

FEDERAL RESERVE statistical release



G.3 (402)

For immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

August 17, 1983

Capacity utilization in manufacturing, mining, and utilities increased 1.2 percentage points in July to 75.8 percent, the highest rate since late 1981. The manufacturing utilization rate also rose to 75.8 percent, and the rates for mining and for utilities increased to 70.1 percent and 82.0 percent, respectively. Producers of industrial materials utilized 76.0 percent of capacity in July, up 1.6 percentage points from the June rate.

Within manufacturing, gains in operating rates were widespread again in July, led by large increases in activity among producers of primary metals and autos. The utilization of domestic auto plants jumped almost 7 percentage points to 77.3 percent--the highest rate in four years--and the operating rate for the iron and steel industry rose more than 2 percentage points to almost 61 percent.

Among producers of industrial materials, those producing durable goods utilized 71.9 percent of capacity in July, up 1.8 percentage points since June. The rate for producers of nondurable goods materials rose somewhat less, by 1.2 percentage points to 80.3 percent. After remaining relatively flat since February, the operating rate for producers of energy materials increased 2.0 percentage points in July to 80.9 percent.

Capacity Utilization: Summary

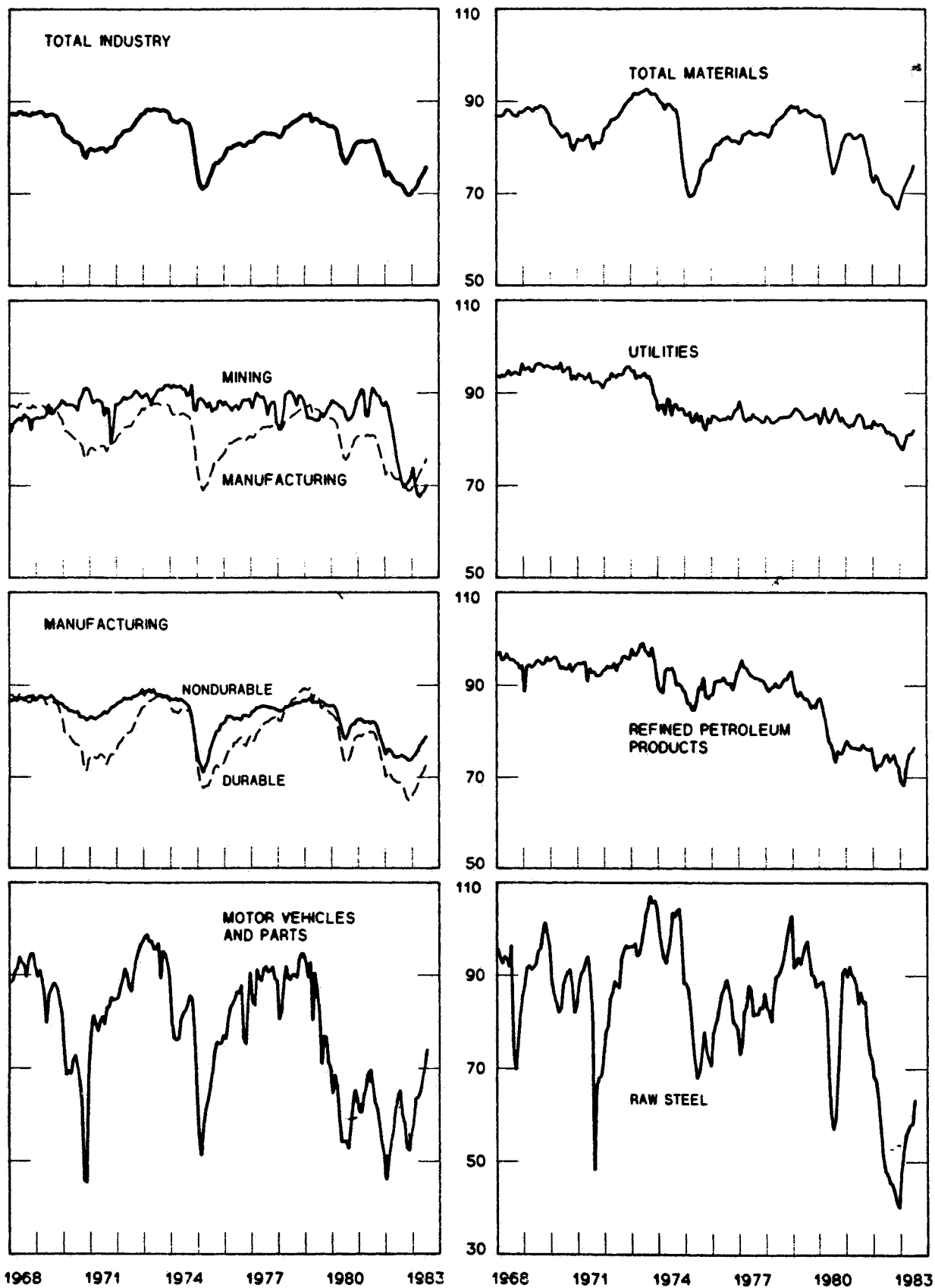
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1982 -82 AVER.	1983			
						APR	MAY	JUNE	JULY
Total Industry	88.4	71.1	87.3	69.6	82.4	73.1	73.9	74.6	75.8
Manufacturing	87.9	69.0	87.5	68.8	81.8	72.9	73.7	74.6	75.8
Durable	87.9	67.6	89.4	64.8	80.5	69.7	70.7	71.6	73.2
Nondurable	89.1	71.0	87.2	73.8	83.9	76.9	77.6	78.3	79.0
Mining	91.8	86.0	90.4	69.6	86.5	67.5	68.4	68.8	70.1
Utilities	94.9	82.0	86.8	79.0	88.6	80.9	81.0	81.0	82.0
Industrial Materials	92.6	69.3	88.9	66.6	83.3	72.5	73.5	74.4	76.0

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 AYER	YEAR AGO MONTH	1982		1983						
							NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY
Total Industry	88.4	71.1	87.3	69.6	82.4	72.1	69.6	69.7	70.7	71.0	71.8	73.1	73.9	74.6	75.8
Manufacturing	87.9	69.0	87.5	68.8	81.8	71.4	68.8	68.9	70.0	70.6	71.6	72.9	73.7	74.6	75.8
Primary processing	93.7	68.2	91.4	66.2	84.0	68.2	66.4	66.2	68.6	70.8	72.1	73.4	74.6	75.4	76.8
Advanced processing	85.5	69.4	85.9	70.0	80.6	73.0	70.0	70.4	70.9	70.8	71.5	72.5	73.3	74.1	75.2
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	68.8	64.8	65.1	66.4	67.1	68.3	69.7	70.7	71.6	73.2
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	64.1	64.0	63.0	64.2	66.0	67.8	69.1	69.5	69.7	70.6
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	47.8	39.5	38.8	49.1	53.6	55.7	57.0	57.8	58.5	60.8
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	67.0	62.1	63.0	66.2	68.7	71.8	73.6	75.8	76.4	78.5
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	65.9	60.7	60.8	60.9	62.4	64.3	65.0	65.0	66.1	67.4
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	65.8	62.0	61.6	61.0	60.1	61.0	62.9	64.0	65.2	66.7
Electrical machinery	88.7	62.3	90.6	74.7	80.0	77.7	74.9	74.7	76.4	76.0	77.9	79.3	80.4	81.1	82.9
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	65.2	52.3	56.0	58.7	63.5	63.7	65.0	67.7	70.8	74.1
Autos	NA	NA	91.6	35.8	NA	67.7	46.2	52.3	57.8	63.9	59.5	61.2	64.0	70.5	77.3
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	70.4	69.5	69.4	69.4	67.8	68.1	68.2	68.1	67.8	68.3
Instruments	89.6	73.7	92.3	73.1	83.5	78.5	73.5	73.1	72.6	72.0	72.2	72.6	72.9	72.4	72.8
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	74.6	73.8	73.8	74.5	75.1	75.8	76.9	77.6	78.3	79.0
Foods	85.7	77.2	85.2	76.5	83.3	77.9	77.7	77.9	78.5	77.6	76.9	77.5	77.8	78.7	78.6
Textile mill products	95.4	61.3	91.3	73.0	86.2	75.8	75.2	74.6	76.9	79.9	80.7	83.6	85.4	86.9	88.5
Paper and products	96.7	69.1	95.1	84.2	89.6	84.3	88.1	86.1	90.4	88.5	88.8	89.1	91.5	91.5	93.0
Chemicals and products	86.2	65.9	83.6	64.0	78.7	65.2	64.0	64.8	65.2	66.5	67.4	68.2	68.7	69.1	69.7
Petroleum products	99.1	84.6	93.0	71.5	89.6	75.2	72.9	72.2	69.2	68.2	70.2	73.9	75.4	75.7	76.7
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	77.0	74.7	74.5	76.3	78.6	80.9	84.1	85.8	86.9	88.0
Mining	91.8	86.0	90.4	69.6	86.5	72.9	70.8	71.7	73.8	69.9	68.1	67.5	68.4	68.8	70.1
Utilities	94.9	82.0	86.8	79.0	88.6	81.3	80.4	79.0	78.4	77.7	79.4	80.9	81.0	81.0	82.0
Electric utilities	97.6	82.1	87.0	77.9	89.8	80.1	79.2	77.9	77.2	76.5	78.5	80.1	80.1	80.0	81.1

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT				CAPACITY				UTILIZATION						
	1982 II	1982 III	1982 IV	1983 I	1982 II	1982 III	1982 IV	1983 I	1982 II	1982 III	1982 IV	1983 I	1983 II	1983 I	1983 II
Total Industry	139.4	138.2	135.3	138.5	144.3	191.9	192.8	193.7	194.6	195.5	72.6	71.7	69.8	71.2	73.8
Manufacturing	138.1	137.7	134.5	138.4	145.0	192.9	193.9	194.8	195.7	196.6	71.6	71.0	69.0	70.7	73.7
Primary processing	132.3	132.4	129.3	137.0	144.9	192.3	193.0	193.7	194.3	194.8	68.8	68.6	66.8	70.5	74.4
Advanced processing	141.2	140.5	137.3	139.7	144.9	193.2	194.3	195.4	196.5	197.6	73.1	72.3	70.2	71.1	73.3
Durable manufacturing	126.1	124.8	119.8	124.2	131.0	182.5	183.3	184.0	184.7	185.4	69.1	68.1	65.1	67.2	70.7
Stone, clay and glass products	126.0	128.7	126.9	131.8	139.2	197.4	198.1	198.8	199.6	200.4	63.8	65.0	63.8	66.0	69.5
Iron and steel, subtotal	61.8	57.3	49.4	63.4	69.4	122.0	121.3	120.5	120.1	120.1	50.7	47.2	41.0	52.8	57.8
Nonferrous metals, subtotal	97.9	101.1	94.3	102.3	111.7	148.4	148.4	148.4	148.4	148.4	66.0	68.1	63.6	68.9	75.3
Fabricated metal products	116.6	114.0	107.3	110.6	116.1	174.8	175.5	176.2	176.9	177.6	66.7	64.9	60.9	62.5	65.4
Nonelectrical machinery	150.4	146.4	139.7	137.6	146.0	222.6	223.9	225.3	226.7	228.1	67.6	65.4	62.0	60.7	64.0
Electrical machinery	171.3	169.0	165.5	170.7	179.8	218.2	219.6	220.9	222.4	224.1	78.5	77.0	74.9	76.8	80.2
Motor vehicles and parts	118.2	119.1	104.5	120.0	130.7	195.4	194.9	194.4	193.7	192.7	60.5	61.1	53.8	62.0	67.8
Autos	95.1	100.7	81.7	101.4	109.5	170.0	169.1	168.2	167.8	167.8	55.9	59.6	48.6	60.4	65.2
Aerospace and misc. trans. eqp.	100.7	98.1	98.7	97.9	98.1	140.0	141.0	142.1	143.1	144.2	71.9	69.6	69.5	68.4	68.0
Instruments	163.8	164.2	156.1	154.0	155.5	209.9	210.9	212.0	213.0	214.1	78.0	77.9	73.7	72.3	72.6
Nondurable manufacturing	155.5	156.4	155.7	159.0	165.1	208.0	209.3	210.5	211.7	212.8	74.7	74.8	74.0	75.1	77.6
Foods	150.4	150.2	152.1	153.1	155.0	192.9	194.4	195.8	197.2	198.7	78.0	77.3	77.7	77.6	78.0
Textile mill products	124.5	125.4	123.7	129.5	139.4	164.2	164.0	163.8	163.6	163.4	75.8	76.5	75.5	79.1	85.3
Paper and products	147.7	151.3	153.5	156.9	159.9	174.0	174.6	175.3	175.9	176.4	84.9	86.6	87.6	89.2	90.7
Chemicals and products	195.1	195.4	194.3	201.9	210.7	295.5	298.4	301.3	304.1	306.8	66.0	65.5	64.5	66.4	68.7
Petroleum products	122.4	122.9	120.8	113.3	122.2	166.3	165.4	164.6	163.8	163.0	73.6	74.3	73.4	69.2	75.0
Rubber and plastics products	257.0	260.0	252.1	264.1	288.3	332.5	333.7	335.0	336.0	336.8	77.3	77.9	75.3	78.6	85.6
Mining	128.8	117.2	117.0	116.7	112.9	164.6	164.8	165.1	165.2	165.3	78.3	71.1	70.9	70.6	68.3
Utilities	170.4	167.9	166.2	163.6	169.8	205.7	206.5	207.4	208.5	209.8	82.9	81.3	80.1	78.5	80.9
Electric utilities	192.7	189.1	187.4	185.2	193.1	235.2	236.5	237.7	239.2	241.1	81.9	80.0	78.8	77.4	80.1

INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1975		1978	1982	1967	YEAR	1982		1983							
	HIGH	LOW	-80 HIGH	LOW	-82 AVER.	AGO MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	
Industrial Materials	92.6	69.3	88.9	66.6	85.3	69.7	67.0	66.6	68.7	70.1	71.5	72.5	73.5	74.4	76.0	
Durable goods materials	91.4	63.5	88.4	59.8	79.7	64.9	59.8	59.8	62.3	64.2	66.0	67.7	68.9	70.1	71.9	
Metal materials	97.8	68.0	95.4	46.2	82.2	51.3	46.2	46.8	53.3	56.1	58.8	59.9	60.8	62.4	64.6	
Raw steel	107.1	68.0	102.9	40.2	84.8	47.2	41.3	40.2	47.9	52.1	55.7	56.9	58.0	58.2	63.3	
Aluminum	96.8	73.4	97.9	57.9	90.6	64.6	57.9	57.9	59.0	58.3	59.8	60.5	63.0	64.5	65.7	
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	70.7	72.5	71.6	73.4	75.3	76.8	77.2	78.7	79.1	80.3	
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	68.6	70.5	70.0	71.4	74.1	75.8	76.4	78.1	78.5	79.6	
Paper materials	99.4	72.4	97.9	86.3	93.4	87.0	91.1	87.4	90.9	90.8	90.3	91.0	93.0	91.8	93.8	
Chemical materials	95.5	64.2	91.3	64.0	85.1	64.0	65.4	65.4	66.4	69.9	71.9	72.6	74.1	74.4	75.2	
Energy materials	94.5	84.4	88.9	78.5	88.5	82.5	79.2	78.5	80.1	79.2	79.2	78.9	78.7	78.9	80.9	

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1982 II	1982 III	1982 IV	1983 I	1983 II	1982 II	1982 III	1982 IV	1983 I	1983 II	1982 II	1982 III	1982 IV	1983 I	1983 II
Industrial Materials	134.7	132.6	128.7	134.8	141.7	190.4	191.0	191.7	192.3	192.9	70.7	69.4	67.1	70.1	73.5
Durable goods materials	127.1	124.7	117.1	125.2	134.8	194.0	194.4	194.8	195.2	195.6	65.5	64.2	60.2	64.2	68.9
Metal materials	77.0	73.0	66.5	78.6	85.4	140.8	140.6	140.3	140.2	139.9	54.7	51.9	47.4	56.1	61.0
Raw steel	62.4	55.2	49.9	61.9	68.7	120.2	120.0	119.7	119.4	119.1	51.9	46.0	41.7	51.9	57.7
Aluminum	116.1	104.9	97.5	99.0	105.1	167.4	167.5	167.6	167.7	167.7	69.4	62.6	58.1	59.0	62.7
Nondurable goods materials	156.8	155.1	157.0	163.7	171.4	214.5	215.6	216.9	217.8	218.8	73.1	71.9	72.4	75.2	78.3
Textile, paper and chemical materials	160.5	158.4	160.8	169.3	179.0	225.4	226.8	228.3	229.4	230.7	71.2	69.8	70.5	73.8	77.6
Paper materials	142.0	145.9	147.6	149.9	152.7	162.7	163.6	164.4	165.3	166.1	87.3	89.1	89.7	90.7	91.9
Chemical materials	194.0	188.5	191.9	204.7	218.5	288.4	290.6	292.8	294.8	296.6	67.2	64.9	65.5	69.4	73.7
Energy materials	125.5	123.8	121.5	122.2	121.6	152.3	152.8	153.3	153.9	154.3	82.4	81.0	79.2	79.5	78.8

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 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.

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 1983. Approximately 11 a.m. on August 17, September 16, October 17, November 16 and December 16.