FEDERAL RESERVE statistical release

G.3 (402)

For immediate release

CAPACITY UTILIZATION
Manufacturing, Mining, Utilities, and Industrial Materials

November 16, 1984

Capacity utilization in manufacturing, mining, and utilities edged down 0.2 percentage point in October to 81.8 percent--the third consecutive monthly decline. The rate for the mining sector declined most while manufacturing and utilities decreased only slightly. Unlike the utilization rates in mining and utilities, the manufacturing rate remained above its 1967-82 average.

In October there was no consistent pattern in utilization rate changes. The capacity utilization rate for automobile production moved up modestly from its low September value, but the motor vehicle and parts industry as a whole declined a percentage point its utilization rate because of a sharp cutback in truck production. The utilization rate for electrical machinery also declined while rates for petroleum products and metals showed increases after recent weakness.

The materials utilization rate decreased, reflecting declines in both the energy materials and durable goods materials rates.

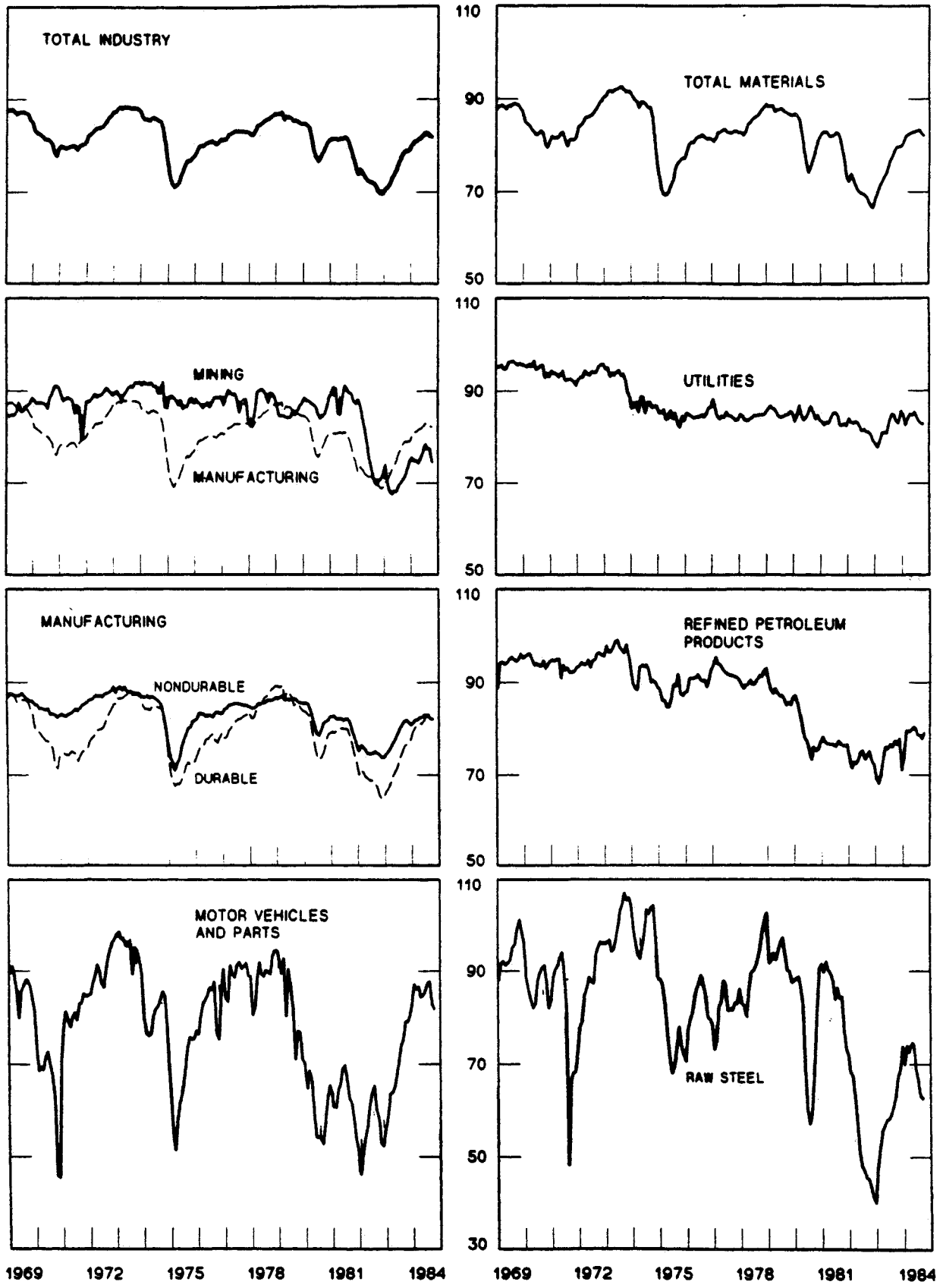
Capacity Utilization: Summary
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1984 JULY	AUG	SEP	OCT
Total industry	88.4	71.1	87.3	69.6	82.4.	82.7	82.6	82.0	81.8
Manufacturing	87.9	69.0	87.5	68.8	81.8.	82.8	82.8	82.2	82.1
Durable	87.9	67.6	89.4	64.8	80.5.	82.7	83.0	82.4	82.2
Nondurable	89.1	71.0	87.2	73.8	83.9.	82.9	82.6	82.0	82.0
Mining	91.8	86.0	90.4	69.6	86.5.	78.3	77.4	77.3	74.4
Utilities	94.9	82.0	86.8	79.0	88.6.	84.1	83.3	82.9	82.8
Industrial Materials	92.6	69.3	88.9	66.6	83.3.	83.1	83.3	82.4	81.9

CAPACITY UTILIZATION

OCTOBER 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	1984 FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT
Total industry	88.4	71.1	87.3	69.6	82.4	78.7	80.7	80.9	81.3	81.5	82.1	82.7	82.6	82.0	81.8
Manufacturing	87.9	69.0	87.5	68.8	81.8	78.9	80.9	81.0	81.5	81.7	82.2	82.8	82.8	82.2	82.1
Primary processing	93.7	68.2	91.4	66.2	84.0	80.4	82.2	82.2	82.2	82.4	82.6	82.3	82.3	81.7	81.8
Advanced processing	85.5	69.4	85.9	70.0	80.6	77.9	80.4	80.6	81.0	81.2	81.9	83.0	83.1	82.5	82.2
Durable manufacturing	87.9	67.6	89.4	64.8	80.5	76.5	80.1	80.4	80.9	81.0	81.7	82.7	83.0	82.4	82.2
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	75.3	79.0	78.7	78.4	78.6	77.9	78.3	78.4	77.3	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	70.2	72.3	71.3	71.5	71.5	72.0	66.4	67.7	66.4	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	77.5	81.2	81.6	85.4	83.8	83.3	85.2	85.7	84.2	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	71.0	73.9	74.9	75.1	75.6	76.7	77.6	77.3	76.8	76.9
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	69.1	73.7	74.0	75.3	76.9	78.2	80.2	81.3	81.3	81.7
Electrical machinery	88.7	62.3	90.6	74.7	80.0	87.5	91.1	91.4	91.9	91.3	91.4	93.1	92.5	92.3	91.4
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	79.0	86.1	86.6	84.4	84.7	85.7	87.5	87.7	82.7	81.7
Autos	NA	NA	91.6	35.8	NA	77.2	83.3	84.1	79.2	77.9	79.6	80.8	77.9	70.0	71.2
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	69.6	73.1	72.9	73.6	73.3	74.6	76.5	76.6	76.9	77.2
Instruments	89.6	73.7	92.3	73.1	83.5	75.5	77.7	78.0	78.6	78.8	80.0	80.9	81.1	81.1	81.1
Nondurable manufacturing	89.1	71.0	87.2	73.8	83.9	81.8	81.8	81.8	82.3	82.4	82.9	82.9	82.6	82.0	82.0
Foods	85.7	77.2	85.2	76.5	83.3	78.3	78.8	79.1	79.9	80.2	80.5	80.2	79.8		
Textile mill products	95.4	61.3	91.3	73.0	86.2	91.2	86.9	87.4	85.0	85.1	84.9	84.1	84.3	82.8	
Paper and products	96.7	69.1	95.1	84.2	89.6	96.8	99.0	97.1	96.0	96.7	96.7	97.5	97.4	97.3	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	73.4	71.6	71.6	72.5	72.3	73.2	73.4	73.2	72.6	
Petroleum products	99.1	84.6	93.0	71.5	89.6	76.5	79.5	79.3	79.4	80.2	80.1	78.5	78.5	77.7	79.1
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	91.9	93.1	94.0	94.6	95.7	97.1	96.6	96.0	94.5	
Mining	91.8	86.0	90.4	69.6	86.5	71.5	74.9	74.7	74.3	75.4	76.6	78.3	77.4	77.3	74.4
Utilities	94.9	82.0	86.8	79.0	88.6	83.3	82.5	84.0	85.0	84.7	85.4	84.1	83.3	82.9	82.8
Electric utilities	97.6	82.1	87.0	77.9	89.8	82.1	81.0	82.6	83.6	83.1	84.0	82.3	81.3	80.9	80.6

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT 1983 III	IV	1984 I	II	III	CAPACITY 1983 III	IV	1984 I	II	III	UTILIZATION 1983 III	IV	1984 I	II	III
Total industry	151.8	155.5	159.8	163.1	165.7	196.4	197.3	198.4	199.7	201.1	77.3	78.8	80.5	81.7	82.4
Manufacturing	152.8	156.5	161.0	164.4	167.3	197.5	198.4	199.5	201.0	202.5	77.4	78.9	80.7	81.8	82.6
Primary processing	152.8	156.4	160.5	162.5	162.5	195.3	195.8	196.5	197.2	198.0	78.3	79.9	81.7	82.4	82.1
Advanced processing	152.8	156.1	161.7	165.2	169.8	198.6	199.7	201.1	203.0	204.9	76.9	78.2	80.3	81.4	82.9
Durable manufacturing	139.1	143.8	150.2	153.6	157.5	186.1	186.8	187.8	189.1	190.4	74.7	76.9	79.9	81.2	82.7
Stone, clay and glass products	148.5	152.8	159.5	160.1	160.6	201.1	201.9	203.0	204.4	205.9	73.8	75.7	78.5	78.3	78.0
Iron and steel, subtotal	75.0	79.2	83.7	83.7	76.5	120.1	120.1	119.0	116.7	114.5	62.5	66.0	70.4	71.7	66.8
Nonferrous metals, subtotal	110.9	116.6	119.0	124.9	126.2	148.4	148.4	148.4	148.4	148.4	74.7	78.6	80.2	84.2	85.0
Fabricated metal products	125.4	128.2	133.1	136.9	140.1	178.3	179.0	179.8	180.6	181.4	70.3	71.6	74.0	75.8	77.2
Nonelectrical machinery	156.6	161.8	170.8	178.6	188.7	229.6	231.0	232.0	232.6	233.1	68.2	70.0	73.6	76.8	81.0
Electrical machinery	191.1	200.0	209.4	215.0	221.7	225.7	227.4	230.4	234.9	239.3	84.7	87.9	90.8	91.5	92.6
Motor vehicles and parts	145.8	154.2	165.5	163.4	166.5	191.7	190.7	190.9	192.3	193.8	76.1	80.8	86.6	84.9	85.9
Autos	132.3	132.1	141.2	134.5	131.4	167.8	167.8	168.7	170.5	172.3	78.8	78.7	83.6	78.9	76.2
Aerospace and misc. trans. eqp.	99.2	103.0	106.8	109.4	114.3	145.2	146.3	147.2	148.1	149.0	68.3	70.4	72.6	73.8	76.7
Instruments	161.5	163.5	168.7	172.4	177.3	215.1	216.2	217.1	217.9	218.8	75.1	75.7	77.7	79.1	81.0
Nondurable manufacturing	172.7	174.8	176.7	180.1	181.4	213.9	215.0	216.5	218.2	220.0	80.7	81.3	81.6	82.5	82.5
Foods	159.1	157.5	160.2	164.1		200.2	201.7	203.1	204.6		79.5	78.1	78.9	80.2	
Textile mill products	147.6	146.5	143.2	140.4	139.6	163.2	163.0	163.7	165.2	166.7	90.4	89.8	87.5	85.0	83.7
Paper and products	168.0	171.2	174.2	173.7	176.9	176.9	177.4	178.5	180.1	181.6	95.0	96.5	97.6	96.5	97.4
Chemicals and products	220.9	225.0	223.8	229.1	231.2	309.4	312.1	314.0	315.1	316.3	71.4	72.1	71.3	72.7	73.1
Petroleum products	124.2	121.1	124.5	127.4	124.0	162.1	161.3	160.4	159.4	158.5	76.6	75.1	77.6	79.9	78.2
Rubber and plastics products	304.6	311.4	319.8	334.4	340.4	337.7	338.5	342.3	349.1	355.8	90.2	91.9	93.4	95.8	95.7
Mining	116.1	121.0	124.2	125.1	128.9	165.4	165.5	165.7	165.9	166.1	70.2	73.1	75.0	75.4	77.6
Utilities	178.2	178.4	179.2	183.1	180.9	211.1	212.4	213.8	215.3	216.8	84.4	84.0	83.8	85.0	83.4
Electric utilities	203.6	203.0	203.8	208.0	204.5	243.0	244.9	246.9	248.9	251.0	83.8	82.8	82.5	83.6	81.5

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	1984 FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT
Industrial Materials	92.6	69.3	88.9	66.6	83.3	79.5	81.9	82.2	82.5	82.7	82.9	83.1	83.3	82.4	81.9
Durable goods materials	91.4	63.5	88.4	59.8	79.7	76.1	80.5	80.7	81.5	81.5	82.0	82.5	83.0	81.9	81.6
Metal materials	97.8	68.0	95.4	46.2	82.2	68.0	71.1	71.5	73.0	72.2	72.1	70.8	71.7	69.0	69.4
Raw steel	107.1	68.0	102.9	40.2	84.8	67.5	74.0	72.6	74.5	74.2	68.9	66.2	62.9	62.5	
Aluminum	96.8	73.4	97.9	57.9	90.6	75.1	82.0	84.3	85.7	87.0	86.6	83.6	82.5	81.0	
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	84.1	83.0	83.6	83.2	83.9	83.3	83.0	82.9	82.2	82.2
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	84.1	82.8	83.1	82.7	83.3	82.6	82.5	82.5	81.4	81.4
Paper materials	99.4	72.4	97.9	86.3	93.4	99.4	99.0	96.8	98.5	99.8	99.8	101.5	99.7	100.0	
Chemical materials	95.5	64.2	91.3	64.0	85.1	79.7	78.6	79.5	78.9	79.0	78.4	77.9	78.1	77.0	
Energy materials	94.5	84.4	88.9	78.5	88.5	81.4	84.1	84.1	84.5	84.3	85.0	85.3	84.8	84.1	82.0

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT 1983 III	IV	1984 I	II	III	CAPACITY 1983 III	IV	1984 I	II	III	UTILIZATION 1983 III	IV	1984 I	II	III
Industrial Materials	149.9	154.3	158.8	162.1	163.5	193.4	194.0	194.7	195.9	197.2	77.5	79.6	81.6	82.7	82.9
Durable goods materials	144.2	150.3	157.6	162.0	164.6	196.0	196.5	197.1	198.3	199.5	73.6	76.5	79.9	81.7	82.5
Metal materials	89.3	93.8	97.3	100.3	97.2	139.8	139.6	139.1	138.5	137.9	63.9	67.2	70.0	72.4	70.5
Raw steel	72.7	82.8	84.5	83.1	71.6	118.8	118.5	117.1	114.6	112.2	61.2	69.9	72.2	72.5	63.8
Aluminum	119.0	128.6	137.5	144.9	138.1	167.7	167.7	167.7	167.7	167.7	70.9	76.7	82.0	86.4	82.3
Nondurable goods materials	179.1	183.5	183.7	186.6	186.3	219.6	220.6	221.8	223.4	225.2	81.5	83.2	82.8	83.5	82.7
Textile, paper and chemical materials	188.0	193.2	193.2	195.9	195.6	231.6	232.7	234.2	236.2	238.2	81.2	83.0	82.5	82.9	82.1
Paper materials	162.8	167.4	165.8	168.5	171.2	166.9	167.7	168.5	169.5	170.5	97.5	99.8	98.4	99.4	100.4
Chemical materials	227.8	235.0	236.7	240.4	239.3	298.3	300.1	302.3	305.2	308.0	76.4	78.3	78.3	78.8	77.7
Energy materials	127.4	127.8	131.2	132.4	133.0	154.7	155.3	155.8	156.4	157.0	82.3	82.3	84.2	84.6	84.7

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.