

# FEDERAL RESERVE statistical release



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For Immediate release

March 17, 1986

## CAPACITY UTILIZATION

### Manufacturing, Mining, Utilities, and Industrial Materials

Capacity utilization in manufacturing, mining, and utilities fell 0.6 percentage point in February to 80.0 percent. This decline mainly resulted from a 0.6 percentage point decrease in manufacturing, while a 2.4 percentage point drop in mining utilization was partially offset by a rise in the operating rate for utilities of 1.1 percentage points. Utilization in total industry was about two percentage points below its recent high during 1984.

Durable and nondurable goods industries showed declines of 0.8 percentage point and 0.5 percentage point respectively in February. The major contributors to the drop in durables were the primary metals and aerospace and miscellaneous transportation equipment industries. Within durable goods industries, only the automobile industry showed a sizable utilization rate increase in February. Within nondurables, utilization for the petroleum products industry declined 1.8 percentage points, after rising 4.4 percentage points to 92.5 percent in January; it was last above 90 percent in 1978.

Capacity utilization in total industrial materials declined 0.6 percentage point to 79.0 percent in February. The operating rate for durable goods materials industries dropped 1.0 percentage point, led by a 1.5 percentage point decline in metal materials utilization. Utilization in nondurable goods materials industries decreased 0.4 percentage point while the energy materials operating rate edged down 0.1 percentage point.

### Capacity Utilization: Summary

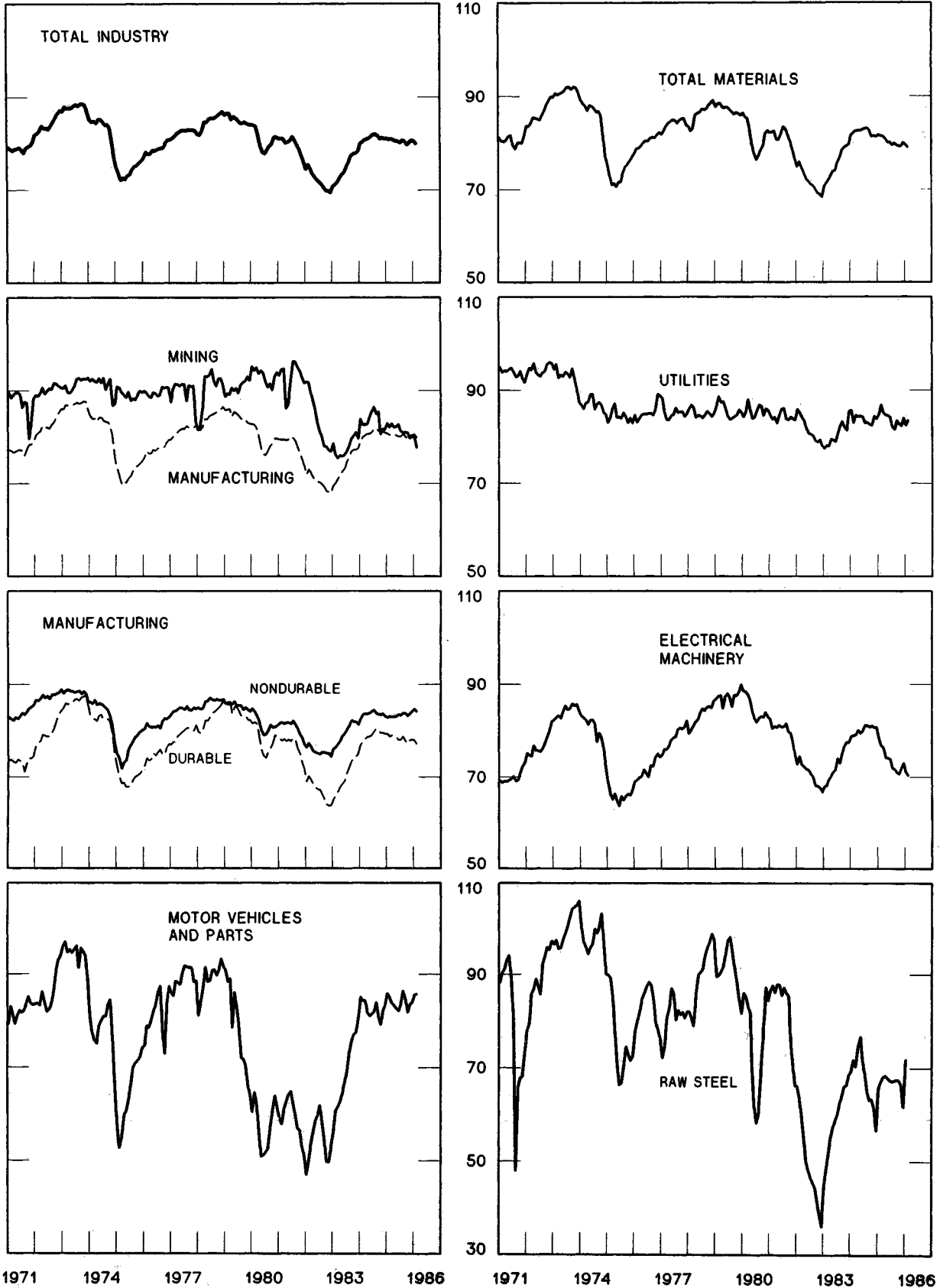
Percent of capacity, seasonally adjusted

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1987 -85 Avg.	1985		1986	
						NOV	DEC	JAN	FEB
<b>Total Industry</b>	88.6	72.1	86.9	69.5	81.7	80.3	80.7	80.6	80.0
<b>Manufacturing</b>	87.7	69.9	86.5	68.0	80.6	80.2	80.4	80.5	79.9
Durable	87.4	67.9	86.3	63.7	78.8	77.9	78.0	77.9	77.1
Nondurable	88.8	71.8	87.0	74.4	83.5	83.6	84.1	84.6	84.1
<b>Mining</b>	92.8	87.8	95.2	76.9	87.7	79.7	80.1	80.1	77.7
<b>Utilities</b>	95.6	82.9	88.5	78.0	87.9	82.3	83.9	82.4	83.5
<b>Industrial Materials</b>	92.0	70.5	89.1	68.4	82.5	79.2	80.0	79.6	79.0

# CAPACITY UTILIZATION

FEBRUARY DATA

SEASONALLY ADJUSTED, PERCENT



# MANUFACTURING, MINING AND UTILITIES

Table 1

## Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973	1975	1978	1982	1987	1985	1985											
	High	Low	-80	Low	-85	FEB	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB			
Total Industry	88.6	72.1	86.9	69.5	81.7	80.9	80.5	80.2	80.7	80.5	79.6	80.3	80.7	80.6	80.0			
Manufacturing	87.7	69.9	86.5	68.0	80.6	80.4	80.1	80.1	80.7	80.1	79.6	80.2	80.4	80.5	79.9			
Primary processing	91.9	68.3	89.1	65.1	81.7	81.5	82.0	82.3	82.9	82.8	83.1	83.0	83.2	84.0	83.2			
Advanced processing	86.0	71.1	85.1	69.5	80.2	79.8	79.3	79.1	79.6	79.0	78.0	79.0	79.2	79.0	78.5			
Durable manufacturing	87.4	67.9	86.3	63.7	78.8	78.7	78.0	78.0	78.7	77.8	77.2	77.9	78.0	77.9	77.1			
Stone, clay and glass products	89.3	67.1	86.6	62.9	77.7	78.1	81.4	80.6	81.2	81.0	80.4	79.9	81.4	82.4				
Primary metals	101.9	67.0	97.1	45.8	80.2	72.1	70.8	71.5	74.3	72.8	75.5	76.0	74.1	76.0	74.4			
Iron and steel, subtotal	105.8	66.6	100.3	37.6	79.4	65.4	64.9	66.1	69.0	67.2	72.0	72.9	69.7	71.5				
Nonferrous metals, subtotal	95.6	62.1	91.1	60.8	81.3	83.1	80.2	80.2	82.7	81.7	81.0	80.9	80.9	83.1				
Fabricated metal products	85.0	64.7	87.4	61.3	77.9	80.8	80.6	80.5	80.9	80.6	81.2	80.9	81.5	82.2	81.6			
Nonelectrical machinery	89.0	68.2	86.0	62.9	78.5	75.5	74.6	75.2	75.8	74.1	72.0	73.0	72.8	72.0	71.2			
Electrical machinery	85.7	63.7	89.9	66.9	78.3	76.8	73.9	71.9	71.7	71.0	70.7	72.0	73.0	71.0	70.3			
Motor vehicles and parts	97.1	52.7	93.3	47.0	78.0	85.0	82.2	83.6	86.3	84.8	81.9	83.5	83.9	85.5	85.7			
Automobiles			93.3	36.6		83.7	79.2	82.2	82.0	79.6	74.0	75.8	79.4	82.2	85.9			
Aerospace and misc. trans. eqp.	77.0	69.6	87.1	70.7	76.6	80.8	84.2	85.0	86.2	86.6	87.0	87.6	87.2	88.1	86.3			
Instruments	89.2	74.9	88.9	77.8	83.4	83.5	83.5	83.4	83.5	81.8	81.7	82.0	81.6	81.8	81.5			
Other durables	87.7	69.0	81.0	69.1	81.8	82.3	83.2	83.2	83.4	83.6	83.5	83.2	83.2	83.1	82.1			
Nondurable manufacturing	88.8	71.8	87.0	74.4	83.5	83.0	83.4	83.3	83.7	83.7	83.2	83.6	84.1	84.6	84.1			
Food and kindred products	85.8	77.6	85.1	76.5	82.4	79.6	80.2	80.2	80.2	79.9	78.6	78.8	79.0	79.6				
Textile mill products	92.1	58.9	88.3	70.6	84.5	80.5	84.2	84.7	86.5	86.7	85.2	87.7	86.2	85.0				
Paper and products	95.6	67.7	92.7	80.8	88.4	91.3	91.2	92.4	91.2	91.8	90.7	91.2	93.2	93.7				
Chemicals and products	88.6	69.2	82.9	67.6	78.7	78.4	78.2	78.0	78.9	79.3	78.4	78.4	78.4	78.9				
Petroleum products	99.6	83.7	91.7	69.7	87.7	81.5	85.3	86.7	86.8	84.7	86.6	86.5	88.1	92.5	90.7			
Rubber and plastics products	97.5	59.5	89.4	71.2	84.6	87.9	86.3	86.0	87.0	87.0	86.7	87.4	86.8	86.6				
Other nondurables	86.4	72.3	92.4	78.9	86.1	87.4	87.7	86.8	87.3	87.3	87.9	88.6	89.9	90.2	89.1			
Mining	92.8	87.8	95.2	76.9	87.7	82.1	82.7	81.2	80.9	81.0	80.9	79.7	80.1	80.1	77.7			
Utilities	95.6	82.9	88.5	78.0	87.9	86.7	84.1	81.9	81.5	83.4	82.7	82.3	83.9	82.4	83.5			
Electric utilities	98.7	83.0	87.6	78.2	88.7	85.4	82.6	81.0	80.2	82.6	81.5	80.8	82.6	80.8	81.9			

Table 2

## Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
Total Industry	123.1	123.8	124.2	124.8	125.4	151.7	152.8	154.0	155.1	156.2	81.2	81.0	80.7	80.5	80.3
Manufacturing	125.8	126.0	126.6	127.6	128.3	155.2	156.5	157.7	158.9	160.2	81.0	80.5	80.3	80.3	80.1
Primary processing	107.0	107.5	108.1	109.5	110.3	131.4	131.6	132.0	132.4	132.8	81.5	81.6	81.9	82.7	83.1
Advanced processing	137.0	137.1	137.9	138.6	139.1	169.6	171.4	173.2	174.9	176.7	80.8	80.0	79.6	79.2	78.7
Durable manufacturing	127.3	127.7	127.9	128.5	128.9	160.3	161.7	163.1	164.5	165.8	79.4	79.0	78.5	78.1	77.7
Stone, clay and glass products	112.9	111.5	115.6	115.8	116.1	140.6	141.4	142.3	143.2	144.1	80.3	78.8	81.2	80.9	80.6
Primary metals	80.2	81.2	78.7	80.4	82.7	111.9	111.1	110.8	110.4	110.0	71.7	73.1	71.0	72.9	75.2
Iron and steel, subtotal	70.4	70.9	68.3	70.0	73.9	106.0	104.8	104.3	103.8	103.3	66.4	67.6	65.5	67.4	71.5
Nonferrous metals, subtotal	98.8	100.7	98.3	100.2	99.4	123.0	123.0	122.9	122.9	122.8	80.3	81.9	80.0	81.5	80.9
Fabricated metal products	105.4	107.5	108.3	107.5	108.4	132.9	133.1	133.2	133.3	133.4	79.3	80.8	81.3	80.7	81.2
Nonelectrical machinery	145.6	145.5	147.9	147.7	144.8	189.3	191.8	194.3	196.9	199.4	76.9	75.9	76.1	75.0	72.6
Electrical machinery	179.2	174.1	169.2	165.6	168.6	221.7	225.5	228.5	231.5	234.5	80.8	77.2	74.1	71.5	71.9
Motor vehicles and parts	106.7	112.3	110.6	115.0	113.9	130.7	132.3	133.9	135.4	137.0	81.7	84.9	82.7	84.9	83.1
Automobiles	101.9	115.9	112.5	114.6	109.2	135.3	137.3	139.2	141.0	142.9	75.3	84.4	80.8	81.2	76.4
Aerospace and misc. trans. eqp.	127.9	131.8	135.4	140.0	142.4	162.5	162.6	162.8	162.9	163.1	78.7	81.1	83.2	85.9	87.3
Instruments	138.7	138.8	139.7	140.8	140.4	164.3	166.0	167.9	169.8	171.7	84.4	83.6	83.2	82.9	81.8
Other durables	121.2	120.5	122.7	123.9	124.7	145.1	146.2	147.4	148.5	149.7	83.5	82.4	83.3	83.4	83.3
Nondurable manufacturing	123.5	123.6	124.9	126.4	127.4	148.1	149.2	150.2	151.2	152.3	83.4	82.9	83.1	83.6	83.6
Food and kindred products	128.9	128.7	131.3	132.4	131.4	161.2	162.6	164.0	165.3	166.7	80.0	79.2	80.1	80.1	78.8
Textile mill products	97.4	97.2	100.8	105.7	106.4	122.2	122.4	122.7	122.9	123.2	79.7	79.4	82.1	86.0	86.4
Paper and products	128.0	127.2	125.4	128.4	128.9	137.6	138.4	139.1	139.9	140.6	93.0	91.9	90.2	91.8	91.7
Chemicals and products	123.7	126.0	126.3	127.9	128.1	159.7	160.6	161.5	162.4	163.3	77.5	78.5	78.2	78.7	78.4
Petroleum products	85.4	84.3	87.2	87.5	87.9	103.8	103.0	102.3	101.6	100.9	82.3	81.8	85.2	86.0	87.1
Rubber and plastics products	146.4	145.3	144.9	147.4	149.7	163.9	165.8	167.9	170.0	172.1	89.3	87.6	86.3	86.7	87.0
Other nondurables	126.5	126.3	127.6	128.2	131.7	143.1	144.5	145.8	147.0	148.3	88.4	87.4	87.6	87.2	88.8
Mining	108.3	110.1	110.0	108.5	107.6	133.1	133.4	133.6	133.9	134.1	81.3	82.6	82.3	81.0	80.2
Utilities	111.1	114.2	113.6	111.4	113.1	133.0	133.7	134.5	135.4	136.3	83.5	85.5	84.4	82.3	83.0
Electric utilities	117.7	120.1	119.3	118.3	119.9	141.7	142.8	144.2	145.5	146.9	83.0	84.1	82.8	81.3	81.6

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	1975	1978	1982	1967	1985	1985											
	High	Low	High	Low	Avg.	FEB	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB			
<b>Materials Industrial</b>	92.0	70.5	89.1	68.4	82.5	81.5	80.1	79.5	79.9	79.5	79.3	79.2	80.0	79.6	79.0			
Durable goods materials	91.0	64.4	89.8	60.9	79.4	79.1	76.5	75.8	76.6	75.4	75.2	75.8	75.7	75.8	74.8			
Metal materials	99.2	67.1	93.6	45.7	78.4	68.2	69.0	66.4	69.4	67.3	69.4	70.0	70.4	70.1	68.6			
Raw steel	106.0	66.4	98.9	36.1	81.1	67.2	67.4	67.2	67.4	67.6	67.4	66.4	61.8	71.9				
Aluminum	95.7	73.0	97.4	58.8	88.0	76.6	72.0	71.0	70.5	70.3	68.5	66.0	65.7	66.0				
Nondurable goods materials	91.1	66.7	88.1	70.6	83.2	81.1	81.0	81.7	82.1	82.9	81.9	81.5	82.6	82.3	81.9			
Textile, paper, and chemical materials	92.8	64.8	89.4	68.6	83.6	82.0	81.4	82.7	82.8	83.7	82.4	82.1	83.3	83.0	82.6			
Pulp and paper materials	98.4	70.6	97.3	79.9	91.3	92.6	90.5	91.7	90.1	90.7	88.8	90.1	94.4	94.2				
Chemical materials	92.5	64.4	87.9	63.3	80.8	80.2	79.2	80.1	79.8	81.2	80.5	78.8	79.9	79.6				
Energy materials	94.6	86.9	94.0	82.2	89.7	87.4	87.3	85.8	85.1	85.6	86.2	84.7	87.4	85.9	85.8			

Table 4

## Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1984	1985	1984	1985	1984	1984	1985	1984	1985	1984	1984	1985	1984	1985	1984
<b>Materials Industrial</b>	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4
	114.5	115.4	114.5	114.2	114.7	140.7	141.6	142.5	143.4	144.3	81.4	81.5	80.4	79.6	79.5
Durable goods materials	123.7	123.6	121.4	120.7	121.3	154.4	155.9	157.4	158.9	160.5	80.1	79.3	77.1	76.0	75.6
Metal materials	80.4	80.6	80.2	79.4	82.3	117.8	117.3	117.3	117.3	117.3	68.2	68.7	68.4	67.7	70.2
Raw steel	64.1	70.4	71.2	70.7	68.3	105.8	104.9	104.9	104.8	104.8	60.6	67.1	67.9	67.4	65.2
Aluminum	95.9	90.9	86.4	83.5	78.8	119.0	118.8	118.6	118.3	118.1	80.6	76.5	72.9	70.6	66.7
Nondurable goods materials	110.9	110.9	111.2	113.7	113.7	136.8	137.3	137.8	138.2	138.7	81.0	80.7	80.7	82.2	82.0
Textile, paper and chemical materials	110.7	111.6	111.0	114.1	113.9	136.2	136.7	137.0	137.4	137.8	81.3	81.7	81.0	83.0	82.6
Pulp and paper materials	126.2	126.3	121.8	123.8	124.3	135.3	136.1	136.2	136.3	136.5	93.3	92.8	89.4	90.8	91.1
Chemical materials	110.9	113.2	112.6	114.6	114.1	141.1	141.5	142.0	142.6	143.1	78.6	80.0	79.3	80.4	79.7
Energy materials	101.3	105.0	105.2	103.2	104.2	119.7	120.8	120.3	120.6	120.9	84.6	87.5	87.5	85.5	86.1

**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 for manufacturing industries are aggregated to primary processing 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. 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.

**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 mining, manufacturing, and utilities as a whole, and for total manufacturing, utilization rates as high as 90 percent have been exceeded only in wartime.

**Revisions.** The first estimates for a month are published about the 17th of the following month. These estimates may revise in each of the next three months as new data become available. After the fourth month no further revisions are undertaken until an annual or benchmark revision. The median of the revisions in the total manufacturing utilization rate between the first and fourth estimate is 0.3 of a percentage point; that is, in about half of the cases, the absolute value of the revision from the first to the fourth estimate is less than 0.3 of a percentage point.

**Sources.** The basic methodology used to estimate the series is discussed in "Revised Federal Reserve Rates of Capacity Utilization", *Federal Reserve Bulletin*, October 1985. Revised data from 1948-84 are included in the statistical supplement to the July 1985 capacity utilization release, which may be obtained from Publications Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

**Rounding.** Utilization rates are calculated from unrounded capacity and production indexes. Aggregates are derived from unrounded detailed components.

**Release schedule for 1986.** Approximately 11 a.m. on January 17, February 18, March 17, April 16, May 16, June 16, July 16, August 18, September 17, October 17, November 17, and December 17.