

# FEDERAL RESERVE statistical release



G.3 (402)

For immediate release

## CAPACITY UTILIZATION

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

April 16, 1984

Capacity utilization in manufacturing, mining and utilities edged up 0.2 percentage point in March to 80.9 percent. Manufacturers operated at 81.1 percent of capacity, the highest level for this series in four years. The utilization rate in manufacturing has risen 12.3 percentage points since its recession low in 1982 and is nearing its 1967-82 average.

In contrast, mines and utilities continued to operate at rates substantially below their long-term averages. In March the utilization rate in mining declined by 0.5 percentage point because of another reduction in drilling for oil and gas. The rate for utilities rose 0.6 percentage point following a 2 percentage point drop in February; these movements reflected changing weather conditions.

Within manufacturing, the largest increases occurred in petroleum products, which continued to rebound following a sharp dip last December. Substantial increases also occurred in the electrical machinery and motor vehicle industries which are operating at relatively high rates of utilization. Output in the paper industry pressed more closely against capacity as the utilization rate rose 0.3 percentage point to 98.5 percent. Utilization rates in the primary and fabricated metals and nonelectrical machinery industries rose somewhat, while rates were unchanged or declined slightly for a number of industries.

Producers of industrial materials operated at 81.9 percent of capacity in March, up 0.3 percentage point from the month before. The utilization for durable goods materials rose 0.5 percentage point while that for nondurable goods materials was unchanged. The rate for energy materials edged up another 0.2 percentage point to 84.6 percent of capacity.

### Capacity Utilization: Summary

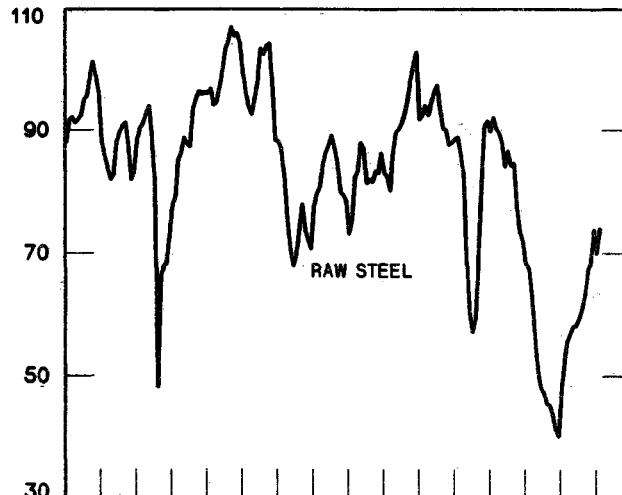
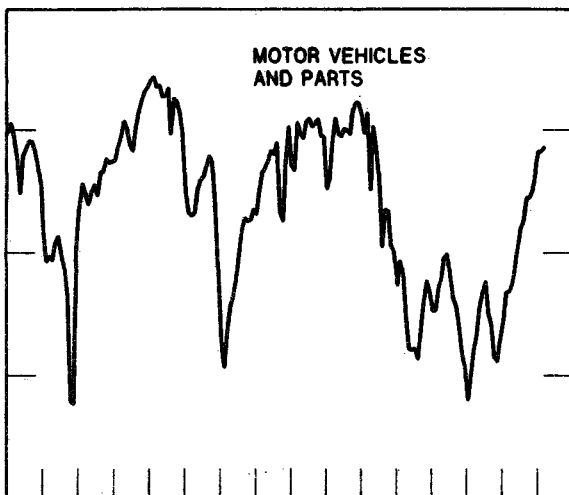
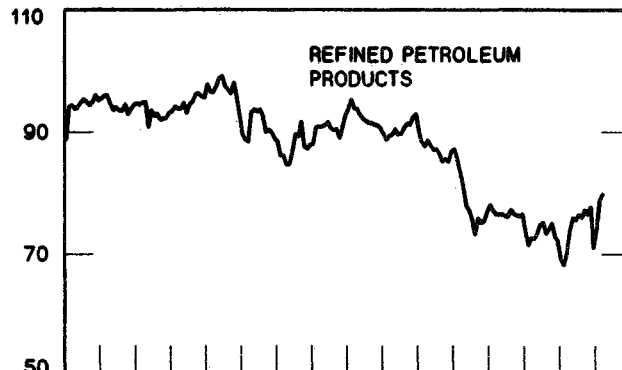
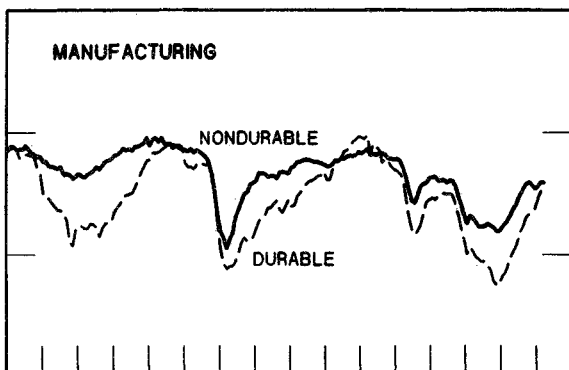
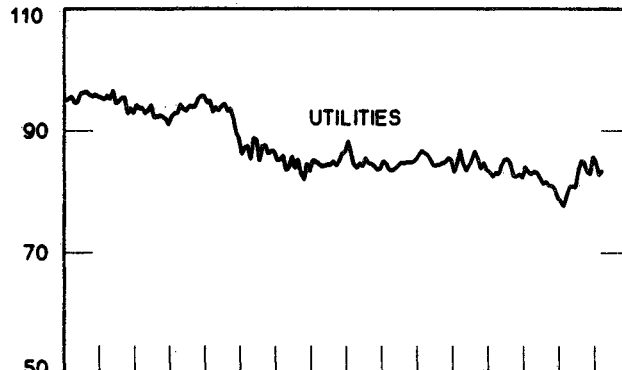
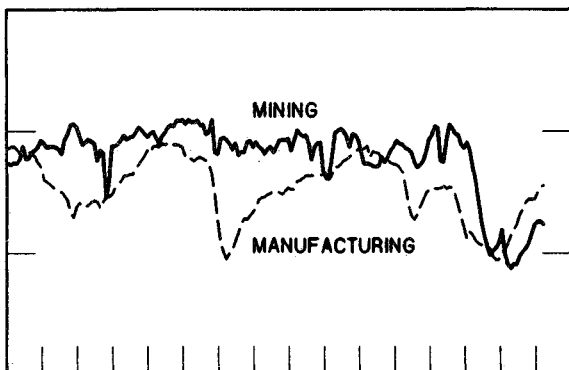
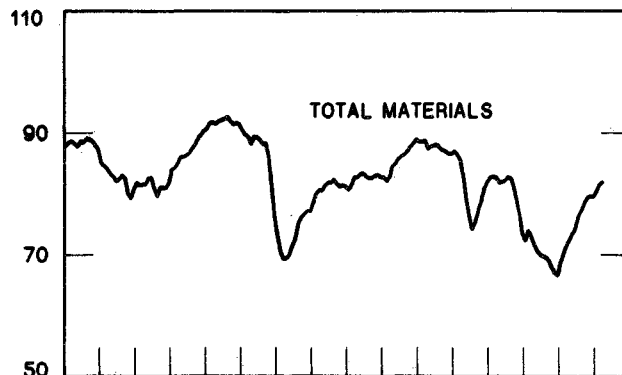
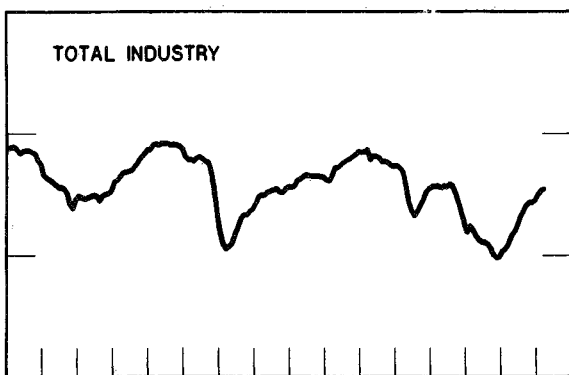
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1983 1984			
						DEC	JAN	FEB	MAR
<b>Total Industry</b>	88.4	71.1	87.3	69.6	82.4	79.1	80.0	80.7	80.9
Manufacturing	87.9	69.0	87.5	68.8	81.8	78.9	80.0	80.9	81.1
Durable	87.9	67.6	89.4	64.8	80.5	77.5	79.1	80.3	80.5
Nondurable	89.1	71.0	87.2	73.8	83.9	80.7	81.2	81.8	81.7
Mining	91.8	86.0	90.4	69.6	86.5	74.7	75.2	75.2	74.7
Utilities	94.9	82.0	86.8	79.0	88.6	85.7	84.8	82.8	83.4
<b>Industrial Materials</b>	92.6	69.3	88.9	66.6	83.3	79.6	80.5	81.6	81.9

# CAPACITY UTILIZATION

MARCH DATA

SEASONALLY ADJUSTED, PERCENT



1969 1972 1975 1978 1981 1984

1969 1972 1975 1978 1981 1984

# 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 -82 AVER.	YFAR AGO MONTH	1983						1984		
							JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
<b>Total Industry</b>	88.4	71.1	87.3	69.6	82.4	71.8	76.3	77.3	78.2	78.7	78.7	79.1	80.0	80.7	80.9
<b>Manufacturing</b>	87.9	69.0	87.5	68.8	81.8	71.6	76.4	77.3	78.4	78.9	78.8	78.9	80.0	80.9	81.1
Primary processing	93.7	68.2	91.4	66.2	84.0	72.1	77.1	78.1	79.7	80.4	80.0	79.2	80.4	81.6	81.7
Advanced processing	85.5	69.4	85.9	70.0	80.6	71.5	76.0	76.9	77.8	77.9	78.0	78.6	79.8	80.5	80.8
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	68.3	73.6	74.6	76.0	76.5	76.8	77.5	79.1	80.3	80.5
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	67.8	72.6	73.6	75.3	75.3	75.6	76.0	77.5	78.9	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	55.7	59.7	62.5	65.1	70.2	66.0	61.9	67.6	72.4	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	71.8	74.1	73.9	76.0	77.5	77.7	80.5	77.9	79.3	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	64.3	68.9	70.6	71.3	71.0	71.7	72.0	73.4	74.2	74.5
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	61.0	67.3	68.5	68.8	69.1	70.0	70.9	72.7	74.0	74.4
Electrical machinery	88.7	62.3	90.6	74.7	80.0	77.9	83.6	83.8	86.5	87.5	88.0	88.4	90.1	91.5	92.2
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	63.7	74.1	75.3	78.9	79.0	80.2	83.3	86.4	86.5	87.1
Autos	NA	NA	91.6	35.8	NA	59.5	77.3	78.6	80.5	77.2	77.1	81.7	83.6	83.7	84.5
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	68.1	68.0	68.3	68.7	69.6	70.6	71.1	71.7	72.5	72.3
Instruments	89.6	73.7	92.3	73.1	83.5	72.2	74.2	75.1	75.9	75.5	75.4	76.0	76.9	77.4	77.4
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	75.8	79.9	80.8	81.5	81.8	81.3	80.7	81.2	81.8	81.7
Foods	85.7	77.2	85.2	76.5	83.3	76.9	80.0	79.6	78.8	78.3	77.9	78.0	78.9		
Textile mill products	95.4	61.3	91.3	73.0	86.2	80.7	89.9	90.3	91.2	91.2	89.4	88.9	88.1	88.2	
Paper and products	96.7	69.1	95.1	84.2	89.6	88.8	93.4	95.3	96.3	96.8	97.0	95.7	96.7	98.2	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	67.4	70.8	71.2	72.2	73.4	72.3	70.6	70.6	71.2	
Petroleum products	99.1	84.6	93.0	71.5	89.6	70.2	76.5	76.0	77.3	76.5	77.8	71.1	73.9	78.9	79.9
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	80.9	87.8	90.9	92.0	91.9	91.3	92.6	92.5	93.3	
<b>Mining</b>	91.8	86.0	90.4	69.6	86.5	68.1	69.5	70.2	70.8	71.5	73.2	74.7	75.2	75.2	74.7
<b>Utilities</b>	94.9	82.0	86.8	79.0	88.6	79.4	83.5	85.0	84.8	83.3	83.0	85.7	84.8	82.8	83.4
Electric utilities	97.6	82.1	87.0	77.9	89.8	78.5	82.9	84.5	83.9	82.1	81.7	84.7	84.0	81.3	82.0

Table 2

## Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT				1984 I	CAPACITY				1984 I	UTILIZATION				1984 I
	1983 I	II	III	IV		1983 I	II	III	IV		1983 I	II	III	IV	
<b>Total Industry</b>	138.5	144.5	151.8	155.5	159.7	194.6	195.5	196.4	197.3	198.3	71.2	73.9	77.3	78.8	80.5
<b>Manufacturing</b>	138.4	145.2	152.8	156.5	160.9	195.7	196.6	197.5	198.4	199.5	70.7	73.8	77.4	78.9	80.7
Primary processing	137.0	145.2	152.8	156.4	159.9	194.3	194.8	195.3	195.8	196.4	70.5	74.6	78.3	79.9	81.2
Advanced processing	139.7	145.1	152.8	156.1	161.8	196.5	197.6	198.6	199.7	201.0	71.1	73.5	76.9	78.2	80.4
Durable manufacturing	124.2	131.1	139.1	143.8	150.1	184.7	185.4	186.1	186.8	187.7	67.2	70.7	74.7	76.9	80.0
Stone, clay and glass products	131.8	139.7	148.5	152.8		199.6	200.4	201.1	201.9		66.0	69.7	73.8	75.7	
Iron and steel, subtotal	63.4	69.2	75.0	79.2		120.1	120.1	120.1	120.1		52.8	57.6	62.5	66.0	
Nonferrous metals, subtotal	102.3	111.2	110.9	116.6		148.4	148.4	148.4	148.4		68.9	74.9	74.7	78.6	
Fabricated metal products	110.6	116.4	125.4	128.2	133.1	176.9	177.6	178.3	179.0	179.8	62.5	65.5	70.3	71.6	74.0
Nonelectrical machinery	137.6	146.2	156.6	161.8	171.6	226.7	228.1	229.6	231.0	232.7	60.7	64.1	68.2	70.0	73.7
Electrical machinery	170.7	179.9	191.1	200.0	209.6	222.4	224.1	225.7	227.4	229.5	76.8	80.3	84.7	88.0	91.3
Motor vehicles and parts	120.0	130.7	145.8	154.2	165.6	193.7	192.7	191.7	190.7	190.9	62.0	67.8	76.1	80.8	86.7
Autos	101.4	109.5	132.3	132.1	141.7	167.8	167.8	167.8	167.8	168.7	60.4	65.2	78.8	78.7	83.9
Aerospace and misc. trans. eqp.	97.9	98.1	99.2	103.0	106.2	143.1	144.2	145.2	146.3	147.2	68.4	68.0	68.3	70.4	72.2
Instruments	154.0	155.7	161.5	163.5	168.0	213.0	214.1	215.1	216.2	217.5	72.3	72.8	75.1	75.6	77.2
Nondurable manufacturing	159.0	165.5	172.7	174.8	176.5	211.7	212.8	213.9	215.0	216.4	75.1	77.8	80.7	81.3	81.6
Foods	153.1	155.7	159.1	157.5		197.2	198.7	200.2	201.7		77.6	78.3	79.5	78.1	
Textile mill products	129.5	139.3	147.6	146.5		163.6	163.4	163.2	163.0		79.1	85.3	90.4	89.8	
Paper and products	156.9	160.5	168.0	171.2		175.9	176.4	176.9	177.4		89.2	91.0	95.0	96.5	
Chemicals and products	201.9	211.4	220.9	225.0		304.1	306.8	309.4	312.1		66.4	68.9	71.4	72.1	
Petroleum products	113.3	122.5	124.2	121.1	124.4	163.8	163.0	162.1	161.3	160.4	69.2	75.2	76.6	75.1	77.6
Rubber and plastics products	264.1	288.3	304.6	311.4		336.0	336.8	337.7	338.5		78.6	85.6	90.2	91.9	
<b>Mining</b>	116.7	112.3	116.1	121.0	124.4	165.2	165.3	165.4	165.5	165.7	70.6	67.9	70.2	73.1	75.1
<b>Utilities</b>	163.6	169.6	178.2	178.4	178.9	208.5	209.8	211.1	212.4	213.8	78.5	80.8	84.4	84.0	83.7
Electric utilities	185.2	192.5	203.6	203.0	203.4	239.2	241.1	243.0	244.9	246.9	77.4	79.8	83.8	82.8	82.4

# INDUSTRIAL MATERIALS

Table 3

## Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	YEAR AGO MONTH	1983						1984		
							JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
<b>Industrial Materials</b>	92.6	69.3	88.9	66.6	83.3	71.5	76.5	77.4	78.6	79.5	79.6	79.6	80.5	81.6	81.9
Durable goods materials	91.4	63.5	88.4	59.8	79.7	66.0	72.1	73.6	75.2	76.1	76.5	77.0	78.5	80.2	80.7
Metal materials	97.8	68.0	95.4	46.2	82.2	58.8	62.3	64.0	65.5	68.0	66.8	66.8	67.3	70.6	71.3
Raw steel	107.1	68.0	102.9	40.2	84.8	55.7	59.4	61.0	63.3	67.5	68.6	73.8	70.0	74.0	
Aluminum	96.8	73.4	97.9	57.9	90.6	59.8	68.0	71.2	73.6	75.1	76.0	79.0	79.8	82.2	
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	76.8	80.7	81.1	82.9	84.1	83.8	81.6	81.8	82.4	82.4
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	75.8	80.4	80.5	82.6	84.1	83.7	81.2	81.4	82.0	82.1
Paper materials	99.4	72.4	97.9	86.3	93.4	90.3	96.7	96.9	99.0	99.4	101.3	98.8	99.3	99.1	
Chemical materials	95.5	64.2	91.3	64.0	85.1	71.9	75.9	75.5	77.8	79.7	79.0	76.2	76.5	77.4	
Energy materials	94.5	84.4	88.9	78.5	88.5	79.2	82.6	82.8	81.6	81.4	81.8	83.6	84.2	84.4	84.6

Table 4

## Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1983 I	II	III	IV	1984 I	1983 I	II	III	IV	1984 I	1983 I	II	III	IV	1984 I
<b>Industrial Materials</b>	134.8	141.7	149.9	154.3	158.4	192.3	192.9	193.4	194.0	194.7	70.1	73.5	77.5	79.6	81.3
Durable goods materials	125.2	134.7	144.2	150.3	157.3	195.2	195.6	196.0	196.5	197.1	64.2	68.9	73.6	76.5	79.8
Metal materials	78.6	84.9	89.3	93.8	97.0	140.2	139.9	139.8	139.6	139.1	56.1	60.7	63.9	67.2	69.7
Raw steel	61.9	68.7	72.7	82.8		119.4	119.1	118.8	118.5		51.9	57.7	61.2	69.9	
Aluminum	99.0	105.1	119.0	128.6		167.7	167.7	167.7	167.7		59.0	62.7	70.9	76.7	
Nondurable goods materials	163.7	171.7	179.1	183.5	182.3	217.8	218.8	219.6	220.6	221.8	75.2	78.5	81.5	83.2	82.2
Textile, paper and chemical materials	169.3	179.6	188.0	193.2	191.8	229.4	230.7	231.6	232.7	234.2	73.8	77.9	81.2	83.0	81.9
Paper materials	149.9	153.4	162.8	167.4		165.3	166.1	166.9	167.7		90.7	92.3	97.5	99.8	
Chemical materials	204.7	219.4	227.8	235.0		294.8	296.6	298.3	300.1		69.4	74.0	76.4	78.3	
Energy materials	122.2	121.5	127.4	127.8	131.5	153.9	154.3	154.7	155.3	155.8	79.5	78.7	82.3	82.3	84.4

**Definition.** This release contains estimates of output, capacity, and capacity utilization for the nation's factories, mines, and electric and gas utilities. Estimates of actual output and capacity output are expressed as percentages of 1967 actual output. Estimates of capacity utilization are calculated as ratios, in percent, of the Federal Reserve's seasonally adjusted indexes of industrial production to the indexes of capacity. The capacity indexes are based on a variety of data, including capacity data in physical units, surveys of capacity growth and utilization rates, and estimates of capital stock growth. Instead of a formal definition of capacity the concept of practical capacity is applied, which is 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.

**Groupings.** Estimates of capacity and industrial production for manufacturing industries are aggregated to primary processing and advanced processing industries, to durable and non-durable 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 methodology used to estimate the series is discussed in *New Federal Reserve Measures of Capacity and Capacity Utilization*, Federal Reserve Bulletin, July 1983. Revised data from 1967-82 are included in the statistical supplement to the July 1983 capacity utilization release, which may be obtained from Publications Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

**Rounding.** The rounding algorithms applied to the capacity, output, and utilization rate series are independent. Aggregates are derived from unrounded detailed components.

**Release schedule for 1984.** Approximately 11 a.m. on February 16, March 16, April 16, May 16, June 18, July 16, August 16, September 17, October 17, November 16, and December 17.