

FEDERAL RESERVE statistical release



G.3 (402)

For Immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

March 16, 1984

Capacity utilization in manufacturing, mining and utilities rose 0.9 percentage point in February to 80.7 percent, and the operating rate in manufacturing alone rose a percentage point to 81.0 percent. In contrast, the rate for mining fell 0.4 percentage point, reflecting another decline in oil and gas well drilling, and the rate for utilities dropped as the generation of electricity declined in response to the less severe temperatures in February. The February utilization rate for manufacturing was at its highest level since May 1981 and was only slightly below the average utilization rate observed for the 1967-1982 period.

Within manufacturing, operating rates for producers of durable goods rose 1.3 percentage points. In early 1984 utilization in the steel industry resumed rising sharply following a dip in late 1983, and the rate for electrical machinery, which was already high, has advanced strongly further. In nondurable manufacturing, capacity utilization for the paper and rubber and plastics industries, which also were at above average rates, changed little in February. The rate for petroleum products jumped 4-1/2 percentage points in February to 78.0 percent, following a reduced rate of output in December and January when winter storms occurred. The overall utilization rate for nondurable goods industries advanced 0.7 percentage points in February to 82.2 percent of capacity.

The overall operating rate for producers of industrial materials rose 1.1 percentage point in February to 81.6 percent. The 1967-82 average was 83.3 percent.

Capacity Utilization: Summary

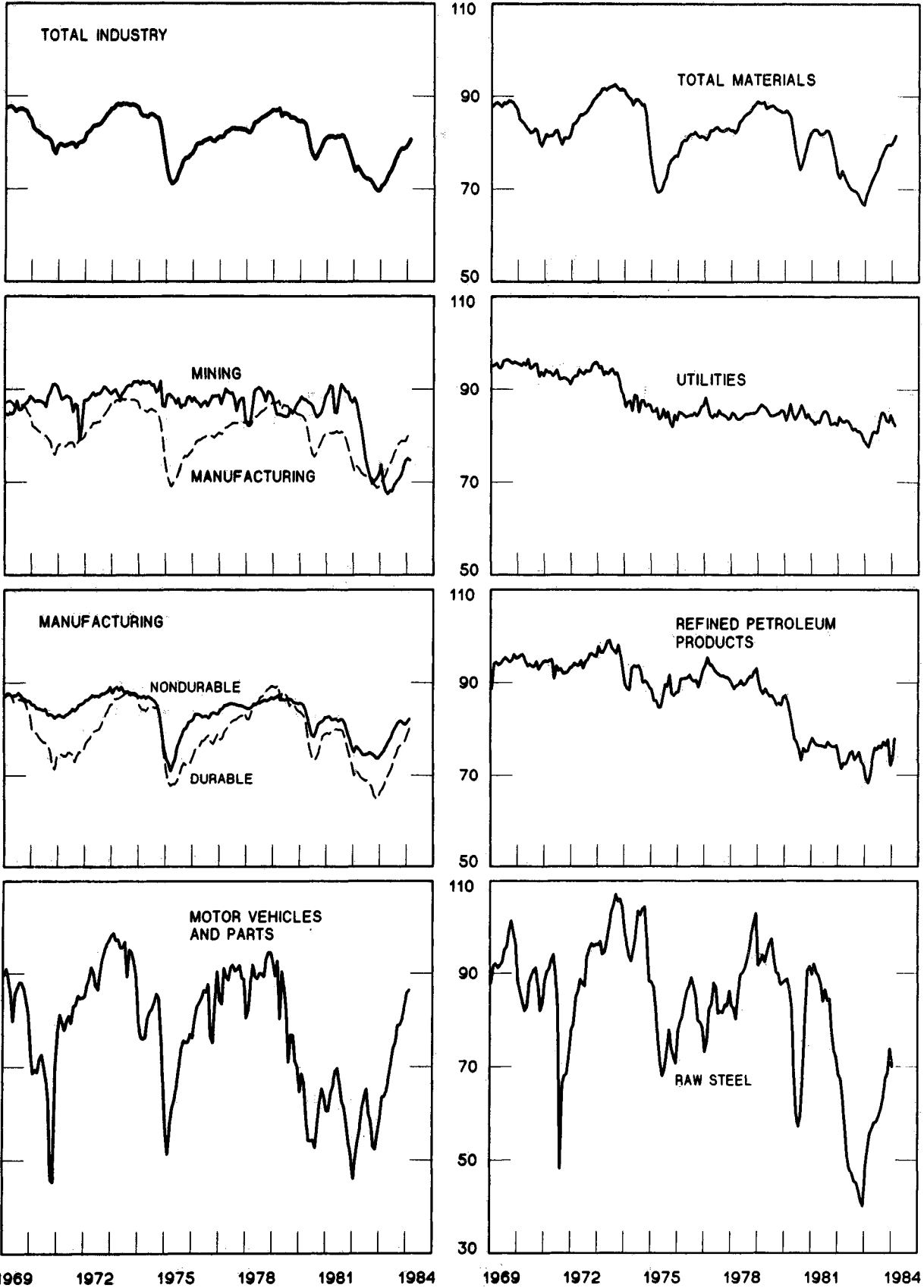
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1983		1984	
						NOV	DEC	JAN	FEB
Total Industry	88.4	71.1	87.3	69.6	82.4.	78.7	79.0	79.8	80.7
Manufacturing	87.9	69.0	87.5	68.8	81.8.	78.8	78.9	80.0	81.0
Durable	87.9	67.6	89.4	64.8	80.5.	76.8	77.4	78.8	80.1
Nondurable	89.1	71.0	87.2	73.8	83.9.	81.3	80.9	81.5	82.2
Mining	91.8	86.0	90.4	69.6	86.5.	73.2	74.7	75.1	74.7
Utilities	94.9	82.0	86.8	79.0	88.6.	83.0	84.5	83.0	82.2
Industrial Materials	92.6	69.3	88.9	66.6	83.3.	79.6	79.6	80.5	81.6

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	1967	YEAR	1983					1984			
	HIGH	LOW	HIGH	LOW	-80	AGO	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Total industry	88.4	71.1	87.3	69.6	82.4	71.0	74.8	76.3	77.3	78.2	78.7	78.7	79.0	79.8	80.7
Manufacturing	87.9	69.0	87.5	68.8	81.8	70.6	74.9	76.4	77.3	78.4	78.9	78.8	78.9	80.0	81.0
Primary processing	93.7	68.2	91.4	66.2	84.0	70.8	75.7	77.1	78.1	79.7	80.4	80.0	79.2	80.6	81.8
Advanced processing	85.5	69.4	85.9	70.0	80.6	70.8	74.4	76.0	76.9	77.8	77.9	78.0	78.6	79.8	80.7
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	67.1	71.8	73.6	74.6	76.0	76.5	76.8	77.4	78.8	80.1
Stones, clay and glass products	88.0	64.0	90.4	63.0	78.4	66.0	70.6	72.6	73.6	75.3	75.3	75.6	76.3	77.5	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	53.6	58.0	59.7	62.5	65.1	70.2	66.0	61.9	69.5	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	68.7	75.4	74.1	73.9	76.0	77.5	77.7	80.1	77.8	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	62.4	66.6	68.9	70.6	71.3	71.0	71.7	72.0	73.1	74.1
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	60.1	65.4	67.3	68.5	68.8	69.1	70.0	78.7	71.4	72.4
Electrical machinery	88.7	62.3	90.6	74.7	80.0	76.0	81.2	83.6	83.8	86.5	87.5	88.0	88.3	90.5	92.1
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	63.5	70.8	74.1	75.3	78.9	79.0	80.2	83.1	85.8	86.4
Autos	NA	NA	91.6	35.8	NA	63.9	70.5	77.3	78.6	80.5	77.2	77.1	81.6	83.2	82.2
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	67.8	67.9	68.0	68.3	68.7	69.6	70.6	71.1	71.7	73.3
Instruments	89.6	73.7	92.3	73.1	83.5	72.0	72.8	74.2	75.1	75.9	75.5	75.4	76.0	77.0	77.7
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	75.1	78.7	79.9	80.8	81.5	81.8	81.3	80.9	81.5	82.2
Foods	85.7	77.2	85.2	76.5	83.3	77.6	79.2	80.0	79.6	78.8	78.3	77.9	78.0	78.0	
Textile mill products	95.4	61.3	91.3	73.0	86.2	79.9	86.8	89.9	90.3	91.2	91.2	89.4	89.2	89.4	
Paper and products	96.7	69.1	95.1	84.2	89.6	88.5	92.3	93.4	95.3	96.3	96.8	97.0	96.2	96.8	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	66.5	69.8	70.8	71.2	72.2	73.4	72.3	71.0	71.3	
Petroleum products	99.1	84.6	93.0	71.5	89.6	68.2	75.6	76.5	76.0	77.3	76.5	77.8	72.2	73.5	78.0
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	78.6	87.2	87.8	90.9	92.0	91.9	91.3	92.3	92.7	
Mining	91.8	86.0	90.4	69.6	86.5	69.9	68.1	69.5	70.2	70.8	71.5	73.2	74.7	75.1	74.7
Utilities	94.9	82.0	86.8	79.0	88.6	77.7	80.8	83.5	85.0	84.8	83.3	83.0	84.5	83.0	82.2
Electric utilities	97.6	82.1	87.0	77.9	89.8	76.5	79.4	82.9	84.5	83.9	82.1	81.7	83.5	81.5	80.5

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1982	1983				1982	1983				1982	1983			
	IV	I	II	III	IV	IV	I	II	III	IV	IV	I	II	III	IV
Total industry	135.3	138.5	144.5	151.8	155.5	193.7	194.6	195.5	196.4	197.3	69.8	71.2	73.9	77.3	78.8
Manufacturing	134.5	138.4	145.2	152.8	156.5	194.8	195.7	196.6	197.5	198.4	69.0	70.7	73.8	77.4	78.9
Primary processing	129.3	137.0	145.2	152.8	156.4	193.7	194.3	194.8	195.3	195.8	66.8	70.5	74.6	78.3	79.9
Advanced processing	137.3	139.7	145.1	152.8	156.1	195.4	196.5	197.6	198.6	199.7	70.2	71.1	73.5	76.9	78.2
Durable manufacturing	119.8	124.2	131.1	139.1	143.7	184.0	184.7	185.4	186.1	186.8	65.1	67.2	70.7	74.7	76.9
Stones, clay and glass products	126.9	131.8	139.7	148.5	152.9	198.8	199.6	200.4	201.1	201.9	63.8	66.0	69.7	73.8	75.7
Iron and steel, subtotal	49.4	63.4	69.2	75.0	79.2	120.5	120.1	120.1	120.1	120.1	41.0	52.8	57.6	62.5	66.0
Nonferrous metals, subtotal	94.3	102.3	111.2	110.9	116.4	148.4	148.4	148.4	148.4	148.4	63.6	68.9	74.9	74.7	78.4
Fabricated metal products	107.3	110.6	116.4	125.4	128.2	176.2	176.9	177.6	178.3	179.0	60.9	62.5	65.5	70.3	71.6
Nonelectrical machinery	139.7	137.6	146.2	156.6	161.6	225.3	226.7	228.1	229.6	231.0	62.0	60.7	64.1	68.2	69.9
Electrical machinery	165.5	170.7	179.9	191.1	200.0	220.9	222.4	224.1	225.7	227.4	74.9	76.8	80.3	84.7	87.9
Motor vehicles and parts	104.5	120.0	130.7	145.8	154.1	194.4	193.7	192.7	191.7	190.7	53.8	62.0	67.8	76.1	80.8
Autos	81.7	101.4	109.5	132.3	132.1	168.2	167.8	167.8	167.8	167.8	48.6	60.4	65.2	78.8	78.6
Aerospace and misc. trans. eqp.	98.7	97.9	98.1	99.2	103.0	142.1	143.1	144.2	145.2	146.3	69.5	68.4	68.0	68.3	70.4
Instruments	156.1	154.0	155.7	161.5	163.5	212.0	213.0	214.1	215.1	216.2	73.7	72.3	72.8	75.1	75.6
Nondurable manufacturing	155.7	159.0	165.5	172.7	174.9	210.5	211.7	212.8	213.9	215.0	74.0	75.1	77.8	80.7	81.3
Foods	152.1	153.1	155.7	159.1	157.5	195.8	197.2	198.7	200.2	201.7	77.7	77.6	78.3	79.5	78.1
Textile mill products	123.7	129.5	139.3	147.6	146.6	163.8	163.6	163.4	163.2	163.0	75.5	79.1	85.3	90.4	89.9
Paper and products	153.5	156.9	160.5	168.0	171.5	175.3	175.9	176.4	176.9	177.4	87.6	89.2	91.0	95.0	96.7
Chemicals and products	194.3	201.9	211.4	220.9	225.4	301.3	304.1	306.8	309.4	312.1	64.5	66.4	68.9	71.4	72.2
Petroleum products	120.8	113.3	122.5	124.2	121.8	164.6	163.8	163.0	162.1	161.3	73.4	69.2	75.2	76.6	75.5
Rubber and plastics products	252.1	244.1	288.3	304.6	310.9	335.8	336.0	336.8	337.7	338.5	75.3	78.6	85.6	90.2	91.8
Mining	117.0	116.7	112.3	116.1	121.0	165.1	165.2	165.3	165.4	165.5	70.9	70.6	67.9	70.2	73.1
Utilities	166.2	163.6	169.6	178.2	177.6	207.4	208.5	209.8	211.1	212.4	80.1	78.5	80.8	84.4	83.6
Electric utilities	187.4	185.2	192.5	203.6	202.0	237.7	239.2	241.1	243.0	244.9	78.8	77.4	79.8	83.8	82.4

INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973	1975	1978	1982	1967	YEAR	1983						1984		
	HIGH	LOW	-80 HIGH	LOW	-82 AVER.	AGO MONTH	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Industrial Materials	92.6	69.3	88.9	66.6	83.3	70.1	78.4	76.5	77.4	78.6	79.5	79.6	79.6	80.5	81.6
Durable goods materials	91.4	63.5	88.4	59.8	79.7	64.2	70.0	72.1	73.6	75.2	76.1	76.5	76.9	78.3	79.8
Metal materials	97.8	68.0	95.4	46.2	82.2	56.1	61.2	62.3	64.0	65.5	68.0	66.8	66.6	68.1	70.1
Raw steel	107.1	68.0	102.9	40.2	84.8	52.1	58.2	59.4	61.0	63.3	67.5	68.6	73.8	70.0	
Aluminum	96.8	73.4	97.9	57.9	90.6	58.3	64.5	68.0	71.2	73.6	75.1	76.0	79.0	79.8	
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	75.3	79.6	80.7	81.1	82.9	84.1	83.8	82.2	82.6	83.4
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	74.1	79.2	80.4	80.5	82.6	84.1	83.7	81.9	82.4	83.1
Paper materials	99.4	72.4	97.9	86.3	93.4	90.8	93.1	96.7	96.9	99.0	99.4	101.3	99.4	99.5	
Chemical materials	95.5	64.2	91.3	64.0	85.1	69.9	75.3	75.9	75.5	77.8	79.7	79.0	77.1	77.7	
Energy materials	94.5	84.4	88.9	78.5	88.5	79.2	78.8	82.6	82.8	81.6	81.4	81.8	83.3	83.4	83.9

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1982 IV	1983 I	II	III	IV	1982 IV	1983 I	II	III	IV	1982 IV	1983 I	II	III	IV
Industrial Materials	128.7	134.8	141.7	149.9	154.4	191.7	192.3	192.9	193.4	194.0	67.1	70.1	73.5	77.5	79.6
Durable goods materials	117.1	125.2	134.7	144.2	150.3	194.8	195.2	195.6	196.0	196.5	60.2	64.2	68.9	73.6	76.5
Metal materials	66.5	78.6	84.9	89.3	93.7	140.3	140.2	139.9	139.8	139.6	47.4	56.1	60.7	63.9	67.2
Raw steel	49.9	61.9	68.7	72.7	82.8	119.7	119.4	119.1	118.8	118.5	41.7	51.9	57.7	61.2	69.9
Aluminum	97.5	99.0	105.1	119.0	128.6	167.6	167.7	167.7	167.7	167.7	58.1	59.0	62.7	70.9	76.7
Nondurable goods materials	157.0	163.7	171.7	179.1	183.9	216.9	217.8	218.8	219.6	220.6	72.4	75.2	78.5	81.5	83.4
Textile, paper and chemical materials	160.8	169.3	179.6	188.0	193.8	228.3	229.4	230.7	231.6	232.7	70.5	73.8	77.9	81.2	83.2
Paper materials	147.6	149.9	153.4	162.8	167.7	164.4	165.3	166.1	166.9	167.7	89.7	90.7	92.3	97.5	100.0
Chemical materials	191.9	204.7	219.4	227.8	235.9	292.8	294.8	296.6	298.3	300.1	65.5	69.4	74.0	76.4	78.6
Energy materials	121.5	122.2	121.5	127.4	127.6	153.3	153.9	154.3	154.7	155.3	79.2	79.5	78.7	82.3	82.2

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 1987 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 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.

Perspectives. 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. 20561.

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.