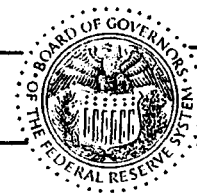


FEDERAL RESERVE statistical release



G.3 (402)

For release at 9:15 a.m. (EST)
February 16, 1990

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

Capacity utilization in manufacturing, mining, and utilities fell 1.2 percentage points in January to 81.9 percent. Operating rates for auto and truck assembly facilities dropped to levels near their 1982 recession lows as vehicle makers extended their holiday shutdowns to reduce excess inventories. Electric utilities also contributed significantly to the overall decline. Utilization at power plants fell about 10 percentage points as unseasonably warm temperatures in January displaced especially cold weather during December. In contrast to the declines for manufacturing and utilities, the operating rate for mining, led by a resurgence at coal mines after a relatively weak December, rose nearly 2 percentage points to 84.7 percent.

The steep decline for auto and truck assemblies, along with little overall change for other components, brought the operating rate for manufacturing down 1 percentage point to 81.9 percent. Utilization for the nonelectrical machinery and fabricated metals industries also contributed to the slowdown in January, decreasing about 1 percentage point each. The decline in nonelectrical machinery reflected some slowing of computer production while reduced output of metal stampings for the motor vehicle industry lowered the operating rate for fabricated metals. Despite these reductions in production for autos and related goods, utilization for primary metals manufacturers turned back up in January following several months of decline. Even so, the rate for primary metals in January, at about 80 percent, was 5 percentage points below the levels it maintained during the summer.

The utilization rate for total manufacturing declined over the past year by nearly 3 percentage points with much of the slowing occurring during the past few months. Decreases in operating rates for primary processing industries, especially primary metals, made up the bulk of the overall drop; the rate for advanced processing industries actually increased during the first half of 1989 before weakening motor vehicle production reduced it during the second half.

The operating rate for producers of industrial materials fell 0.8 percentage point in January with declines widespread. The drop in electric power generation resulted in an especially large decline for energy materials. Utilization for total industrial materials has fallen about 3 percentage points since the start of 1989 with significant declines in metal, paper, and chemical materials.

Capacity Utilization: Summary

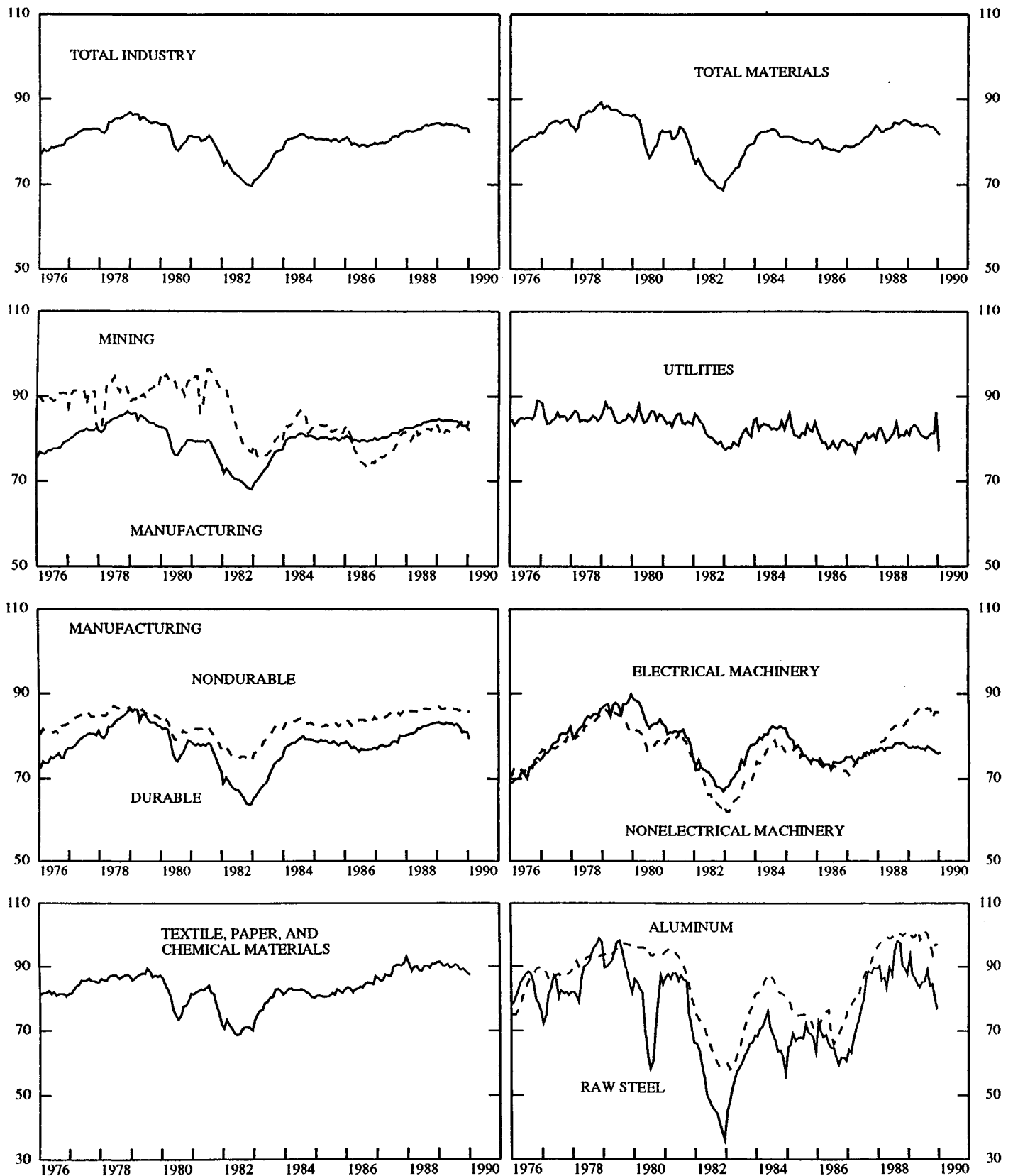
Percent of capacity, seasonally adjusted

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1967 -69 Ave.	1989 Oct	Nov	Dec	1990 Jan
Total industry	88.6	72.1	86.9	69.5	81.7	83.1	83.1	83.1	81.9
Manufacturing	87.7	69.9	86.5	68.0	80.9	83.1	83.1	82.9	81.9
Durable manufacturing	87.4	67.9	86.3	63.7	79.0	80.8	80.9	80.9	79.4
Nondurable manufacturing	88.8	71.8	87.0	74.2	83.8	86.3	86.2	85.7	85.6
Mining	92.8	87.8	95.2	76.9	86.3	84.2	84.4	82.8	84.7
Utilities	95.6	82.9	88.5	78.0	86.5	81.4	81.3	86.4	77.1
Materials	92.0	70.5	89.1	68.5	82.4	83.5	83.2	82.5	81.7

CAPACITY UTILIZATION

SEASONALLY ADJUSTED, PERCENT

JANUARY DATA



MANUFACTURING, MINING AND UTILITIES

Table 1

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1967 -89 Ave.	1989 Jan	1989 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1990 Jan
Total industry	88.6	72.1	86.9	69.5	81.7	84.3	84.0	84.0	83.7	83.9	83.6	83.1	83.1	83.1	81.9
Manufacturing	87.7	69.9	86.5	68.0	80.9	84.7	84.3	84.4	84.0	84.2	83.7	83.1	83.1	82.9	81.9
Primary processing	91.9	68.3	89.1	65.0	82.2	88.4	86.2	86.2	86.7	86.6	85.8	86.2	85.6	84.9	84.9
Advanced processing	86.0	71.1	85.1	69.5	80.3	83.1	83.4	83.5	82.9	83.2	82.6	81.6	81.9	82.1	80.7
Durable manufacturing	87.4	67.9	86.3	63.7	79.0	83.2	82.9	82.9	82.4	82.8	82.2	80.8	80.9	80.9	79.4
Stone, clay & glass prod.	89.3	67.1	86.6	62.9	78.6	84.5	82.3	82.2	81.5	82.0	81.6	81.6	82.0	81.4	
Primary metals	101.9	67.0	97.1	45.8	80.2	90.6	84.1	84.0	85.6	86.5	85.3	85.0	81.1	78.9	80.4
Iron and steel	105.8	66.6	100.3	37.6	79.1	91.6	80.8	80.2	82.8	83.2	82.4	83.3	78.4	76.2	
Nonferrous metals	95.6	62.1	91.1	60.8	81.8	89.3	88.6	89.1	89.4	91.0	89.1	87.1	84.7	82.5	
Fabricated metal products	85.0	64.7	87.4	61.3	78.2	84.3	83.7	83.7	83.7	83.5	82.6	82.2	82.9	82.2	81.1
Nonelectrical machinery	89.0	68.2	86.0	62.9	78.5	83.9	86.6	86.8	86.2	86.5	86.4	84.3	85.6	85.7	84.7
Electrical machinery	85.7	63.7	89.9	66.9	78.0	77.3	77.1	77.1	76.7	77.6	77.1	76.7	76.2	75.9	76.2
Motor vehicles and parts	97.1	52.7	93.3	47.0	78.3	86.6	82.5	80.1	75.9	78.4	77.2	75.4	75.5	75.6	59.3
Autos			93.3	36.6		75.7	73.1	69.6	61.8	65.8	70.7	69.8	64.3	64.3	42.8
Aerosp. & misc. transp. eq.	77.0	69.6	87.1	70.7	78.4	85.7	87.3	87.8	88.3	87.8	87.0	78.4	79.6	83.6	83.7
Instruments	89.2	74.9	88.9	77.8	82.9	83.4	83.7	84.1	83.9	82.7	81.8	81.2	80.6	79.8	79.8
Other durables	87.7	69.0	81.0	69.1	81.6	81.7	81.2	81.9	81.7	81.5	81.4	81.7	82.0	82.1	82.0
Nondurable manufacturing	88.8	71.8	87.0	74.2	83.8	86.8	86.2	86.4	86.3	86.2	85.9	86.3	86.2	85.7	85.6
Foods	85.8	77.6	85.1	76.5	82.1	81.2	80.7	80.9	80.4	80.7	80.8	81.4	81.9	81.7	
Textile mill products	92.1	58.9	88.3	70.6	85.5	90.7	92.8	92.8	92.5	92.1	92.0	92.1	90.5	91.0	
Paper and products	95.6	67.7	92.7	80.2	89.0	95.1	91.6	91.3	92.4	92.3	92.4	93.4	91.9	91.9	
Chemicals and products	88.6	69.2	82.9	67.6	79.6	89.3	87.3	87.9	88.8	88.0	86.5	87.2	87.2	86.6	
Petroleum products	99.6	83.7	91.7	68.8	86.9	87.5	86.3	87.2	87.4	86.9	87.4	87.1	87.1	84.7	87.7
Rubber & plastics prod.	97.5	59.5	89.4	71.2	85.0	86.0	86.6	87.0	86.6	86.8	86.7	87.1	86.3	85.4	
Other nondurables	86.4	72.3	92.4	78.9	86.0	86.5	86.9	87.0	86.1	85.9	86.2	86.2	86.1	85.8	85.8
Mining	92.8	87.8	95.2	76.9	86.3	82.2	81.8	81.5	82.1	82.4	83.4	84.2	84.4	82.8	84.7
Utilities	95.6	82.9	88.5	78.0	86.5	80.9	81.8	80.8	80.5	80.0	80.8	81.4	81.3	86.4	77.1
Electric utilities	98.7	83.0	87.6	78.2	87.8	83.4	85.8	84.9	85.0	84.4	85.1	85.7	85.5	90.6	80.8

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	Output					Capacity					Utilization				
	1988 QIV	1989 QI	QII	QIII	QIV	1988 QIV	1989 QI	QII	QIII	QIV	1988 QIV	1989 QI	QII	QIII	QIV
Total industry	139.9	140.7	141.8	142.2	142.2	166.3	167.5	168.7	169.9	171.1	84.1	84.0	84.1	83.7	83.1
Manufacturing	145.8	147.0	148.3	148.8	148.4	172.8	174.3	175.7	177.2	178.7	84.4	84.4	84.4	84.0	83.0
Primary processing	127.7	127.8	127.6	128.8	128.7	145.2	146.5	147.8	149.1	150.4	87.9	87.3	86.4	86.4	85.6
Advanced processing	156.7	158.6	160.8	160.9	160.3	189.5	191.0	192.6	194.2	195.8	82.7	83.0	83.5	82.9	81.9
Durable manufacturing	145.2	146.0	147.1	147.3	145.4	175.0	176.1	177.4	178.6	179.8	82.9	82.9	83.0	82.5	80.9
Stone, clay & glass prod.	124.4	125.8	124.2	123.4	123.8	149.4	150.0	150.5	151.1	151.6	83.2	83.9	82.5	81.7	81.7
Primary metals	92.3	90.9	88.2	89.5	85.7	102.6	103.1	103.7	104.3	105.0	90.0	88.2	85.1	85.8	81.6
Iron and steel	80.5	79.1	74.4	75.6	72.9	89.6	90.0	90.6	91.3	91.9	89.8	87.9	82.0	82.8	79.3
Nonferrous metals	114.5	113.2	114.4	115.9	109.9	127.1	127.7	128.4	129.0	129.7	90.1	88.6	89.1	89.9	84.8
Fabricated metal products	124.1	124.3	124.4	125.1	124.7	146.9	148.0	149.1	150.2	151.3	84.5	83.9	83.4	83.3	82.4
Nonelectrical machinery	175.7	180.8	186.2	187.6	186.6	211.9	213.5	215.4	217.2	219.1	82.9	84.7	86.5	86.3	85.2
Electrical machinery	182.0	181.4	181.9	182.6	181.4	233.5	234.5	235.6	236.7	237.8	78.0	77.3	77.2	77.1	76.3
Motor vehicles and parts	123.4	122.9	119.3	112.4	110.4	143.8	144.4	145.0	145.7	146.3	85.8	85.1	82.3	77.2	75.5
Autos	116.9	110.6	108.9	99.0	98.9	150.2	150.2	150.0	149.8	149.6	77.8	73.6	72.6	66.1	66.1
Aerosp. & misc. transp. eq.	152.3	153.7	157.1	158.8	146.9	177.5	178.6	179.9	181.1	182.4	85.8	86.0	87.3	87.7	80.6
Instruments	159.8	161.4	164.3	164.4	161.7	191.8	193.9	196.2	198.5	200.8	83.3	83.2	83.7	82.8	80.5
Other durables	139.9	138.5	141.3	142.7	144.5	171.2	172.5	173.8	175.1	176.4	81.7	80.3	81.3	81.5	81.9
Nondurable manufacturing	146.7	148.4	149.9	151.0	152.5	169.8	171.6	173.5	175.3	177.2	86.4	86.5	86.4	86.1	86.1
Foods	145.2	146.1	147.2	148.1	151.2	179.6	181.0	182.4	183.7	185.1	80.8	80.7	80.7	80.6	81.7
Textile mill products	117.4	119.8	123.3	123.3	122.4	131.8	132.7	133.2	133.7	134.2	89.1	90.2	92.5	92.2	91.2
Paper and products	151.4	152.4	150.3	152.9	154.4	160.7	162.3	163.9	165.5	167.1	94.2	93.9	91.7	92.4	92.4
Chemicals and products	157.4	158.9	159.1	161.0	161.7	176.7	178.8	181.1	183.5	185.8	89.1	88.9	87.9	87.8	87.0
Petroleum products	96.4	97.1	97.4	98.1	97.3	111.9	112.1	112.3	112.5	112.7	86.2	86.6	86.7	87.2	86.3
Rubber & plastics prod.	177.3	175.8	180.3	183.4	185.1	202.6	205.5	208.5	211.5	214.5	87.5	85.5	86.5	86.7	86.3
Other nondurables	148.3	152.3	155.3	155.3	157.3	173.3	175.7	178.1	180.4	182.8	85.6	86.7	87.2	86.1	86.0
Mining	104.2	101.8	102.0	102.7	103.8	125.7	125.1	124.7	124.3	123.8	82.9	81.3	81.8	82.6	83.8
Utilities	114.3	116.0	115.7	113.9	117.9	140.7	141.0	141.4	141.7	142.0	81.3	82.3	81.8	80.4	83.0
Electric utilities	132.4	134.4	135.8	134.9	139.5	156.7	157.4	158.2	159.0	159.8	84.5	85.4	85.9	84.8	87.3

Note. Data for output are percentages of 1977 output as shown in the Federal Reserve's seasonally adjusted indexes of industrial production. Capacity is also expressed as a percentage of 1977 actual output. Capacity utilization percentages are calculated as ratios of production to capacity.

INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1967 -89 Ave.	1989 Jan	1989 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1990 Jan
Materials	92.0	70.5	89.1	68.5	82.4	84.6	83.8	83.6	83.7	83.9	83.6	83.5	83.2	82.5	81.7
Durable goods materials	91.8	64.4	89.8	60.9	79.2	82.1	81.0	81.1	81.3	81.7	81.2	80.3	79.9	78.9	78.2
Metal materials	99.2	67.1	93.6	45.7	78.1	86.1	79.8	80.6	82.3	82.7	81.9	81.5	77.7	74.9	77.3
Raw steel	106.0	66.4	98.9	36.1	80.9	93.3	83.7	85.4	85.4	89.0	84.0	84.7	80.2	76.7	
Aluminum	95.7	73.0	97.4	58.8	88.3	100.2	98.4	99.6	101.2	99.9	96.4	93.9	96.9	97.1	
Nondurable goods materials	91.1	66.7	88.1	70.7	83.8	90.1	88.7	88.7	89.2	88.8	87.5	88.3	87.7	87.1	86.7
Textile, paper, & chem. mat.	92.8	64.8	89.4	68.8	84.3	91.5	89.6	89.8	90.6	90.1	88.8	89.4	88.5	87.8	87.1
Pulp & paper materials	98.4	70.6	97.3	79.9	92.1	98.1	93.2	93.7	95.0	95.1	95.1	96.4	94.7	94.2	
Chemical materials	92.5	64.4	87.9	63.5	81.6	90.7	88.4	88.5	89.5	88.6	86.7	87.4	86.9	85.9	
Energy materials	94.6	86.9	94.0	82.3	88.7	84.9	85.5	83.8	83.9	84.3	85.4	86.1	86.3	86.2	84.8

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	Output					Capacity					Utilization				
	1988 QIV	1989 QI	QII	QIII	QIV	1988 QIV	1989 QI	QII	QIII	QIV	1988 QIV	1989 QI	QII	QIII	QIV
Materials	128.0	127.6	127.9	128.6	128.2	150.8	151.7	152.6	153.5	154.4	84.9	84.1	83.9	83.8	83.0
Durable goods materials	139.2	138.6	139.0	140.4	138.5	169.0	170.1	171.3	172.5	173.7	82.4	81.5	81.1	81.4	79.7
Metal materials	94.8	92.3	90.0	91.4	86.9	109.8	110.2	110.6	111.0	111.4	86.3	83.8	81.4	82.3	78.1
Raw steel	79.5	79.8	76.2	78.2	73.6	89.2	89.6	90.2	90.8	91.4	89.1	89.0	84.5	86.1	80.5
Aluminum	97.8	98.5	99.1	98.9	96.2	97.9	98.7	99.2	99.7	100.2	99.9	99.7	99.8	99.2	96.0
Nondurable goods materials	135.4	136.3	137.1	137.9	138.0	151.2	152.7	154.2	155.8	157.4	89.5	89.3	88.9	88.5	87.7
Textile, paper, & chem. mat.	138.1	139.2	139.8	141.1	140.6	151.8	153.5	155.3	157.0	158.8	91.0	90.7	90.0	89.8	88.5
Pulp & paper materials	148.6	148.4	146.1	149.8	151.6	152.3	154.0	155.8	157.6	159.4	97.6	96.4	93.8	95.1	95.1
Chemical materials	144.1	145.4	145.7	146.5	145.9	159.3	161.4	163.7	165.9	168.2	90.5	90.1	89.0	88.3	86.7
Energy materials	102.0	100.7	100.7	99.8	101.7	118.7	118.4	118.3	118.1	118.0	86.0	85.0	85.1	84.5	86.2

Explanatory Notes.

Definition. This release contains estimates of output, capacity, and capacity utilization for the nation's factories, mines, and electric and gas utilities. Output data are the Federal Reserve's seasonally adjusted indexes of industrial production, which express output as percentages of 1977 output. The capacity estimates are expressed as percentages of 1977 output as well. Capacity utilization percentages are calculated as ratios of production to capacity. The capacity indexes are based on a variety of data, including capacity data in physical units compiled by trade associations, private and government surveys of capacity growth and utilization rates, and estimates of capital stock growth. The concept of practical capacity is applied, which is defined as the greatest level of output that a plant can maintain within the framework of a realistic work pattern, taking account of normal downtime, and assuming sufficient availability of inputs to operate machinery and equipment in place. When the capacity indexes for individual industries are aggregated—for example to total manufacturing—no explicit account is taken of possible general equilibrium constraints such as emerging industry bottlenecks. Because of the large and heterogeneous database, changes in utilization rates may be more meaningful in the analysis of business conditions than any particular level of these rates.

Groupings. Estimates of capacity and industrial production are aggregated to primary and advanced processing industries, to durable and nondurable manufacturing industries, and to total manufacturing. The mining, manufacturing, and utilities estimates aggregate to the total index. Primary processing

includes textile mill products, paper and products, industrial chemicals, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metal products, and stone, clay, and glass products. Advanced processing includes foods, tobacco products, apparel products, printing and publishing, chemical products such as drugs and toiletries, leather and products, furniture and fixtures, machinery, transportation equipment, instruments, miscellaneous manufactures, and government-owned-and-operated ordnance facilities. Industrial materials are items produced and used as inputs by manufacturing plants, mines, and utilities. Industrial materials include many of the items included in the primary processing grouping of manufacturing, as well as some of the output of the advanced processing industries, mines, and utilities—such as iron ore, crude oil, semiconductors, and electricity sold to industry.

Sources. The basic methodology used to estimate the series is discussed in Richard D. Raddock, "Revised Federal Reserve Rates of Capacity Utilization," *Federal Reserve Bulletin* Vol. 71 (October 1983), pp. 754-66. Historical utilization rates since 1967 (1948 in the case of manufacturing) are included in the statistical supplement to the October 1987 capacity utilization release. Copies may be obtained from Publications Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

Release schedule for 1990. At 9:15 a.m. on January 17, February 16, March 16, April 17, May 15, June 15, July 17, August 16, September 14, October 17, November 14, and December 14.

NOTICE

A revision to Federal Reserve indexes of capacity utilization, industrial production, and electric power use by industries will be published with the release of the March indexes on April 17, 1990. At the same time, the Federal Reserve G.3(402) release, *Capacity Utilization*, and the G12.3 statistical release, *Industrial Production*, will be combined into the single publication:

G17(419) Industrial Production and Capacity Utilization
Indexes of Output, Capacity, Capacity Utilization,
and Electric Power Use by Industries.

Points of Information:

- ◆ The capacity and industrial production indexes will be shown on a 1987 basis, both in terms of value-added weights and base period. Indexes of electric power use by industries will be rebased to 1987.
- ◆ Revisions will date from 1967 for capacity and capacity utilization; from 1977 for industrial production; and from 1972 for electric power.
- ◆ Historical data will be available on magnetic tape from the National Technical Information Service (703-487-4650).
- ◆ The separate system of Capacity Utilization for Materials will be discontinued. Many of its components will be included in Mining and in an improved Primary Processing aggregate for Manufacturing. The revisions and structure modifications to the Capacity and Capacity Utilization indexes will be presented in an article in the May *Federal Reserve Bulletin*.
- ◆ Data shown on the new combined release will be available on the day of issue through the Department of Commerce's online Economic Bulletin Board (202-377-3870).