

FEDERAL RESERVE statistical release



G.3 (402)

For Immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

August 16, 1984

Capacity utilization in manufacturing, mining and utilities rose 0.5 percentage point in July to 82.5 percent, close to the 1967-82 average and the highest level since March 1980. The operating rate for manufacturing advanced 0.6 percentage point in July to 82.6 percent. The operating rate for mining jumped 1.6 percentage points because of a large increase in coal output; the rate for utilities fell 0.8 percentage point as generation of electricity declined from the unusually high level attained in June.

Within manufacturing, the utilization rate for durable manufacturing rose 1.0 percentage point to 82.5 percent. Gains were widespread, and the rate for electrical machinery exceeded 93.0 percent. Manufacturers of non-durable goods operated at 82.8 percent in July, the same as in June. The paper and the rubber and plastics products industries continued to operate at nearly 96.0 percent of capacity, but the rate for petroleum products fell to 78.7 percent.

Producers of industrial materials operated at 83.9 percent of capacity in July, up 0.8 percentage point from June. At 83.0 percent the rate for durable goods materials exceeded its 1967-82 average, even though operating rates were still low for steel mills, copper refiners, and metal mining. The rate for nondurable goods materials rose 0.6 percentage point to 84.6 percent and the rate for energy materials remained near 85-1/2 percent; both of these rates are below their averages for 1967-82.

Capacity Utilization: Summary

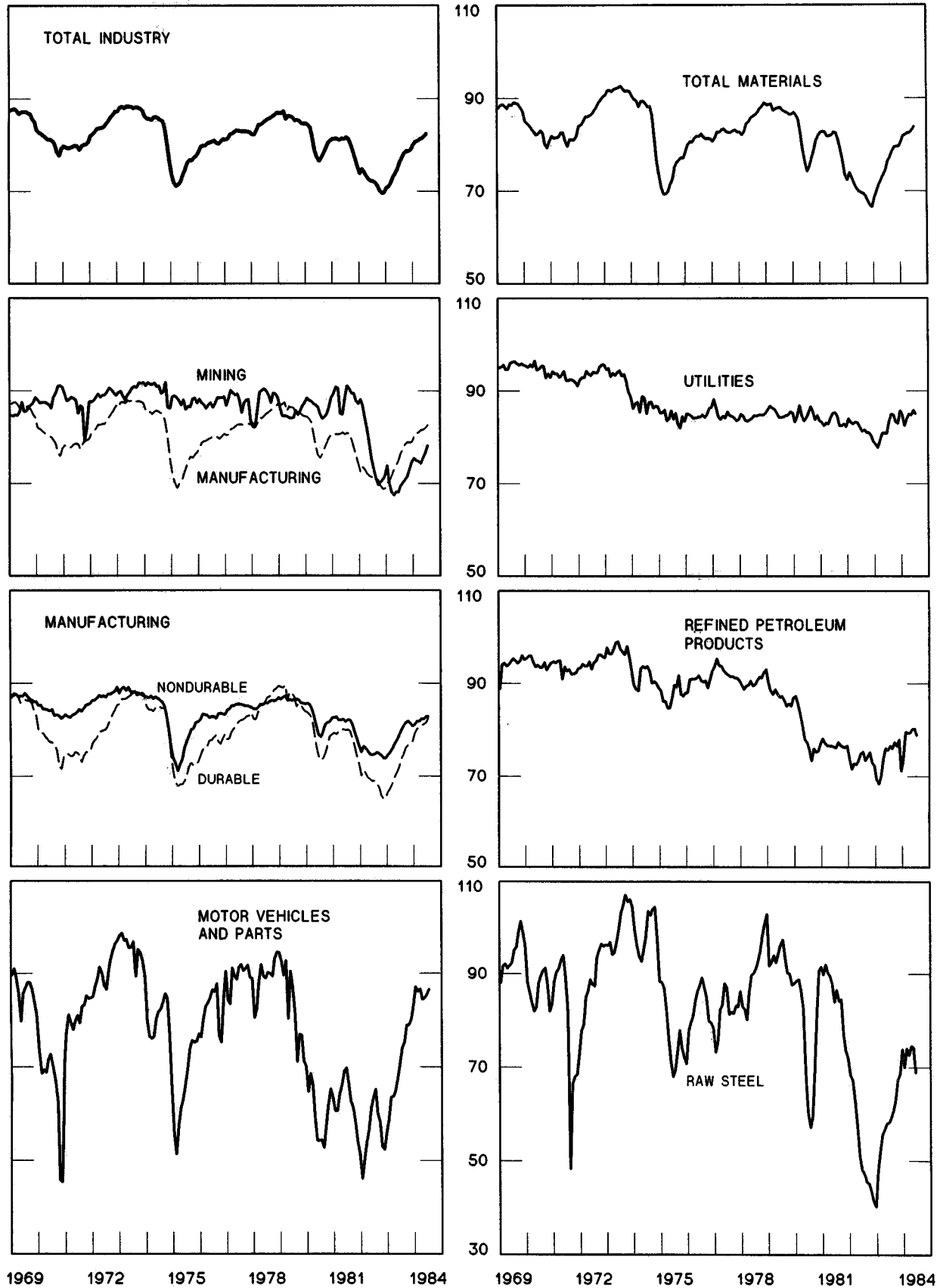
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1984			
						APR	MAY	JUNE	JULY
Total Industry	88.4	71.1	87.3	69.6	82.4.	81.3	81.5	82.0	82.5
Manufacturing	87.9	69.0	87.5	68.8	81.8.	81.5	81.6	82.0	82.6
Durable	87.9	67.6	89.4	64.8	80.5.	80.9	81.1	81.5	82.5
Nondurable	89.1	71.0	87.2	73.8	83.9.	82.3	82.3	82.8	82.8
Mining	91.8	86.0	90.4	69.6	86.5.	74.3	75.6	76.6	78.2
Utilities	94.9	82.0	86.8	79.0	88.6.	85.0	84.8	85.8	85.0
Industrial Materials	92.6	69.3	88.9	66.6	83.3.	82.5	82.6	83.1	83.9

CAPACITY UTILIZATION

JULY DATA

SEASONALLY ADJUSTED, PERCENT



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.	YEAR AGO MONTH	1983		1984						
							NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY
Total industry	88.4	71.1	87.3	69.6	82.4	76.3	78.7	79.0	80.1	80.7	80.9	81.3	81.5	82.0	82.5
Manufacturing	87.9	69.0	87.5	68.8	81.8	76.4	78.8	78.9	80.1	80.9	81.0	81.5	81.6	82.0	82.6
Primary processing	93.7	68.2	91.4	66.2	84.0	77.1	80.0	79.2	80.6	82.2	82.2	82.2	82.3	82.2	83.0
Advanced processing	85.5	69.4	85.9	70.0	80.6	76.0	78.0	78.6	80.0	80.4	80.6	81.0	81.2	81.9	82.5
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	73.6	76.8	77.4	79.2	80.1	80.4	80.9	81.1	81.5	82.5
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	72.6	75.6	76.0	77.9	79.0	78.7	78.4	79.0	77.9	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	59.7	66.0	61.9	67.6	72.3	71.3	71.5	71.5	70.2	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	74.1	77.7	80.5	77.8	81.2	81.6	85.4	84.0	82.0	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	68.9	71.7	72.0	73.4	73.9	74.9	75.1	75.6	75.9	76.5
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	67.3	70.0	71.0	73.2	73.7	74.0	75.3	76.9	78.3	78.6
Electrical machinery	88.7	62.3	90.6	74.7	80.0	83.6	88.0	88.2	89.9	91.1	91.4	91.9	91.3	91.3	93.3
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	74.1	80.2	83.3	87.1	86.1	86.6	84.4	84.7	85.6	86.6
Autos	NA	NA	91.6	35.8	NA	77.3	77.1	81.7	83.6	83.3	84.1	79.2	77.9	79.6	80.8
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	68.0	70.6	71.1	71.7	73.1	72.9	73.6	73.3	74.7	76.0
Instruments	89.6	73.7	92.3	73.1	83.5	74.2	75.4	76.0	77.4	77.7	78.0	78.6	78.8	79.9	80.4
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	79.9	81.3	80.7	81.1	81.8	81.8	82.3	82.3	82.8	82.8
Foods	85.7	77.2	85.2	76.5	83.3	80.0	77.9	78.0	78.7	78.8	79.1	79.9	80.4		
Textile mill products	95.4	61.3	91.3	73.0	86.2	89.9	89.4	88.8	88.0	86.9	87.4	85.0	85.0	85.2	
Paper and products	96.7	69.1	95.1	84.2	89.6	93.4	97.0	95.7	96.7	99.0	97.1	96.0	94.9	95.8	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	70.8	72.3	70.7	70.7	71.6	71.6	72.5	72.3	73.6	
Petroleum products	99.1	84.6	93.0	71.5	89.6	76.5	77.8	71.1	73.9	79.5	79.3	79.4	80.2	80.2	78.7
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	87.8	91.3	92.5	93.0	93.1	94.0	94.6	95.7	95.6	
Mining	91.8	86.0	90.4	69.6	86.5	69.5	73.2	74.7	75.4	74.9	74.7	74.3	75.6	76.6	78.2
Utilities	94.9	82.0	86.8	79.0	88.6	83.5	83.0	85.7	84.8	82.5	84.0	85.0	84.8	85.8	85.0
Electric utilities	97.6	82.1	87.0	77.9	89.8	82.9	81.7	84.7	84.0	81.0	82.6	83.6	83.2	84.4	83.3

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT				CAPACITY				UTILIZATION					
	1983 II	1983 III	1983 IV	1984 I	1983 II	1983 III	1983 IV	1984 I	1983 II	1983 III	1983 IV	1984 I	1984 II	
Total industry	144.5	151.8	155.5	159.8	163.0	195.5	196.4	197.3	198.4	199.7	73.9	77.3	78.8	80.5 81.6
Manufacturing	145.2	152.8	156.5	161.0	164.3	196.6	197.5	198.4	199.5	201.0	73.8	77.4	78.9	80.7 81.7
Primary processing	145.2	152.8	156.4	160.5	162.2	194.8	195.3	195.8	196.5	197.2	74.6	78.3	79.9	81.7 82.3
Advanced processing	145.1	152.8	156.1	161.7	165.2	197.6	198.6	199.7	201.1	203.0	73.5	76.9	78.2	80.3 81.4
Durable manufacturing	131.1	139.1	143.8	150.2	153.5	185.4	186.1	186.8	187.8	189.1	70.7	74.7	76.9	79.9 81.1
Stone, clay and glass products	139.7	148.5	152.8	159.5	160.4	200.4	201.1	201.9	203.0	204.4	69.7	73.8	75.7	78.5 78.5
Iron and steel, subtotal	69.2	75.0	79.2	83.7	83.0	120.1	120.1	120.1	119.0	116.7	57.6	62.5	66.0	70.4 71.1
Nonferrous metals, subtotal	111.2	110.9	116.6	119.0	124.3	148.4	148.4	148.4	148.4	148.4	74.9	74.7	78.6	80.2 83.8
Fabricated metal products	116.4	125.4	128.2	133.1	136.4	177.6	178.3	179.0	179.8	180.6	65.5	70.3	71.6	74.0 75.5
Nonelectrical machinery	146.2	156.6	161.8	170.8	178.6	228.1	229.6	231.0	232.0	232.6	64.1	68.2	70.0	73.6 76.8
Electrical machinery	179.9	191.1	200.0	209.4	214.9	224.1	225.7	227.4	230.4	234.9	80.3	84.7	87.9	90.8 91.5
Motor vehicles and parts	130.7	145.8	154.2	165.5	163.3	192.7	191.7	190.7	190.9	192.3	67.8	76.1	80.8	86.6 84.9
Autos	109.5	132.3	132.1	141.2	134.5	167.8	167.8	167.8	168.7	170.5	65.2	78.8	78.7	83.6 78.9
Aerospace and misc. trans. eqp.	98.1	99.2	103.0	106.8	109.4	144.2	145.2	146.3	147.2	148.1	68.0	68.3	70.4	72.6 73.9
Instruments	155.7	161.5	163.5	168.7	172.4	218.1	215.1	216.2	217.1	217.9	72.8	75.1	75.7	77.7 79.1
Nondurable manufacturing	165.5	172.7	174.8	176.7	180.0	212.8	213.9	215.0	216.5	218.2	77.8	80.7	81.3	81.6 82.5
Foods	155.7	159.1	157.5	160.2	164.4	198.7	200.2	201.7	203.1	204.6	78.3	79.5	78.1	78.9 80.3
Textile mill products	139.3	147.6	146.5	143.2	140.5	163.4	163.2	163.0	163.7	165.2	85.3	90.4	89.8	87.5 85.1
Paper and products	160.5	168.0	171.2	174.2	172.1	176.4	176.9	177.4	178.5	180.1	91.0	95.0	96.5	97.6 95.6
Chemicals and products	211.4	220.9	225.0	223.8	229.5	306.8	309.4	312.1	314.0	315.1	68.9	71.4	72.1	71.3 72.8
Petroleum products	122.5	124.2	121.1	124.5	127.4	163.0	162.1	161.3	160.4	159.4	75.2	76.6	75.1	77.6 79.9
Rubber and plastics products	288.3	304.6	311.4	319.8	332.7	336.8	337.7	338.5	342.3	349.1	85.6	90.2	91.9	93.4 95.3
Mining	112.3	116.1	121.0	124.2	125.3	165.3	165.4	165.5	165.7	165.9	67.9	70.2	73.1	75.0 75.5
Utilities	169.6	178.2	178.4	179.2	183.4	209.8	211.1	212.4	213.8	215.3	80.8	84.4	84.0	83.8 85.2
Electric utilities	192.5	203.6	203.0	203.8	208.5	241.1	243.0	244.9	246.9	248.9	79.8	83.8	82.8	82.5 83.7

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						
							NOV	DEC		JAN	FEB	MAR	APR	MAY	JUNE	JULY
Industrial Materials	92.6	69.3	88.9	66.6	83.3	76.5	79.6	79.6		80.6	81.9	82.2	82.5	82.6	83.1	83.9
Durable goods materials	91.4	63.5	88.4	59.8	79.7	72.1	76.5	77.0		78.5	80.5	80.7	81.5	81.4	81.8	83.0
Metal materials	97.8	68.0	95.4	46.2	82.2	62.3	66.8	66.8		67.3	71.1	71.5	73.0	72.3	71.2	72.0
Raw steel	107.1	68.0	102.9	40.2	84.8	59.4	68.6	73.8		70.0	74.0	72.6	74.5	74.2	68.9	
Aluminum	96.8	73.4	97.9	57.9	90.6	68.0	76.0	79.0		79.8	82.0	84.3	85.7	87.0	86.6	
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	80.7	83.8	81.6		81.9	83.0	83.6	83.2	83.6	84.0	84.6
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	80.4	83.7	81.2		81.5	82.8	83.1	82.7	83.0	83.6	84.4
Paper materials	99.4	72.4	97.9	86.3	93.4	96.7	101.3	98.8		99.3	99.0	96.8	98.5	97.8	98.6	
Chemical materials	95.5	64.2	91.3	64.0	85.1	75.9	79.0	76.2		76.7	78.6	79.5	78.9	79.1	80.0	
Energy materials	94.5	84.4	88.9	78.5	88.5	82.6	81.8	83.6		84.4	84.1	84.1	84.5	84.5	85.5	85.4

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1983 II	1983 III	1983 IV	1984 I	1984 II	1983 II	1983 III	1983 IV	1984 I	1984 II	1983 II	1983 III	1983 IV	1984 I	1984 II
Industrial Materials	141.7	149.9	154.3	158.8	162.2	192.9	193.4	194.0	194.7	195.9	73.5	77.5	79.6	81.6	82.8
Durable goods materials	134.7	144.2	150.3	157.6	161.8	195.6	196.0	196.5	197.1	198.3	68.9	73.6	76.5	79.9	81.6
Metal materials	84.9	89.3	93.8	97.3	100.0	139.9	139.8	139.6	139.1	138.5	60.7	63.9	67.2	70.0	72.2
Raw steel	68.7	72.7	82.8	84.5	83.1	119.1	118.8	118.5	117.1	114.6	57.7	61.2	69.9	72.2	72.5
Aluminum	105.1	119.0	128.6	137.5	144.9	167.7	167.7	167.7	167.7	167.7	62.7	70.9	76.7	82.0	86.4
Nondurable goods materials	171.7	179.1	183.5	183.7	186.9	218.8	219.6	220.6	221.8	223.4	78.5	81.5	83.2	82.8	83.6
Textile, paper and chemical materials	179.6	188.0	193.2	193.2	196.4	230.7	231.6	232.7	234.2	236.2	77.9	81.2	83.0	82.5	83.1
Paper materials	153.4	162.8	167.4	165.8	166.7	166.1	166.9	167.7	168.5	169.5	92.3	97.5	99.8	98.4	98.3
Chemical materials	219.4	227.8	235.0	236.7	242.1	296.6	298.3	300.1	302.3	305.2	74.0	76.4	78.3	78.3	79.3
Energy materials	121.5	127.4	127.8	131.2	132.7	154.3	154.7	155.3	155.8	156.4	78.7	82.3	82.3	84.2	84.8

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 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 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.