

FEDERAL RESERVE statistical release



G.3 (402)

For immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

May 16, 1984

Capacity utilization in manufacturing, mining and utilities rose 0.9 percentage points in April to 81.9 percent, the highest rate since March 1980. The April level was more than 12 percentage points above the low in the 1982 recession, but it remains significantly below the highs reached in 1973 and 1979.

Capacity utilization in manufacturing rose 1.1 percentage points to 82.3 percent and the gains were widespread among industries. In contrast, the rate for mining edged downward in April to 74.3 percent of capacity as operating rates declined in coal mining and remained low in oil and gas well drilling and metal mining. Utilities operated at 83.2 percent of capacity, the same as in March.

Manufacturers of durable goods operated at 81.9 percent of capacity in April, up 1.3 percent from March, despite a substantial decline in the rate of auto assemblies. The operating rate for nondurable goods rose 0.7 percentage point to 82.7 percent of capacity as the rate for petroleum products rose 2 percentage points.

The operating rate for producers of industrial materials rose one percentage point in April to 83.3 percent, equal to its 1967-1982 average. Since its low in late 1982, this rate has risen 16.7 percentage points in part reflecting a 27 percentage point increase in the utilization rate for metal materials.

Capacity Utilization: Summary

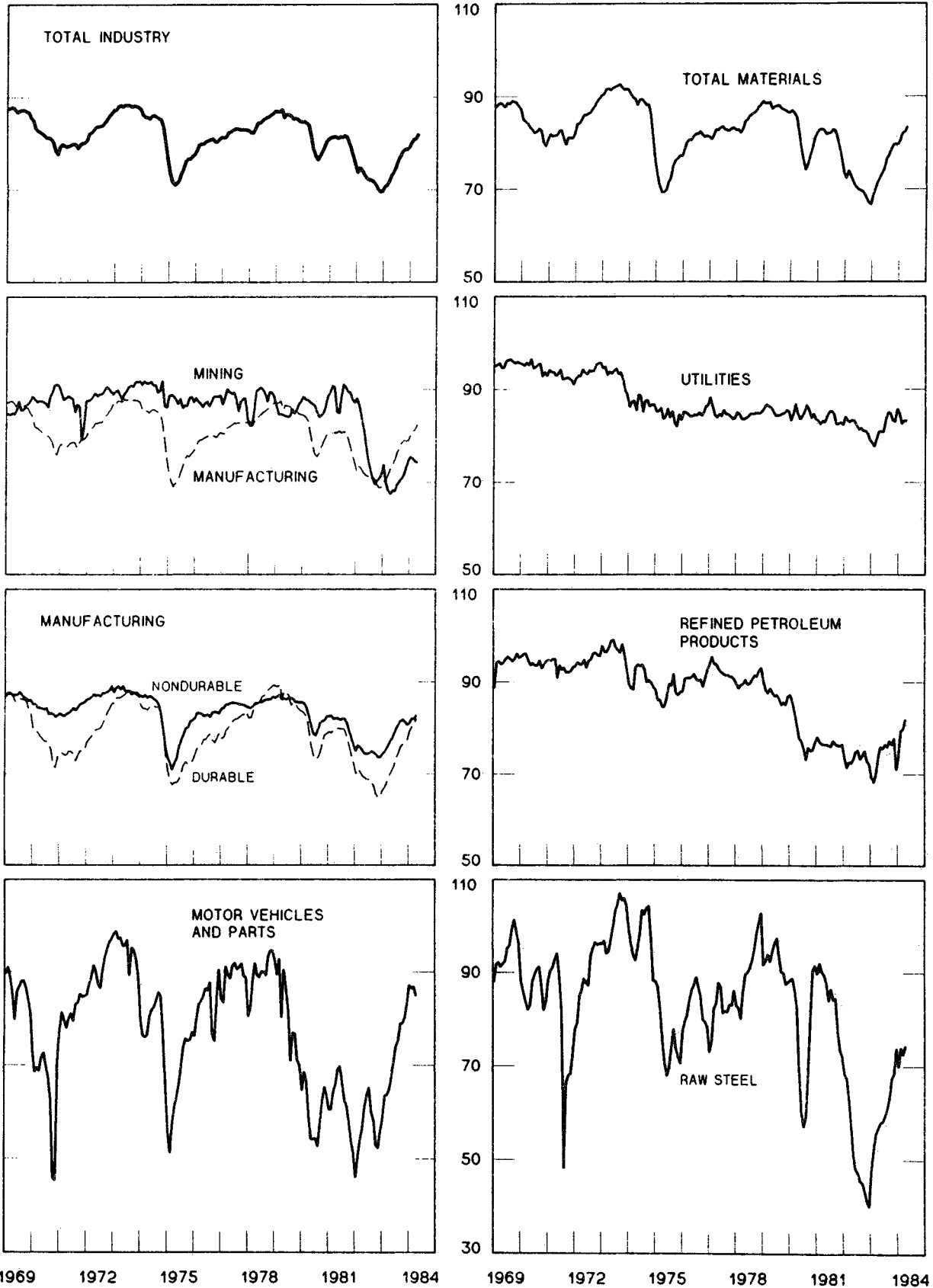
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1984			
						JAN	FEB	MAR	APR
Total Industry	88.4	71.1	87.3	69.6	82.4.	80.1	80.8	81.0	81.9
Manufacturing	87.9	69.0	87.5	68.8	81.8.	80.1	81.0	81.2	82.3
Durable	87.9	67.6	89.4	64.8	80.5.	79.3	80.2	80.6	81.9
Nondurable	89.1	71.0	87.2	73.8	83.9.	81.1	82.0	82.0	82.7
Mining	91.8	86.0	90.4	69.6	86.5.	75.4	75.1	74.5	74.3
Utilities	94.9	82.0	86.8	79.0	88.6.	84.8	82.6	83.2	83.2
Industrial Materials	92.6	69.3	88.9	66.6	83.3.	80.6	82.0	82.3	83.3

CAPACITY UTILIZATION

APRIL 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	-80	LOW	-82	AGO	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Total Industry	88.4	71.1	87.3	69.6	82.4	73.1	77.3	78.2	78.7	78.7	79.1	80.1	80.8	81.0	81.9
Manufacturing	87.9	69.0	87.5	68.8	81.8	72.9	77.3	78.4	78.9	78.8	78.9	80.1	81.0	81.2	82.3
Primary processing	93.7	68.2	91.4	66.2	84.0	73.4	78.1	79.7	80.4	80.0	79.2	80.5	82.0	82.3	83.2
Advanced processing	85.5	69.4	85.9	70.0	80.6	72.5	76.9	77.8	77.9	78.0	78.6	79.9	80.5	80.7	81.7
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	69.7	74.6	76.0	76.5	76.8	77.5	79.3	80.2	80.6	81.9
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	69.1	73.6	75.3	75.3	75.6	76.0	77.9	79.1	79.0	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	57.0	62.5	65.1	70.2	66.0	61.9	67.6	72.3	71.5	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	73.6	73.9	76.0	77.5	77.7	80.5	77.8	81.2	81.8	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	65.0	70.6	71.3	71.0	71.7	72.0	73.4	73.7	74.9	76.2
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	62.9	68.5	68.8	69.1	70.0	70.9	73.0	73.7	74.2	75.6
Electrical machinery	88.7	62.3	90.6	74.7	80.0	79.3	83.8	86.5	87.5	88.0	88.4	90.1	91.5	91.9	94.2
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	65.0	75.3	78.9	79.0	80.2	83.3	87.1	86.5	86.8	84.9
Autos	NA	NA	91.6	35.8	NA	61.2	78.6	80.5	77.2	77.1	81.7	83.6	83.7	84.5	79.2
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	68.2	68.3	68.7	69.6	70.6	71.1	71.7	73.1	73.0	74.1
Instruments	89.6	73.7	92.3	73.1	83.5	72.6	75.1	75.9	75.5	75.4	76.0	77.3	77.5	78.1	79.4
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	76.9	80.8	81.5	81.8	81.3	80.7	81.1	82.0	82.0	82.7
Foods	88.7	77.2	85.2	76.5	83.3	77.5	79.6	78.8	78.3	77.9	78.0	78.7	78.8		
Textile mill products	95.4	61.3	91.3	73.0	86.2	83.6	90.3	91.2	91.2	89.4	88.9	88.1	87.1	87.4	
Paper and products	96.7	69.1	95.1	84.2	89.6	89.1	95.3	96.3	96.8	97.0	95.7	96.8	98.8	97.9	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	68.2	71.2	72.2	73.4	72.3	70.6	70.5	71.8	71.8	
Petroleum products	99.1	84.6	93.0	71.5	89.6	73.9	76.0	77.3	76.5	77.8	71.1	73.9	79.5	79.9	81.9
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	84.1	90.9	92.0	91.9	91.3	92.6	93.2	93.3	94.3	
Mining	91.8	86.0	90.4	69.6	86.5	67.5	70.2	70.8	71.5	73.2	74.7	75.4	75.1	74.5	74.3
Utilities	94.9	82.0	86.8	79.0	88.6	80.9	85.0	84.8	83.3	83.0	85.7	84.8	82.6	83.2	83.2
Electric utilities	97.6	82.1	87.0	77.9	89.8	80.1	84.5	83.9	82.1	81.7	84.7	84.0	81.0	81.7	81.7

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1983	1983	1983	1983	1984	1983	1983	1983	1983	1984	1983	1983	1983	1983	1984
	I	II	III	IV	I	I	II	III	IV	I	I	II	III	IV	I
Total Industry	138.5	144.5	151.8	155.5	159.8	194.6	195.5	196.4	197.3	198.3	71.2	73.9	77.3	78.8	80.6
Manufacturing	138.4	145.2	152.8	156.5	161.2	195.7	196.6	197.5	198.4	199.5	70.7	73.8	77.4	78.9	80.8
Primary processing	137.0	145.2	152.8	156.4	160.7	194.3	194.8	195.3	195.8	196.4	70.5	74.6	78.3	79.9	81.6
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	80.3
Durable manufacturing	124.2	131.1	139.1	143.8	150.3	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	159.6	199.6	200.4	201.1	201.9	202.9	66.0	69.7	73.8	75.7	78.7
Iron and steel, subtotal	63.4	69.2	75.0	79.2	83.7	120.1	120.1	120.1	120.1	119.0	52.8	57.6	62.5	66.0	70.5
Nonferrous metals, subtotal	102.3	111.2	110.9	116.6	119.1	148.4	148.4	148.4	148.4	148.4	68.9	74.9	74.7	78.6	80.3
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	171.4	226.7	228.1	229.6	231.0	232.7	60.7	64.1	68.2	70.0	73.6
Electrical machinery	170.7	179.9	191.1	200.0	209.3	222.4	224.1	225.7	227.4	229.5	76.8	80.3	84.7	88.0	91.2
Motor vehicles and parts	120.0	130.7	145.8	154.2	165.8	193.7	192.7	191.7	190.7	190.9	62.0	67.8	76.1	80.8	86.8
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	106.9	143.1	144.2	145.2	146.3	147.2	68.4	68.0	68.3	70.4	72.6
Instruments	154.0	155.7	161.5	163.5	168.9	213.0	214.1	215.1	216.2	217.5	72.3	72.8	75.1	75.6	77.6
Nondurable manufacturing	159.0	165.5	172.7	174.8	176.8	211.7	212.8	213.9	215.0	216.4	75.1	77.8	80.7	81.3	81.7
Foods	153.1	155.7	159.1	157.5	159.8	197.2	198.7	200.2	201.7	203.1	77.6	78.3	79.5	78.1	78.6
Textile mill products	129.5	139.3	147.6	146.5	143.0	163.6	163.4	163.2	163.0	163.3	79.1	85.3	90.4	89.8	87.5
Paper and products	156.9	160.5	168.0	171.2	174.5	175.9	176.4	176.9	177.4	178.2	89.2	91.0	95.0	96.5	97.9
Chemicals and products	201.9	211.4	220.9	225.0	224.9	304.1	306.8	309.4	312.1	315.0	66.4	68.9	71.4	72.1	71.4
Petroleum products	113.3	122.5	124.2	121.1	124.7	163.8	163.0	162.1	161.3	160.4	69.2	75.2	76.6	75.1	77.8
Rubber and plastics products	264.1	288.3	304.6	311.4	319.7	336.0	336.8	337.7	338.5	341.4	78.6	85.6	90.2	91.9	93.6
Mining	116.7	112.3	116.1	121.0	124.3	165.2	165.3	165.4	165.5	165.7	70.6	67.9	70.2	73.1	75.0
Utilities	163.6	169.6	178.2	178.4	178.6	208.5	209.8	211.1	212.4	213.8	78.5	80.8	84.4	84.0	83.5
Electric utilities	185.2	192.5	203.6	203.0	203.0	239.2	241.1	243.0	244.9	246.9	77.4	79.8	83.8	82.8	82.2

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			
							AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Industrial Materials	92.6	69.3	88.9	66.6	83.3	72.5	77.4	78.6	79.5	79.6	79.6	80.6	82.0	82.3	83.3
Durable goods materials	91.4	63.5	88.4	59.8	79.7	67.7	73.6	75.2	76.1	76.5	77.0	78.5	80.4	80.9	82.2
Metal materials	97.8	68.0	95.4	46.2	82.2	59.9	64.0	65.5	68.0	66.8	66.8	67.3	70.9	71.7	73.3
Raw steel	107.1	68.0	102.9	40.2	84.8	56.9	61.0	63.3	67.5	68.6	73.8	70.0	74.0	72.6	
Aluminum	96.8	73.4	97.9	57.9	90.6	60.5	71.2	73.6	75.1	76.0	79.0	79.8	82.0	84.3	
Non-durable goods materials	94.4	67.4	91.7	70.7	86.5	77.2	81.1	82.9	84.1	83.8	81.6	81.9	83.2	83.9	84.7
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	76.4	80.5	82.6	84.1	83.7	81.2	81.5	83.1	83.7	84.4
Paper materials	99.4	72.4	97.9	86.3	93.4	91.0	96.9	99.0	99.4	101.3	98.8	99.3	99.0	98.3	
Chemical materials	95.5	64.2	91.3	64.0	85.1	72.6	75.5	77.8	79.7	79.0	76.2	76.7	79.0	79.8	
Energy materials	94.5	84.4	88.9	78.5	88.5	78.9	82.8	81.6	81.4	81.8	83.6	84.4	84.2	83.7	83.8

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
Industrial Materials	134.8	141.7	149.9	154.3	158.9	192.3	192.9	193.4	194.0	194.7	70.1	73.5	77.5	79.6	81.6
Durable goods materials	125.2	134.7	144.2	150.3	157.6	195.2	195.6	196.0	196.5	197.1	64.2	68.9	73.6	76.5	80.0
Metal materials	78.6	84.9	89.3	93.8	97.3	140.2	139.9	139.8	139.6	139.1	56.1	60.7	63.9	67.2	70.0
Raw steel	61.9	68.7	72.7	82.8	84.5	119.4	119.1	118.8	118.5	117.1	51.9	57.7	61.2	69.9	72.2
Aluminum	99.0	105.1	119.0	128.6	137.6	167.7	167.7	167.7	167.7	167.7	59.0	62.7	70.9	76.7	82.0
Non-durable goods materials	163.7	171.7	179.1	183.5	184.1	217.8	218.8	219.6	220.6	221.8	75.2	78.5	81.5	83.2	83.0
Textile, paper and chemical materials	169.3	179.6	188.0	193.2	193.9	229.4	230.7	231.6	232.7	234.2	73.8	77.9	81.2	83.0	82.8
Paper materials	149.9	153.4	162.8	167.4	166.7	165.3	166.1	166.9	167.7	168.5	90.7	92.3	97.5	99.8	98.9
Chemical materials	204.7	219.4	227.8	235.0	237.5	294.8	296.6	298.3	300.1	302.3	69.4	74.0	76.4	78.3	78.5
Energy materials	122.2	121.5	127.4	127.8	131.0	153.9	154.3	154.7	155.3	155.8	79.5	78.7	82.3	82.3	84.1

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 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.