

FEDERAL RESERVE statistical release



G.3 (402)

For immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

December 16, 1983

Capacity utilization in manufacturing, mining, and utilities rose 0.5 of a percentage point in November to 79.2 percent, following an increase of 0.4 of a percentage point in October. The gains posted for these first two months of the fourth quarter have been more moderate than those recorded in the spring and summer. The operating rate for total manufacturing also advanced 0.5 of a percentage point in November, to 79.4 percent. Capacity utilization in mining increased more briskly, by 1.1 percentage points to 72.8 percent, while the rate for utilities rose a little, to 84.2 percent.

Producers of industrial materials reached 80.0 percent of capacity in November, up 0.6 of a percentage point from the rate in October. The rates for producers of durable goods materials and nondurable goods materials increased by 0.7 and 0.6 of a percentage point, respectively. Among soft goods, over the last few months operating rates for paper materials have risen near previous cyclical highs. The rate for producers of energy materials rose 0.4 of a percentage point in November, after declining in October.

Within manufacturing, the larger gains in operating rates were recorded by the primary metals, machinery, and motor vehicles and parts industries. For the latter, output levels of trucks and parts rose, but the auto assembly rate was about unchanged. The operating rate for producers of refined petroleum products decreased in November.

Capacity Utilization: Summary

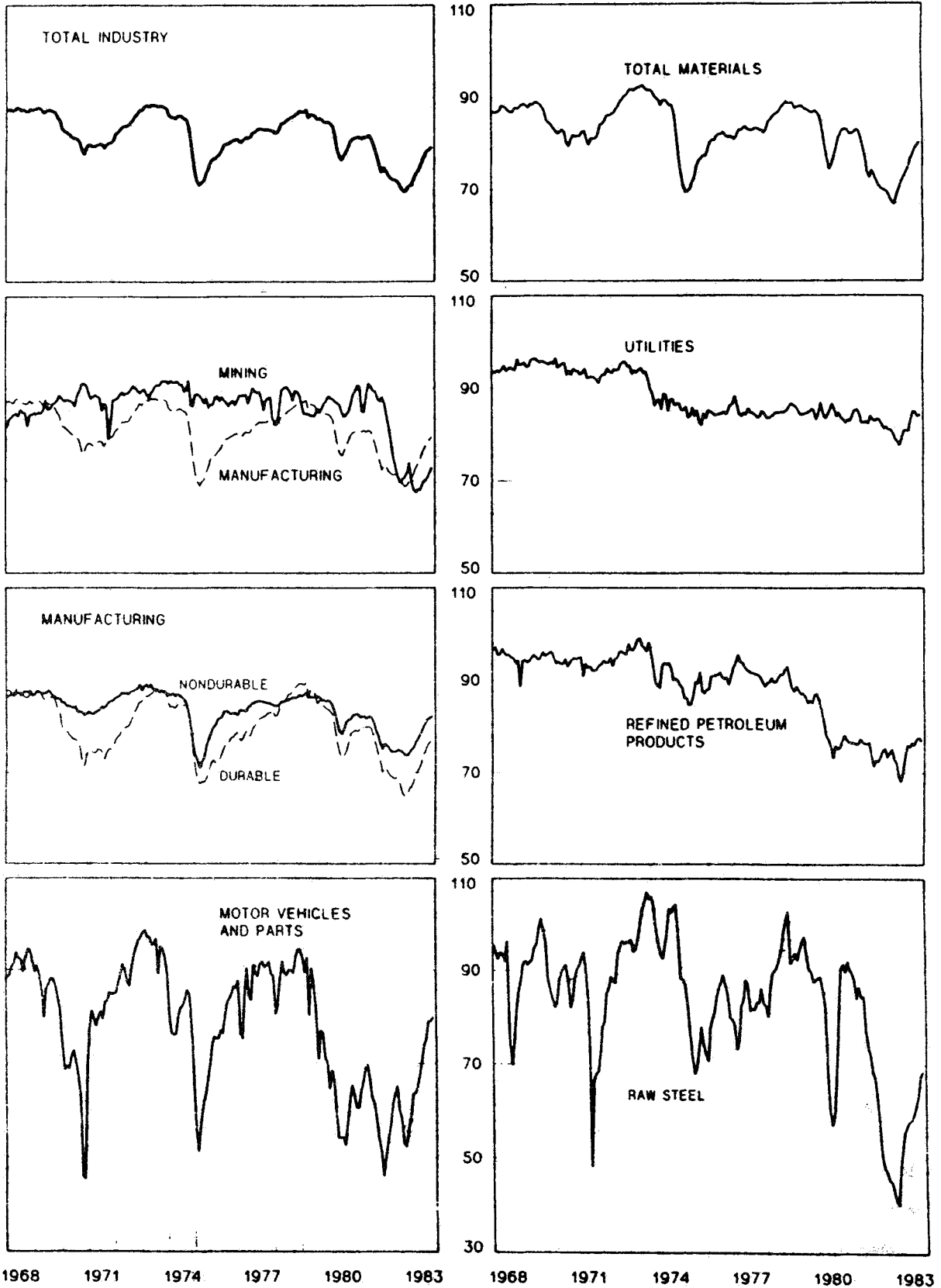
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1983			
						AUG	SEP	OCT	NOV
Total Industry	88.4	71.1	87.3	69.6	82.4.	77.3	78.3	78.7	79.2
Manufacturing	87.9	69.0	87.5	68.8	81.8.	77.3	78.4	78.9	79.4
Durable	87.9	67.6	89.4	64.8	80.5.	74.6	75.9	76.5	77.1
Nondurable	89.1	71.0	87.2	73.8	83.9.	80.8	81.6	81.9	82.2
Mining	91.8	86.0	90.4	69.6	86.5.	70.2	70.6	71.7	72.8
Utilities	94.9	82.0	86.8	79.0	88.6.	85.0	84.8	83.9	84.2
Industrial Materials	92.6	69.3	88.9	66.6	83.3.	77.4	78.7	79.4	80.0

CAPACITY UTILIZATION

NOVEMBER 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										
							MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV		
Total Industry	88.4	71.1	87.3	69.6	82.4	69.6	71.8	73.1	73.9	74.8	76.3	77.3	78.3	78.7	79.2		
Manufacturing	87.9	69.0	87.5	68.8	81.8	68.8	71.6	72.9	73.8	74.9	76.4	77.3	78.4	78.9	79.4		
Primary processing	93.7	68.2	91.4	66.2	84.0	66.4	72.1	73.4	74.6	75.7	77.1	78.1	79.9	80.4	80.9		
Advanced processing	85.5	69.4	85.9	70.0	80.6	70.0	71.5	72.5	73.4	74.4	76.0	76.9	77.7	78.0	78.6		
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	64.8	68.3	69.7	70.7	71.8	73.6	74.6	75.9	76.5	77.1		
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	64.0	62.8	69.1	69.5	70.6	72.6	73.6	75.2	75.0			
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	39.5	55.7	57.0	57.8	58.0	59.7	62.5	65.1	70.0			
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	62.1	71.8	73.6	75.7	75.4	74.1	73.9	75.9	76.6	77.2		
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	60.7	64.3	65.0	65.0	66.6	68.9	70.6	71.3	71.8	72.2		
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	62.0	61.0	62.9	64.0	65.4	67.3	68.5	68.8	68.9	69.6		
Electrical machinery	88.7	62.3	90.6	74.7	80.0	74.9	77.9	79.3	80.4	81.2	83.6	83.8	86.4	87.3	87.9		
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	52.3	63.7	65.0	67.7	70.8	74.1	75.3	78.9	79.0	79.8		
Autos	NA	NA	91.6	35.8	NA	46.2	59.5	61.2	64.0	70.5	77.3	78.6	80.5	77.2	77.1		
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	69.5	68.1	68.2	68.0	67.9	68.0	68.3	68.7	69.6	69.6		
Instruments	89.6	73.7	92.3	73.1	83.5	73.5	72.2	72.6	72.9	72.8	74.2	75.1	75.6	75.4	75.5		
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	73.8	75.8	76.9	77.7	78.7	79.9	80.8	81.6	81.9	82.2		
Foods	85.7	77.2	85.2	76.5	83.3	77.7	76.9	77.5	78.3	79.2	80.0	79.6	78.8				
Textile mill products	95.4	61.3	91.3	73.0	86.2	75.2	80.7	83.6	85.4	86.8	89.9	90.3	91.2	91.5			
Paper and products	96.7	69.1	95.1	84.2	89.6	88.1	88.8	89.1	91.6	92.3	93.4	95.3	96.2				
Chemicals and products	86.2	65.9	83.6	64.0	78.7	64.0	67.4	68.2	68.8	69.8	70.8	71.2	72.3	73.0			
Petroleum products	99.1	84.6	93.0	71.5	89.6	72.9	70.2	73.9	76.0	75.6	76.5	76.0	77.3	77.6	76.9		
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	74.7	80.9	84.1	85.5	87.2	87.8	90.9	93.6	93.2			
Mining	91.8	86.0	90.4	69.6	86.5	70.8	68.1	67.5	68.2	68.1	69.5	70.2	70.6	71.7	72.8		
Utilities	94.9	82.0	86.8	79.0	88.6	80.4	79.4	80.9	80.9	80.8	83.5	85.0	84.8	83.9	84.2		
Electric utilities	97.6	82.1	87.0	77.9	89.8	79.2	78.5	80.1	80.0	79.4	82.9	84.5	83.9	83.0	83.3		

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1982 III	1983 IV	1983 I	1983 II	1983 III	1982 III	1983 IV	1983 I	1983 II	1983 III	1982 III	1983 IV	1983 I	1983 II	1983 III
Total Industry	138.2	135.3	138.5	144.5	151.8	192.8	193.7	194.6	195.5	196.4	71.7	69.8	71.2	73.9	77.3
Manufacturing	137.7	134.5	138.4	145.2	152.8	193.9	194.8	195.7	196.6	197.5	71.0	69.0	70.7	73.8	77.4
Primary processing	132.4	129.3	137.0	145.2	153.0	193.0	193.7	194.3	194.8	195.3	68.6	66.8	70.5	74.6	78.3
Advanced processing	140.5	137.3	139.7	145.1	152.7	194.3	195.4	196.5	197.6	198.6	72.3	70.2	71.1	73.5	76.9
Durable manufacturing	124.8	119.8	124.2	131.1	139.0	183.3	184.0	184.7	185.4	186.1	68.1	65.1	67.2	70.7	74.7
Stone, clay and glass products	128.7	126.9	131.8	139.7	148.8	198.1	198.8	199.6	200.4	201.1	65.0	63.8	66.0	69.7	73.8
Iron and steel, subtotal	57.3	49.4	63.4	69.2	75.0	121.3	120.5	120.1	120.1	120.1	47.2	41.0	52.8	57.6	62.5
Nonferrous metals, subtotal	101.1	94.3	102.3	111.2	118.8	148.4	148.4	148.4	148.4	148.4	68.1	63.6	68.9	74.9	74.6
Fabricated metal products	114.0	107.3	110.6	116.4	125.4	175.5	176.2	176.9	177.6	178.3	64.9	60.9	62.5	65.5	70.3
Nonelectrical machinery	146.4	139.7	137.6	146.2	156.6	223.9	225.3	226.7	228.1	229.6	65.4	62.0	60.7	64.1	68.2
Electrical machinery	169.0	165.5	170.7	179.9	191.0	219.6	220.9	222.4	224.1	225.7	77.0	74.9	76.8	80.3	84.6
Motor vehicles and parts	119.1	104.5	120.0	130.7	145.8	194.9	194.4	193.7	192.7	191.7	61.1	53.8	62.0	67.8	76.1
Autos	100.7	81.7	101.4	109.5	132.3	169.1	168.2	167.8	167.8	167.8	59.6	48.6	60.4	65.2	78.8
Aerospace and misc. trans. eqp.	98.1	98.7	97.9	98.1	99.2	141.0	142.1	143.1	144.2	145.2	69.6	69.5	68.4	68.0	68.3
Instruments	164.2	156.1	154.0	155.7	161.3	210.9	212.0	213.0	214.1	215.1	77.9	73.7	72.3	72.8	75.0
Nondurable manufacturing	156.4	155.7	159.0	165.5	172.8	209.3	210.5	211.7	212.8	213.9	74.8	74.0	75.1	77.8	80.8
Foods	150.2	152.1	153.1	155.7	159.1	194.4	195.8	197.2	198.7	200.2	77.3	77.7	77.6	78.3	79.5
Textile mill products	125.4	123.7	129.5	139.3	147.6	164.0	163.8	163.6	163.4	163.2	76.5	75.5	79.1	85.3	90.4
Paper and products	151.3	153.5	156.9	160.5	168.0	174.6	175.3	175.9	176.4	176.9	86.6	87.6	89.2	91.0	95.0
Chemicals and products	195.4	194.3	201.9	211.4	220.9	298.4	301.3	304.1	306.8	309.4	65.5	64.5	66.4	68.9	71.4
Petroleum products	122.9	120.8	113.3	122.5	124.2	165.4	164.6	163.8	163.0	162.1	74.3	73.4	69.2	75.2	76.6
Rubber and plastics products	260.0	252.1	264.1	288.3	306.4	333.7	335.0	336.0	336.8	337.7	77.9	75.3	78.6	85.6	90.7
Mining	117.2	117.0	116.7	112.3	116.0	164.8	165.1	165.2	165.3	165.4	71.1	70.9	70.6	67.9	70.1
Utilities	167.9	166.2	163.6	169.6	178.2	206.5	207.4	208.5	209.8	211.1	81.3	80.1	78.5	80.8	84.4
Electric utilities	189.1	187.4	185.2	192.5	203.6	236.5	237.7	239.2	241.1	243.0	80.0	78.8	77.4	79.8	83.8

INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973 HIGH	1975 LOW	1978 HIGH	1982 LOW	1967 -82 AVER.	YEAR -82 MO. 1	1983											
							MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV			
Industrial Materials	92.6	69.3	88.9	66.6	83.3	67.0	71.5	72.5	73.5	74.4	76.5	77.4	78.7	79.4	80.0			
Durable goods materials	91.4	63.5	88.4	59.8	79.7	59.8	66.0	67.7	68.9	70.0	72.1	73.6	75.1	76.2	76.9			
Metal materials	97.8	68.0	95.4	46.2	82.2	46.2	58.8	59.9	61.0	61.2	62.3	64.0	65.3	68.5	69.7			
Raw steel	107.1	68.0	102.9	40.2	84.8	41.3	55.7	56.9	58.0	58.2	59.4	61.0	63.3	67.5				
Aluminum	96.8	73.4	97.9	57.9	90.6	57.9	59.8	60.5	63.0	64.5	68.0	71.2	73.4	75.1				
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	72.5	76.8	77.2	78.7	79.6	80.7	81.1	83.4	83.9	84.5			
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	70.5	75.8	76.4	78.1	79.2	80.4	80.5	82.7	83.2	83.9			
Paper materials	99.4	72.4	97.9	86.3	93.4	91.1	90.3	91.0	92.9	93.1	96.7	96.9	98.9					
Chemical materials	95.5	64.2	91.3	64.0	85.1	65.4	71.9	72.6	74.0	75.3	75.9	75.5	78.0	78.2				
Energy materials	94.5	84.4	88.9	78.5	88.5	79.2	79.2	78.9	78.5	78.8	82.6	82.8	81.5	81.2	81.6			

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1982 III	1983 IV	1983 I	1983 II	1983 III	1982 III	1983 IV	1983 I	1983 II	1983 III	1982 III	1983 IV	1983 I	1983 II	1983 III
Industrial Materials	132.6	128.7	134.8	141.7	149.9	191.0	191.7	192.3	192.9	193.4	69.4	67.1	70.1	73.5	77.6
Durable goods materials	124.7	117.1	125.2	134.7	144.2	194.4	194.8	195.2	195.6	196.0	64.2	60.2	64.2	68.9	73.6
Metal materials	73.0	66.5	78.6	84.9	89.2	140.6	140.3	140.2	139.9	139.8	51.9	47.4	56.1	60.7	63.9
Raw steel	55.2	49.9	61.9	68.7	72.7	120.0	119.7	119.4	119.1	118.8	46.0	41.7	51.9	57.7	61.2
Aluminum	104.9	97.5	99.0	105.1	118.8	167.5	167.6	167.7	167.7	167.7	62.6	58.1	59.0	62.7	70.9
Nondurable goods materials	155.1	157.0	163.7	171.7	179.5	215.6	216.9	217.8	218.8	219.6	71.9	72.4	75.2	78.5	81.7
Textile, paper and chemical materials	158.4	160.8	169.3	179.6	188.2	226.8	228.3	229.4	230.7	231.6	69.8	70.5	73.8	77.9	81.2
Paper materials	145.9	147.6	149.9	153.4	162.8	163.6	164.4	165.3	166.1	166.9	89.1	89.7	90.7	92.3	97.5
Chemical materials	188.5	191.9	204.7	219.4	228.0	290.6	292.8	294.8	296.6	298.3	64.9	65.5	69.4	74.0	76.4
Energy materials	123.8	121.5	122.2	121.5	127.4	152.8	153.3	153.9	154.3	154.7	81.0	79.2	79.5	78.7	82.3

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 1987-82 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 18, October 17, November 16 and December 16.