

# FEDERAL RESERVE statistical release



G.3 (402)

For Immediate release

## CAPACITY UTILIZATION

### Manufacturing, Mining, Utilities, and Industrial Materials

February 19, 1985

Capacity utilization in manufacturing, mining, and utilities rose from its slightly downward revised December level by 0.2 percentage point in January to 81.9 percent. Gains in the operating rates for the mining and utilities industries led the rise in the overall index while the manufacturing rate remained unchanged at 82.1 percent. The January operating rate for electric and gas utilities rebounded to near its November level after a fall in December; this reflected mainly the effects of the warmer than usual weather in December and the colder than usual weather in January.

In the manufacturing sector, the motor vehicles and parts industry showed a strong utilization rate gain in January. Its 2.5 percentage point increase, however, was offset by slight declines in utilization among the nondurable goods manufacturing industries and many of the remaining durable goods industries. The petroleum refining utilization rate registered a decline of over a percentage point from its December level.

Capacity utilization in materials production rose 0.1 percentage point in January, keeping this rate at its fourth quarter 1984 average. Of its major components, only the energy materials production rate increased. Both the durable and nondurable goods materials rates edged down again in January. The utilization rate for durable goods materials last moved up in August 1984 while the rate for production of nondurable goods materials last gained in May 1984.

### Capacity Utilization: Summary

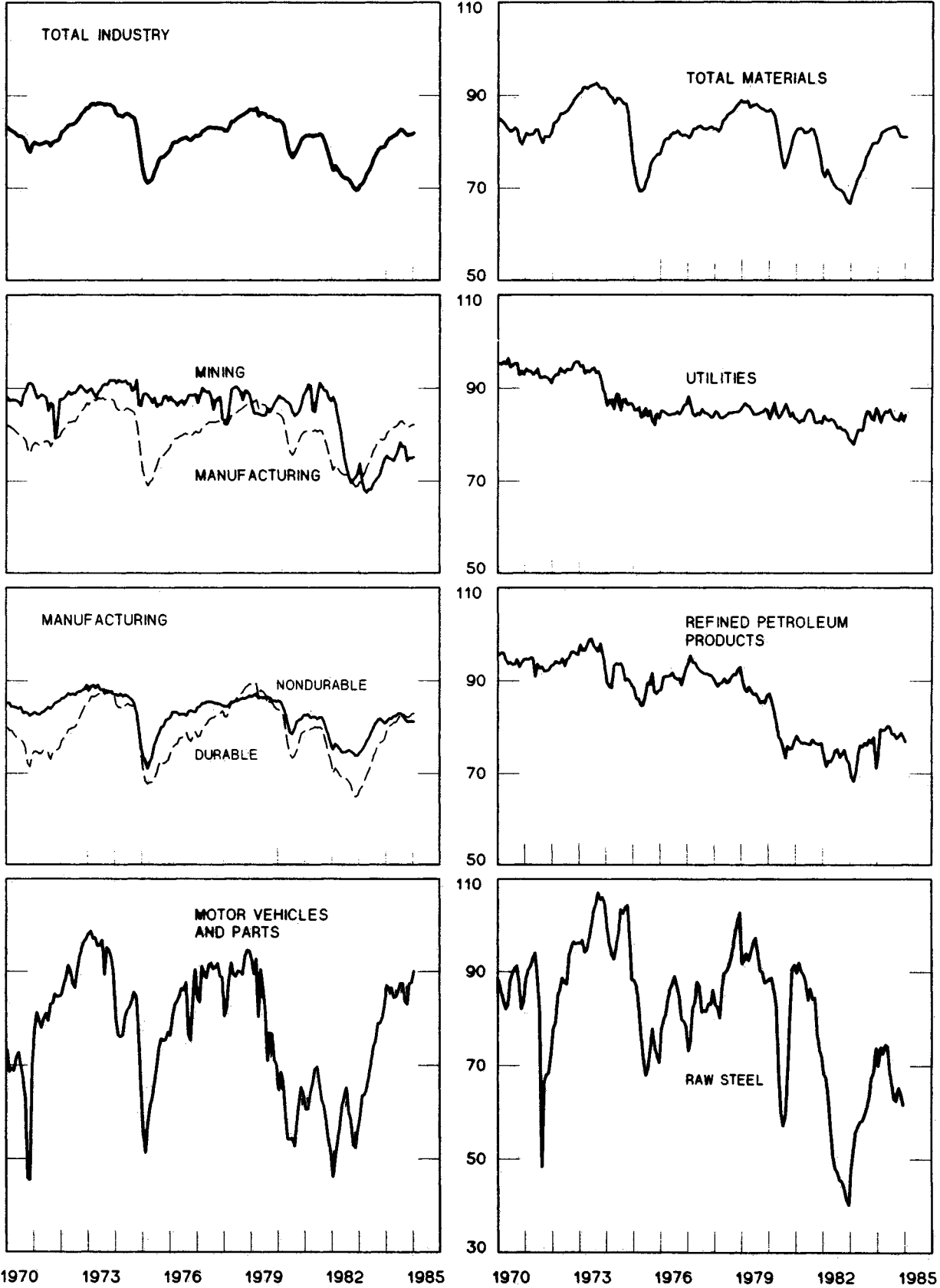
Percent of capacity, seasonally adjusted

Series	1973 HIGH	1975 LOW	1978 -80 HIGH	1982 LOW	1967 -82 AVER.	1984				1985
						OCT	NOV	DEC	JAN	
<b>Total Industry</b>	88.4	71.1	87.3	69.6	82.4.	81.4	81.5	81.7	81.9	
<b>Manufacturing</b>	87.9	69.0	87.5	68.8	81.8.	81.7	81.7	82.1	82.1	
Durable	87.9	67.6	89.4	64.8	80.5.	82.1	82.2	82.8	82.9	
Nondurable	89.1	71.0	87.2	73.8	83.9.	81.1	81.2	81.3	81.1	
<b>Mining</b>	91.8	86.0	90.4	69.6	86.5.	74.3	75.0	74.9	75.2	
<b>Utilities</b>	94.9	82.0	86.8	79.0	88.6.	82.9	84.6	82.8	84.3	
<b>Industrial Materials</b>	92.6	69.3	88.9	66.6	83.3.	81.0	80.9	80.8	80.9	

# CAPACITY UTILIZATION

JANUARY DATA

SEASONALLY ADJUSTED, PERCENT



**MANUFACTURING, MINING AND UTILITIES**

**Table 1**  
**Capacity Utilization**  
Monthly, seasonally adjusted, percent of capacity

Series	1973	1975	1978	1982	1987	YEAR	1988							1989	
	HIGH	LOW	-80 HIGH	LOW	-82 AVER.	AGO MONTH	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN
<b>Total Industry</b>	88.4	71.1	87.3	69.6	82.4	80.1	81.5	82.1	82.7	82.5	81.9	81.4	81.5	81.7	81.9
<b>Manufacturing</b>	87.9	69.0	87.5	68.8	81.8	80.1	81.7	82.2	82.8	82.8	82.0	81.7	81.7	82.1	82.1
<b>Primary processing</b>	93.7	68.2	91.4	66.2	84.0	80.6	82.4	82.6	82.3	82.1	81.5	81.2	80.7	80.6	80.8
<b>Advanced processing</b>	85.5	69.4	85.9	70.0	80.6	80.0	81.2	81.9	83.0	83.1	82.4	81.8	82.0	82.6	82.7
<b>Durable manufacturing</b>	87.9	67.6	89.4	64.8	80.5	79.2	81.0	81.7	82.7	82.9	82.3	82.1	82.2	82.8	82.9
Stone, clay and glass products	88.0	64.0	90.4	63.0	78.4	77.9	78.6	77.9	78.3	77.7	76.6	77.4	76.7	76.3	
Iron and steel, subtotal	103.3	69.2	97.5	38.8	82.3	67.6	71.5	72.0	66.4	67.9	68.1	66.0	65.9	67.1	
Nonferrous metals, subtotal	99.0	60.8	98.2	62.1	83.8	77.8	83.8	83.3	85.2	83.6	83.3	84.2	82.5	79.5	
Fabricated metal products	86.3	65.7	90.0	60.7	79.6	73.4	75.6	76.7	77.6	77.2	76.8	77.4	76.1	77.6	77.4
Nonelectrical machinery	88.3	71.8	83.1	61.6	79.8	73.2	76.9	78.2	80.2	81.1	80.5	80.4	80.7	81.5	81.3
Electrical machinery	88.7	62.3	90.6	74.7	80.0	89.9	91.3	91.4	93.1	92.5	92.5	91.7	91.1	91.8	91.6
Motor vehicles and parts	98.7	51.3	94.5	46.1	78.6	87.1	84.7	85.7	87.5	83.6	83.0	87.5	87.5	87.7	90.2
Autos	NA	NA	91.6	35.8	NA	83.6	77.9	79.6	80.8	77.9	70.0	71.2	79.8	81.6	86.5
Aerospace and misc. trans. eqp.	76.0	68.0	93.9	69.1	78.1	71.7	73.3	74.6	76.5	76.5	76.3	75.8	77.0	76.7	
Instruments	89.6	73.7	82.3	73.1	83.5	77.4	78.8	80.0	80.9	81.1	81.5	80.5	80.8	82.9	82.3
<b>Nondurable manufacturing</b>	89.1	71.0	87.2	73.8	83.9	81.1	82.4	82.9	82.9	82.6	81.7	81.1	81.2	81.3	81.1
Foods	85.7	77.2	85.2	76.5	83.3	78.7	80.2	80.5	80.2	79.9	79.5	79.2	78.7		
Textile mill products	95.4	61.3	91.3	73.0	86.2	88.0	85.1	84.9	84.1	84.1	81.0	79.5	78.9	78.9	
Paper and products	96.7	69.1	95.1	84.2	89.6	96.7	96.7	96.7	97.5	97.3	97.4	95.0	94.6	95.3	
Chemicals and products	86.2	65.9	83.6	64.0	78.7	70.7	72.3	73.2	73.4	73.2	72.9	71.9	72.5	72.6	
Petroleum products	99.1	84.6	93.0	71.5	89.6	73.9	80.2	80.1	78.5	78.5	77.5	77.9	76.7	77.8	76.7
Rubber and plastics products	97.4	62.1	91.5	74.0	88.3	93.0	95.7	97.1	96.6	96.0	94.5	94.0	92.4	92.1	
<b>Mining</b>	91.8	86.0	90.4	69.6	86.5	75.4	75.4	76.6	78.3	77.3	77.4	74.3	75.0	74.9	75.2
<b>Utilities</b>	94.9	82.0	86.8	79.0	88.6	84.8	84.7	85.4	84.1	83.3	83.2	82.9	84.6	82.8	84.3
<b>Electric utilities</b>	97.6	82.1	87.0	77.9	89.8	84.0	83.1	84.0	82.3	81.3	81.2	80.8	82.7	80.2	82.1

**Table 2**  
**Output, Capacity, and Capacity Utilization**  
Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1983 IV	1984 I	II	III	IV	1983 IV	1984 I	II	III	IV	1983 IV	1984 I	II	III	IV
<b>Total Industry</b>	155.5	159.8	163.1	165.6	165.1	197.3	198.4	199.7	201.1	202.4	78.8	80.5	81.7	82.4	81.5
<b>Manufacturing</b>	156.5	161.0	164.4	167.2	167.0	198.4	199.5	201.0	202.5	204.0	78.9	80.7	81.8	82.5	81.8
<b>Primary processing</b>	156.4	160.5	162.5	162.2	160.8	195.8	196.5	197.2	198.0	198.7	79.9	81.7	82.4	81.9	80.9
<b>Advanced processing</b>	156.1	161.7	165.2	169.7	169.9	199.7	201.1	203.0	204.9	206.8	78.2	80.3	81.4	82.8	82.1
<b>Durable manufacturing</b>	143.8	150.2	153.6	157.4	158.0	186.8	187.8	189.1	190.4	191.7	76.9	79.9	81.2	82.6	82.4
Stone, clay and glass products	152.8	159.5	160.1	159.6	159.2	201.9	203.0	204.4	205.9	207.3	75.7	78.5	78.3	77.5	76.8
Iron and steel, subtotal	79.2	83.7	83.7	77.2	74.5	120.1	119.0	116.7	114.5	112.2	66.0	70.4	71.7	67.5	66.3
Nonferrous metals, subtotal	116.6	119.0	124.9	124.7	121.8	148.4	148.4	148.4	148.4	148.4	78.6	80.2	84.2	84.0	82.1
Fabricated metal products	128.2	133.1	136.9	140.0	140.3	179.0	179.8	180.6	181.4	182.2	71.6	74.0	75.8	77.2	77.0
Nonelectrical machinery	161.8	170.8	178.6	188.0	189.1	231.0	232.0	232.6	233.1	233.7	70.0	73.6	76.8	80.6	80.9
Electrical machinery	200.0	209.4	215.0	221.9	223.2	227.4	230.4	234.9	239.3	243.8	87.9	90.8	91.5	92.7	91.0
Motor vehicles and parts	154.2	165.5	163.4	167.0	168.1	190.7	190.9	192.3	193.8	195.2	80.8	86.6	84.9	86.2	86.1
Autos	132.1	141.2	134.5	131.4	135.0	167.8	168.7	170.5	172.3	174.1	78.7	83.6	78.9	76.2	77.5
Aerospace and misc. trans. eqp.	103.0	106.8	109.4	114.0	114.4	146.3	147.2	148.1	149.0	149.9	70.4	72.6	73.8	76.5	76.4
Instruments	163.5	168.7	172.4	177.5	178.8	216.2	217.1	217.9	218.8	219.6	75.7	77.7	79.1	81.2	81.4
<b>Nondurable manufacturing</b>	174.8	176.7	180.1	181.3	180.0	215.0	216.5	216.2	220.0	221.7	81.3	81.6	82.5	82.4	81.2
Foods	157.5	160.2	164.1	164.6		201.7	203.1	204.6	206.1		78.1	78.9	80.2	79.9	
Textile mill products	146.5	143.2	140.4	138.5	133.0	163.0	163.7	165.2	166.7	168.2	89.8	87.5	85.0	83.1	79.1
Paper and products	171.2	174.2	173.7	177.0	174.1	177.4	178.5	180.1	181.6	183.2	96.5	97.6	96.5	97.4	95.0
Chemicals and products	225.0	223.8	229.1	231.5	229.6	312.1	314.0	315.1	316.3	317.4	72.1	71.3	72.7	73.2	72.3
Petroleum products	121.1	124.5	127.4	123.9	123.1	161.3	160.4	159.4	158.5	157.5	75.1	77.6	79.9	78.2	76.1
Rubber and plastics products	311.4	319.8	334.4	340.4	336.6	338.5	342.3	349.1	355.8	362.6	91.9	93.4	95.8	95.7	92.8
<b>Mining</b>	121.0	124.2	125.1	129.0	124.3	165.5	165.7	165.9	166.1	166.3	73.1	75.0	75.4	77.7	74.8
<b>Utilities</b>	178.4	179.2	183.1	181.1	182.2	212.4	213.8	215.3	216.8	218.3	84.0	83.8	85.0	83.5	83.5
<b>Electric utilities</b>	203.0	203.8	208.0	204.8	205.4	244.9	246.9	248.9	251.0	253.0	82.8	82.5	83.6	81.6	81.2

## INDUSTRIAL MATERIALS

Table 3  
Capacity Utilization  
Monthly, seasonally adjusted, percent of capacity

Series	1973	1975	1978	1982	1967	YEAR	1984												1985
	HIGH	LOW	-80 HIGH	LOW	-82 AVER.	AGO MONTH	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN				
Industrial Materials	92.6	69.3	88.9	66.6	83.3	80.6	82.7	82.9	83.1	83.2	82.4	81.0	80.5	80.6	80.9				
Durable goods materials	91.4	63.5	88.4	59.8	79.7	78.5	81.5	82.0	82.5	82.9	82.2	81.3	80.6	80.6	80.4				
Metal materials	97.8	68.0	95.4	46.2	82.2	67.3	72.2	72.1	70.8	70.8	69.8	67.6	66.7	66.6	65.6				
Raw steel	107.1	68.0	102.9	40.2	84.8	70.0	74.2	68.9	66.2	62.9	62.5	65.4	64.0	61.6					
Aluminum	96.8	73.4	97.9	57.9	90.6	79.8	87.0	86.6	83.6	82.5	81.0	79.4	77.9	77.4					
Nondurable goods materials	94.4	67.4	91.7	70.7	86.5	81.9	83.9	83.3	83.0	82.9	81.5	80.5	80.4	80.4	80.1				
Textile, paper, and chemical materials	95.1	65.4	92.3	68.6	86.5	81.5	83.3	82.6	82.5	82.4	80.5	79.7	79.3	79.4	75.0				
Paper materials	99.4	72.4	97.9	86.3	93.4	99.3	99.8	99.8	101.5	99.7	99.7	98.7	97.0	98.0					
Chemical materials	95.5	64.2	91.3	64.0	85.1	76.7	79.0	78.4	77.9	78.1	76.1	75.7	75.9	75.7					
Energy materials	94.5	84.4	88.9	78.5	88.5	84.4	84.3	85.0	85.3	84.7	84.3	81.0	82.0	82.1	83.7				

Table 4  
Output, Capacity, and Capacity Utilization  
Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1983 IV	1984 I	II	III	IV	1983 IV	1984 I	II	III	IV	1983 IV	1984 I	II	III	IV
Industrial Materials	154.3	158.8	162.1	163.4	160.5	194.0	194.7	195.9	197.2	198.4	79.6	81.6	82.7	82.9	80.9
Durable goods materials	150.3	157.6	162.0	164.6	162.5	196.5	197.1	198.3	199.5	200.8	76.5	79.9	81.7	82.5	80.9
Metal materials	93.8	97.3	100.3	97.2	92.0	139.6	139.1	138.5	137.9	137.3	67.2	70.0	72.4	70.5	67.0
Raw steel	82.8	84.5	83.1	71.6	69.9	118.5	117.1	114.6	112.2	109.7	69.9	72.2	72.5	63.8	63.7
Aluminum	128.6	137.5	144.9	138.1	131.2	167.7	167.7	167.7	167.7	167.7	76.7	82.0	86.4	82.3	76.2
Nondurable goods materials	183.5	183.7	186.6	185.7	182.4	220.6	221.8	223.4	225.2	226.9	83.2	82.8	83.5	82.5	80.4
Textile, paper and chemical materials	193.2	193.2	195.9	194.9	190.7	232.7	234.2	236.2	238.2	240.3	83.0	82.5	82.9	81.8	79.4
Paper materials	167.4	165.8	168.5	171.0	167.9	167.7	168.5	169.5	170.5	171.5	99.8	98.4	99.4	100.3	97.9
Chemical materials	235.0	236.7	240.4	238.4	235.5	300.1	302.3	305.2	308.0	310.9	78.3	78.3	78.8	77.4	75.6
Energy materials	127.8	131.2	132.4	133.1	128.8	155.3	155.8	156.4	157.0	157.6	82.3	84.2	84.6	84.8	81.7

**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 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 1985.** Approximately 11 a.m. on January 16, February 19, March 18, April 17, May 16, June 17, July 17, August 16, September 16, October 17, November 18, and December 16.