4	8.1	12.2	-3.5	3.2	-1.7	1.4	-4	-1.0	-1.3	1.3	-2.0	-4.4	1.7
Utilities		.2	-2.8	5.4	8.0	14.7	5.0	-4.5	-4	1.3	4.2	-11.9	-5.3	8.3	6.3
Electric	491,3pt	1.8	-1	4.2	5.3	16.0	6.3	-5.6	-2	.7	4.6	-13.1	-9.8	1.0	4.7
Gas	492,3pt	-6.0	-13.0	10.5	19.3	9.8	-1	.0	-1.2	3.4	1.1	-2.6	25.1	43.7	12.8
SPECIAL AGGREGATES															
Manufacturing excluding:															
Motor vehicles and parts		7.5	7.5	3.5	-1.0	2.8	.5	.6	-1	.1	3.5	1.1	-1.8	-2.4	2.0
Computer and office equipment		7.0	7.0	2.9	-3.4	1.9	.7	.5	-4	.0	5.0	1.6	-1.7	-2.6	.6

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	1994 Proportion	1967- 1994 Ave.	1973 High	1978- 1980 High	1982 Low	1988- 1989 High	1990- 1991 Low	1994 Nov.	1995 June	July	Aug. ^f	Sept. ^f	Oct. ^f	Nov. ^p
Total industry		100.0	82.0	89.2	87.3	71.8	84.9	78.0	84.6	83.5	83.3	83.8	83.7	83.2	83.1
Manufacturing		86.9	81.3	88.9	87.3	70.0	85.2	76.6	84.2	82.6	82.3	82.6	82.8	82.3	82.2
Primary processing		25.5	82.5	92.2	89.7	66.8	89.0	77.9	89.1	86.9	86.6	86.1	86.8	86.4	86.0
Advanced processing		61.5	80.7	87.5	86.3	71.4	83.5	76.1	82.1	80.8	80.5	81.2	81.1	80.7	80.5
Durable		47.9	79.2	88.8	86.9	65.0	84.0	73.7	83.7	82.3	82.0	82.6	83.1	82.3	82.2
Lumber and products	24	1.9	83.2	90.1	87.6	60.9	93.3	76.1	89.1	87.2	87.6	87.5	90.3	89.4	88.6
Furniture and fixtures	25	1.4	81.9	96.8	86.6	68.9	86.8	72.2	86.0	82.4	82.0	81.7	82.4	82.2	82.4
Stone, clay, and glass products	32	2.1	77.9	89.2	87.0	63.1	83.8	71.0	80.8	79.6	79.1	78.8	79.1	79.0	79.1
Primary metals	33	2.9	80.5	100.6	102.4	46.8	92.8	74.2	94.7	92.0	92.5	90.1	94.3	93.0	93.4
Iron and steel	331,2	1.6	80.2	105.8	110.4	38.3	95.7	72.0	93.6	90.3	90.2	88.9	95.7	91.8	91.9
Raw steel		.1	79.7	102.7	95.7	35.2	92.7	71.5	94.7	94.1	92.9	94.9	98.4	92.3	
Nonferrous	333-6,9	1.3	81.3	92.9	90.5	62.2	88.7	75.2	96.0	94.2	95.5	91.6	92.5	94.4	95.2
Primary copper	3331	.1	73.1	92.1	80.8	42.1	85.9	73.6	85.5	82.2	82.4	83.6	76.7	85.7	84.4
Primary aluminum	3334	.1	88.9	95.7	97.6	58.6	100.4	97.3	78.3	80.3	80.9	81.2	82.2	81.6	82.6
Fabricated metal products	34	5.2	77.5	87.8	83.9	62.9	82.0	71.3	84.7	84.0	82.9	84.2	84.6	83.7	83.9
Industrial machinery and equipment	35	9.1	81.0	96.4	92.1	64.9	84.0	71.8	87.2	86.7	86.8	87.8	88.1	88.5	89.2
Computer and office equip.	357	2.7	80.5	90.9	93.5	63.1	84.4	64.5	82.9	85.9	86.3	86.6	87.3	88.8	90.1
Electrical machinery	36	8.1	80.6	87.8	89.4	71.1	84.9	77.0	87.3	86.6	87.1	87.7	87.8	87.5	87.0
Transportation equipment	37	10.3	75.1	83.8	82.7	56.7	84.4	69.7	77.2	74.0	72.7	74.2	73.9	70.8	70.0
Motor vehicles and parts	371	5.6	76.1	93.4	93.0	44.5	85.1	56.6	85.0	79.8	77.8	80.6	80.8	78.6	78.7
Autos and light trucks ¹		2.9			92.2	40.1	89.1	53.3	84.8	81.0	77.7	82.1	82.7	79.8	80.6
Aerospace and misc.	372-6,9	4.7	75.6	77.0	81.1	66.9	88.4	78.8	67.7	66.7	66.3	66.0	65.0	60.7	58.7
Instruments	38	5.4	82.0	89.9	92.5	79.0	81.2	76.8	78.0	78.0	77.5	78.2	78.1	78.1	78.2
Miscellaneous	39	1.5	75.5	82.9	78.7	66.1	80.1	73.0	76.1	74.6	73.3	73.7	73.8	73.1	73.4
Nondurable		39.1	83.5	87.9	87.0	76.9	86.7	80.3	84.8	83.0	82.7	82.6	82.4	82.4	82.1
Foods	20	9.3	82.3	86.0	84.3	78.8	83.3	80.8	83.1	83.1	82.3	82.4	82.0	81.7	81.6
Textile mill products	22	1.7	86.2	92.0	91.7	73.8	92.1	78.8	90.5	84.7	84.0	85.7	84.1	84.2	83.9
Apparel products	23	2.2	81.1	84.2	86.0	78.9	84.2	75.0	80.8	76.0	75.3	75.1	74.7	73.4	72.8
Paper and products	26	3.2	89.8	96.9	94.2	82.0	94.8	86.7	94.2	90.9	91.8	89.6	89.0	89.6	86.7
Pulp and paper	261-3	1.3	92.4	97.1	98.2	82.1	98.1	90.1	97.1	95.4	96.7	94.3	91.7	93.1	89.3
Printing and publishing	27	6.5	86.3	89.7	92.2	83.0	92.3	79.0	82.3	79.0	79.2	80.2	79.9	79.6	80.0
Chemicals and products	28	10.0	79.8	87.9	85.1	70.1	85.9	79.0	80.6	80.2	79.8	80.0	80.2	81.1	80.8
Plastics materials	2821	.7	86.0	102.0	90.9	63.4	97.0	74.8	95.2	90.2	87.9	85.4	88.7		
Synthetic fibers	2823,4	.4	85.0	93.8	98.5	64.4	99.7	77.6	92.0	90.4	86.4	85.5	88.2	88.5	
Petroleum products	29	1.2	85.8	96.7	89.5	68.2	88.5	84.6	93.5	93.4	93.7	93.2	94.5	93.2	93.2
Rubber and plastics products	30	3.4	84.2	94.0	90.4	73.5	90.5	78.0	93.7	88.5	87.8	87.9	88.2	87.6	87.4
Leather and products	31	.2	82.3	81.3	92.4	78.1	83.8	76.0	84.8	80.6	78.2	80.4	80.2	78.5	77.0
Mining		5.9	87.4	94.4	96.6	80.6	86.5	86.1	89.2	90.1	89.9	89.2	89.3	88.2	88.2
Metal mining	10	.4	78.4	90.3	87.6	43.4	87.9	80.0	83.0	86.2	88.9	88.8	88.3	90.2	90.1
Coal mining	12	1.0	86.9	90.8	95.7	75.4	91.4	83.4	85.9	85.0	88.5	82.9	87.1	84.7	82.6
Oil and gas extraction	13	4.0	88.1	96.6	96.9	82.5	86.1	86.8	90.3	91.6	90.0	90.5	89.5	88.4	89.1
Oil and gas well drilling	138	.7	72.6	93.0	104.3	50.8	60.7	53.7	71.0	71.4	72.8	73.9	73.1	69.2	69.1
Stone and earth minerals	14	.5	84.4	93.7	93.3	63.3	90.0	79.4	90.4	90.7	91.8	90.0	91.0	90.4	89.2
Utilities		7.1	86.7	95.6	88.3	76.2	92.6	83.1	87.0	89.7	90.8	95.3	90.9	90.5	91.5
Electric	491,3pt	5.5	88.9	99.0	88.3	78.7	94.8	86.7	89.6	91.6	92.3	98.1	92.5	92.2	92.7
Gas	492,3pt	1.5	82.5	93.2	93.6	70.8	85.5	68.3	77.8	82.9	85.5	85.4	85.3	84.3	87.2

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 1987 output						
		Annual rate			December to December					1994 Nov.	1995 June	July	Aug.	Sept.	Oct.	Nov.
		1967- 1994 Ave.	1967- 1975 Ave.	1975- 1994 Ave.	1990	1991	1992	1993	1994							
Total industry		2.9	3.7	2.5	1.9	1.9	2.1	2.1	3.2	142.4	145.5	145.9	146.4	146.9	147.3	147.8
Manufacturing		3.3	3.9	2.9	2.1	1.9	2.5	2.5	3.6	145.7	149.2	149.8	150.3	150.9	151.4	152.0
Primary processing		2.1	4.0	1.3	1.7	1.2	1.4	1.5	2.2	132.6	134.7	135.0	135.4	135.7	136.0	136.4
Advanced processing		3.8	3.9	3.7	2.2	2.4	2.9	2.9	4.2	152.1	156.2	156.9	157.5	158.1	158.8	159.5
Durable		3.5	3.7	3.4	2.1	2.3	2.5	3.1	4.8	154.9	159.7	160.4	161.1	161.9	162.7	163.4
Lumber and products	24	1.7	2.9	1.1	.6	-.1	.7	1.2	.8	117.0	118.2	118.4	118.6	118.8	119.0	119.2
Furniture and fixtures	25	3.0	4.5	2.3	2.2	.3	1.0	1.9	1.9	132.8	135.1	135.4	135.8	136.2	136.5	136.9
Stone, clay, and glass products	32	1.3	2.5	.8	.6	.6	.7	.2	1.0	129.2	130.3	130.5	130.7	130.9	131.1	131.2
Primary metals		.0	1.7	-.9	.6	-.9	-1.2	-.2	2.0	126.8	127.6	127.8	128.0	128.2	128.4	128.6
Iron and steel	331,2	-.8	.7	-1.5	.8	-1.4	-2.4	-.8	3.1	131.0	131.9	132.2	132.5	132.7	133.0	133.2
Raw steel		-1.2	.3	-1.9	-.2	-1.7	-3.1	-4.3	1.4	119.7	119.9	120.1	120.3	120.5	120.6	120.8
Nonferrous	333-6,9	1.3	3.6	.2	.1	.1	.4	.5	.6	121.2	122.0	122.1	122.2	122.3	122.4	122.5
Primary copper	3331	.2	1.8	-.5	.3	6.5	7.8	5.0	-1.2	156.4	158.4	158.8	159.2	159.6	160.0	160.5
Primary aluminum	3334	1.3	5.2	-.4	.4	.6	.3	.5	.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
Fabricated metal products		1.6	3.1	.9	.3	-.2	.4	1.1	1.9	133.8	135.3	135.6	135.8	136.0	136.2	136.5
Industrial machinery and equipment	35	6.5	4.7	7.4	4.9	5.2	4.0	6.0	9.0	190.4	201.2	202.8	204.5	206.2	207.9	209.7
Computer and office equip.	357	20.5	12.0	24.7	15.8	14.0	14.0	19.1	25.5	371.4	422.7	430.6	438.5	446.6	454.9	463.3
Electrical machinery	36	5.6	6.1	5.4	3.5	4.9	6.5	7.4	9.9	186.4	199.6	201.7	203.8	206.0	208.2	210.4
Transportation equipment		2.7	3.0	2.5	.9	1.6	2.1	1.9	3.5	150.6	153.2	153.5	153.9	154.2	154.6	155.0
Motor vehicles and parts	371	3.3	4.5	2.8	1.4	3.1	3.8	4.6	6.8	169.6	175.0	175.7	176.4	177.2	177.9	178.7
Autos and light trucks ¹					.6	1.0	2.5	2.7	6.1	156.7	159.6	159.9	160.3	160.6	161.0	161.3
Aerospace and misc.	372-6,9	1.9	1.3	2.1	.6	-.1	.3	-.9	-.2	132.2	132.1	132.1	132.1	132.1	132.1	132.1
Instruments	38	5.0	7.6	3.8	1.2	1.2	1.3	.9	.9	141.3	142.1	142.3	142.4	142.5	142.6	142.7
Miscellaneous	39	2.4	4.4	1.5	1.6	2.7	5.0	3.6	3.9	161.3	165.0	165.6	166.1	166.7	167.2	167.8
Nondurable		2.9	4.3	2.2	2.1	1.8	2.4	1.7	2.2	135.7	137.8	138.1	138.4	138.7	139.0	139.4
Foods	20	2.5	3.0	2.3	1.4	1.8	2.2	2.1	2.0	138.2	139.8	140.0	140.2	140.5	140.7	140.9
Textile mill products	22	2.2	4.3	1.2	1.6	1.5	2.6	3.4	3.1	128.1	130.4	130.7	131.1	131.4	131.7	132.1
Apparel products	23	1.4	2.3	1.0	.1	-.5	2.4	2.5	.9	124.9	125.7	125.8	125.9	126.1	126.2	126.3
Paper and products	26	2.8	3.9	2.2	3.0	2.7	2.2	2.2	2.1	129.8	131.8	132.2	132.5	132.8	133.1	133.4
Pulp and paper	261-3	2.4	3.0	2.1	2.7	2.9	2.2	1.7	1.4	124.7	126.4	126.7	126.9	127.2	127.5	127.8
Printing and publishing	27	3.0	3.0	3.0	2.9	.6	1.0	-1.0	1.8	123.1	124.8	125.1	125.3	125.6	125.8	126.1
Chemicals and products		3.8	6.8	2.5	2.5	3.2	4.1	2.5	2.2	152.8	155.0	155.3	155.6	155.9	156.2	156.6
Plastics materials	2821	6.5	12.7	3.7	2.5	1.0	1.1	.4	3.3	130.8	134.3	134.9	135.4	136.0	136.6	137.1
Synthetic fibers	2823,4	4.2	9.7	1.8	1.2	1.5	5.0	1.5	3.6	133.0	135.7	136.1	136.5	136.9	137.3	137.7
Petroleum products	29	1.5	4.2	.3	1.0	-1.0	-1.3	-.5	.3	115.9	116.3	116.3	116.4	116.5	116.5	116.6
Rubber and plastics products	30	5.5	8.6	4.1	4.0	3.5	4.2	4.1	4.7	149.8	155.8	156.7	157.7	158.7	159.6	160.6
Leather and products	31	-3.3	-1.5	-4.1	-3.5	-4.4	-2.6	-2.2	-2.6	101.6	100.7	100.6	100.5	100.4	100.3	100.2
Mining		.0	-.1	.1	-1.1	-.2	-1.2	-.9	-.1	112.0	112.0	112.0	112.0	112.1	112.1	112.1
Metal mining	10	1.4	.7	1.7	4.6	2.0	2.5	1.6	-.6	192.8	193.5	193.6	193.8	193.9	194.0	194.2
Coal mining	12	2.5	2.5	2.5	2.1	2.1	.9	1.1	1.1	131.2	132.1	132.2	132.3	132.4	132.6	132.7
Oil and gas extraction	13	-.5	-1.0	-.3	-2.5	-.9	-2.3	-1.9	-.5	102.6	102.2	102.2	102.1	102.1	102.0	101.9
Oil and gas well drilling	138	.4	.8	.2	-9.5	-5.5	-8.2	-6.2	-1.0	123.1	121.6	121.4	121.1	120.9	120.6	120.4
Stone and earth minerals	14	.9	2.6	.2	-.1	-.5	.6	.9	1.6	121.4	123.4	123.7	124.0	124.3	124.6	125.0
Utilities		2.9	6.0	1.5	2.6	1.2	1.2	.5	.5	134.2	134.9	135.1	135.2	135.3	135.4	135.6
Electric	491,3pt	4.0	7.8	2.2	3.4	1.6	1.5	.6	.4	131.4	132.3	132.4	132.5	132.7	132.8	133.0
Gas	492,3pt	.3	2.3	-.6	.0	.0	.0	.2	.5	144.9	145.5	145.5	145.6	145.7	145.8	145.9

1. Series begins in 1977.

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

Item	SIC	Index, 1987 = 100													
		1992		Seasonally adjusted						Not seasonally adjusted					
		Value added ¹	Index	1995 May	June	July	Aug. ^f	Sept. ^f	Oct. ^f	1995 May	June	July	Aug. ^f	Sept. ^f	Oct. ^f
Instruments	38	5.36	106.3	109.6	110.9	110.2	111.4	111.3	111.4	107.8	112.2	112.1	113.7	115.1	112.1
Scientific and medical	381-4	4.32	107.0	108.1	109.8	108.6	110.0	109.5	109.8	106.1	111.3	111.3	112.9	113.9	110.6
Medical instruments	384	1.56	138.2	154.1	158.8	155.0	159.0	156.5	157.0	148.9	165.4	169.3	172.9	172.7	161.2
Misc. manufactures	39	1.32	106.9	122.3	123.1	121.4	122.4	122.9	122.2	121.5	123.6	116.4	123.1	125.7	127.0
Consumer goods	391,3,4,6	.67	106.5	117.6	117.9	116.3	117.2	117.4	116.4	116.8	117.6	108.5	116.7	119.8	122.1
Business supplies	395,9	.65	107.4	127.2	128.5	126.8	127.8	128.8	128.4	126.4	129.9	124.6	129.7	131.9	132.2
Electric utilities	491,3pt	6.15	111.7	121.2	121.2	122.2	130.0	122.7	122.4	112.2	125.3	138.4	144.7	125.8	113.5
Generation		2.64	111.3	120.5	119.4	122.2	127.4	120.2	119.9	114.9	127.0	136.6	139.3	118.8	108.2
Fossil fuel		1.32	103.6	107.8	106.2	110.8	121.3	108.8		98.7	111.7	129.1	138.8	111.5	
Hydro and nuclear		1.32	121.4	136.7	136.2	136.7	135.7	134.9		135.0	146.3	146.9	141.4	128.5	
Sales		3.51	112.0	121.7	122.4	122.3	131.9	124.6	124.3	110.1	124.0	139.7	148.8	131.1	117.4
Residential		1.43	109.9	120.9	122.2	121.7	139.4	127.5		98.8	119.0	147.1	162.3	133.0	
Nonresidential		2.08	113.4	122.2	122.5	122.6	126.5	122.5	122.2	118.1	127.5	134.5	139.2	129.6	122.4
Commercial and other		1.21	112.8	123.5	124.3	125.3	130.5	125.5		116.3	129.9	142.5	147.0	134.9	
Industrial		.87	114.2	120.3	120.0	118.7	120.9	118.3		120.4	124.0	123.1	128.1	122.1	
Gas utilities	492,3pt	1.57	112.7	125.5	120.6	124.5	124.3	124.3	122.9	94.3	73.3	74.1	74.9	73.0	91.3
Residential		.64	108.7	114.7	110.9	114.2	103.3			73.4	44.5	37.3	32.3		
Commercial and other		.28	115.4	133.7	121.7	124.9	140.8			93.9	65.7	65.2	70.2		
Gas transmission		.46	114.4	131.1	128.0	132.8	136.8			109.9	97.0	104.7	108.7		

1. Proportion as a share of the value added for the total index.

Table 7
INDUSTRIAL PRODUCTION: GROSS VALUE OF PRODUCTS

Billions of 1987 dollars at annual rates, seasonally adjusted

Item	1987	1994	1994 Q2	Q3	Q4	1995 Q1	Q2	Q3 ^f	1995 June	July	Aug. ^f	Sept. ^f	Oct. ^f	Nov. ^p
Products, total	1903.4	2195.0	2183.2	2201.2	2232.6	2248.8	2235.7	2254.8	2239.1	2238.8	2257.8	2267.9	2248.3	2256.8
Final products	1451.0	1705.5	1695.5	1708.5	1732.8	1750.6	1742.0	1757.0	1745.6	1743.2	1760.5	1767.2	1747.6	1756.4
Consumer goods	981.2	1118.2	1115.0	1118.9	1129.0	1133.7	1125.3	1133.2	1128.4	1124.0	1135.7	1139.8	1129.9	1136.2
Durable	218.3	273.8	271.3	274.3	277.1	279.9	269.6	271.4	268.2	265.2	272.8	276.1	269.9	272.7
Automotive products	124.5	161.2	158.8	159.3	162.5	166.2	158.7	159.0	158.3	153.3	160.7	162.9	157.6	159.7
Other durable goods	93.8	112.6	112.5	115.0	114.5	113.8	110.9	112.4	109.9	111.9	112.0	113.2	112.3	113.0
Nondurable	762.9	844.4	843.7	844.6	851.9	853.8	855.7	861.8	860.2	858.8	862.9	863.7	859.9	863.5
Equipment, total	469.8	587.3	580.5	589.6	603.9	616.9	616.7	623.8	617.1	619.2	624.8	627.4	617.7	620.2
Business and defense	447.9	564.5	557.5	566.7	580.8	593.5	593.1	599.8	593.8	595.7	600.6	603.2	594.2	596.3
Business	349.1	491.9	483.4	496.4	510.7	524.7	525.7	533.4	526.5	528.6	533.9	537.6	529.4	532.7
Defense and space	98.8	72.6	74.1	70.4	70.2	68.8	67.4	66.4	67.3	67.0	66.6	65.7	64.7	63.6
Intermediate products	452.4	489.5	487.7	492.7	499.8	498.1	493.6	497.9	493.5	495.6	497.3	500.7	500.7	500.4
Construction supplies	185.3	197.4	196.0	200.3	203.4	202.9	198.9	199.9	198.8	199.3	198.0	202.3	201.6	200.6
Business supplies	267.1	292.1	291.7	292.4	296.4	295.2	294.7	298.0	294.7	296.2	299.4	298.4	299.1	299.7
Commercial energy products	65.2	75.3	75.5	75.4	75.1	74.8	75.9	78.3	76.1	77.3	79.6	78.1	77.5	78.5

Table 8
DIFFUSION INDEXES OF INDUSTRIAL PRODUCTION

Percent

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
One Month Earlier												
1993	60.8	60.4	50.8	57.7	49.6	56.2	57.3	51.5	58.1	56.9	59.2	63.5
1994	50.0	62.7	65.8	60.4	63.8	59.2	59.6	58.1	52.3	60.0	58.8	63.5
1995	52.7	45.0	48.5	42.7	49.2	51.5	48.5	58.8	52.9	42.3		
Three Months Earlier												
1993	61.9	67.7	62.7	63.1	52.3	55.4	55.4	57.3	61.2	60.8	58.5	66.5
1994	61.9	63.5	69.2	72.7	73.1	67.7	67.3	66.9	61.5	60.0	62.7	66.9
1995	62.7	53.1	46.5	40.8	40.0	43.8	47.7	52.3	57.7	51.5		
Six Months Earlier												
1993	59.2	71.5	66.5	68.1	60.8	65.4	64.6	58.8	62.3	61.5	64.6	71.5
1994	63.1	66.5	70.8	73.1	77.7	72.3	74.2	75.4	69.6	70.8	68.5	73.1
1995	68.5	58.1	60.4	54.2	47.7	38.8	41.2	44.2	48.5	50.0		

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.

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. It also includes survey data on the use of electric power in manufacturing and mining. Data in the release are 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. For the period since 1992, the total IP index has been constructed from 260 individual series based on the 1987 Standard Industrial Classification (SIC). These individual series are classified and grouped 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 Bureau of Mines; 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 in chronological segments that are linked together to form a continuous index expressed as a percentage of output in a comparison base year (currently 1987). Each segment, which usually spans five years, is a Laspeyres quantity index showing changes in quantities with prices (Census value added per unit of output) held at base-year values for the segment. For the period from 1992 to the present, IP is aggregated on the basis of 1992 value-added weights. The aggregation of the index for the 1987–91 period is based on 1987 weights, whereas 1982 weights are used for the 1982–86 period. The other weight years in the postwar period are 1977, 1972, 1967, 1963, 1958, 1954, and 1947. The 1992 value-added weights used to aggregate the index are shown in the first column of tables 1, 2, and 6, in the "Value added" column under the heading "1992."

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 1995; for other series, the factors were estimated with data through at least June 1995. In some cases, series were preadjusted for the effects of holidays or the business cycle before using X–11 ARIMA. The seasonally adjusted total index is calculated by aggregating the seasonally adjusted major market groups, and may not precisely equal an aggregation of the seasonally adjusted industry groups.

Reliability. The average revision to the level of the total IP index, without regard to sign, between the preliminary estimate and its third revision (or from the first and the

fourth estimates) was 0.35 percent during the 1972–92 period. The average revision to the percent change in total IP, without regard to sign, from the first to the fourth estimates was 0.26 percentage point during the same period. In most cases (about 85 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.

References. *Industrial Production—1986 Edition* contains a more detailed description of the methods used to compile the 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 1990 and 1993 revisions to the index were described in the *Federal Reserve Bulletin*, vol. 76 (April 1990), pp. 187–204 and vol. 79 (June 1993), pp. 590–605, respectively. The early 1994 revision was described in the *Federal Reserve Bulletin*, vol. 80 (March 1994), pp. 220–6. The later 1994 revision was described in the *Federal Reserve Bulletin*, vol. 81 (January 1995), pp. 16–26. The annual revision published in November 1995 will be described in the January 1996 *Federal Reserve Bulletin*.

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 75 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. Value-added proportions are used to weight the individual capacity indexes in aggregations in the same manner as individual IP series are aggregated to the total index of industrial production. 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 base-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.

References. The basic methodology used to estimate capacity and utilization is discussed in the *Federal Reserve Bulletin*, vol. 71 (October 1985), pp. 754–66. The 1990 and 1993 revisions were described in the *Federal Reserve Bulletin*, vol. 76 (June 1990), pp. 412–35 and vol. 79 (June 1993), pp. 590–605, respectively. The early 1994 revision was described in the *Federal Reserve Bulletin*, vol. 80 (March 1994), pp. 220–6. The later 1994 revision was described in the *Federal Reserve Bulletin*, vol. 81 (January 1995), pp. 16–26. The annual revision published in November 1995 will be described in the January 1996 *Federal Reserve Bulletin*.

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 1987. 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 1987 censuses of those industries. The supplementary group, "Total, less nuclear nondefense," is shown separately because the nondefense nuclear material series (part of SIC 2819) accounts for a disproportionately large part of total electric power use. Because the value-added proportion for this industry 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.

Release Schedule for 1996

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