

FEDERAL RESERVE statistical release



G.3 (402)

For Immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

September 16, 1985

Capacity utilization in manufacturing, mining, and utilities is estimated at 80.5 percent in August, up 0.1 percentage point from a downward revised level for July. The August gain in utilization for total industry reflected an increase of 0.2 percentage point in manufacturing, while the operating rates for both mining and utilities dropped around one-half percentage point.

Within manufacturing there were utilization increases in August in transportation equipment and some related industries, while other industries generally showed little change. The motor vehicles and parts industry showed a utilization rate gain of 3.3 percentage points, the largest increase among manufacturing industries. The primary contributors to this rise were truck and parts production. Utilization in aerospace and miscellaneous transportation equipment production also rose 1.1 percentage points. The primary metals industry, an important supplier to the transportation equipment industry, had an August utilization rate rise of 0.5 percent. Also, the operating rate in the petroleum products industry rose 1.1 percentage points in August to 87.0 percent, continuing its upward movement since January 1985 when the rate was 81.4 percent.

Capacity utilization for total industrial materials declined by 0.1 percentage point in August. Utilization in energy materials production dipped 0.6 percentage point while operating rates for durable and nondurable goods materials changed only slightly. Even so, utilization for metal materials production rose 1.4 percentage points.

Capacity Utilization: Summary

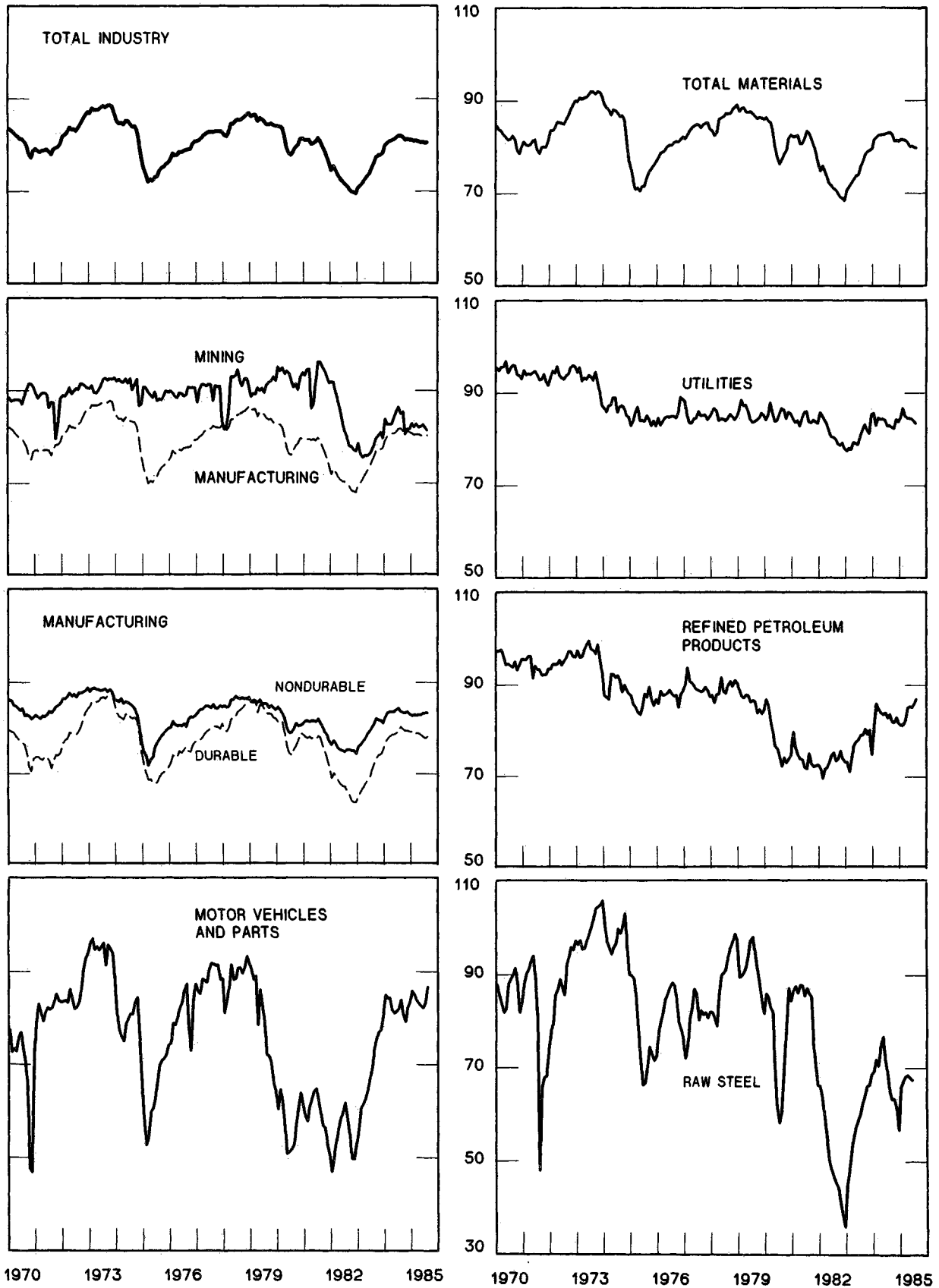
Percent of capacity, seasonally adjusted

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1987 -84 Avg.	1985			
						MAY	JUN	JUL	AUG
Total Industry	88.6	72.1	86.9	69.5	81.7	80.6	80.6	80.4	80.5
Manufacturing	87.7	69.9	86.5	68.0	80.7	80.3	80.2	80.0	80.2
Durable	87.4	67.9	86.3	63.7	78.8	78.5	78.1	77.8	78.1
Nondurable	88.8	71.8	87.0	74.4	83.5	83.0	83.3	83.4	83.4
Mining	92.8	87.8	95.2	76.9	88.0	82.2	82.6	81.9	81.3
Utilities	95.6	82.9	88.5	78.0	88.1	84.5	84.4	83.9	83.4
Industrial Materials	92.0	70.5	89.1	68.4	82.7	80.1	80.2	79.9	79.8

CAPACITY UTILIZATION

AUGUST DATA

SEASONALLY ADJUSTED, PERCENT



MANUFACTURING, MINING AND UTILITIES

Table 1

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Series	1973	1975	1978	1982	1967	Year	1984 1985								
	High	Low	-80 High	Low	-84 Avg	ago month	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Total Industry	88.6	72.1	86.9	69.5	81.7	82.0	81.1	81.1	80.9	81.0	80.8	80.6	80.6	80.4	80.5
Manufacturing	87.7	69.9	86.5	68.0	80.7	81.8	80.9	80.7	80.4	80.5	80.5	80.3	80.2	80.0	80.2
Primary processing	91.9	68.3	89.1	65.1	81.7	82.3	80.9	81.6	81.5	81.8	82.1	81.5	81.9	82.2	82.5
Advanced processing	86.0	71.1	85.1	69.5	80.2	81.4	80.8	80.2	79.8	79.8	79.7	79.8	79.4	78.9	79.2
Durable manufacturing	87.4	67.9	86.3	63.7	78.8	80.4	79.3	79.3	78.7	78.9	78.9	78.5	78.1	77.8	78.1
Stone, clay and glass products	89.3	67.1	86.6	62.9	77.6	81.3	79.4	79.8	78.1	78.0	80.6	81.7	81.2	81.6	
Primary metals	101.9	67.0	97.1	45.8	80.5	74.3	70.3	73.5	72.1	73.7	73.4	69.0	70.8	70.9	71.4
Iron and steel, subtotal	105.8	66.6	100.3	37.6	80.1	69.2	65.4	67.6	65.4	69.9	68.8	62.7	64.9	63.9	
Nonferrous metals, subtotal	95.6	62.1	91.1	60.8	81.3	82.8	78.3	82.9	83.1	79.8	80.7	79.1	80.2	82.0	
Fabricated metal products	85.0	64.7	87.4	61.3	77.7	78.4	79.6	80.0	80.8	81.6	82.0	81.3	80.6	80.8	80.6
Nonelectrical machinery	89.0	68.2	86.0	62.9	78.7	79.1	76.1	76.0	75.5	76.0	76.9	76.7	74.8	74.4	74.4
Electrical machinery	85.7	63.7	89.9	66.9	78.5	81.1	80.7	78.4	76.8	76.4	74.2	74.1	74.0	71.9	71.7
Motor vehicles and parts	97.1	52.7	93.3	47.0	77.6	83.9	83.5	85.8	85.0	83.8	83.2	82.6	82.2	83.4	86.7
Automobiles			93.3	36.6		77.8	80.2	85.6	83.7	83.8	82.8	80.5	79.2	82.2	82.0
Aerospace and misc. trans. eqp.	77.0	69.6	87.1	70.7	76.2	78.1	79.4	80.3	80.8	82.2	82.4	82.9	84.1	84.5	85.6
Instruments	89.2	74.9	88.9	77.8	83.4	86.0	84.3	83.8	83.5	83.4	82.8	83.3	83.5	83.2	83.2
Other durables	87.7	69.0	81.0	69.1	81.7	83.9	83.1	82.6	82.3	82.2	83.2	83.3	83.5	83.6	83.6
Nondurable manufacturing	88.8	71.8	87.0	74.4	83.5	83.7	83.1	82.8	83.0	82.9	83.0	83.0	83.3	83.4	83.4
Food and kindred products	85.8	77.6	85.1	76.5	82.5	80.0	79.8	79.1	79.6	78.8	80.0	80.1	80.2	79.8	
Textile mill products	92.1	58.9	88.3	70.6	84.5	84.8	77.5	76.5	80.5	81.1	80.8	81.5	84.2	84.7	
Paper and products	95.6	67.7	92.7	80.8	88.2	93.6	93.4	92.9	91.3	91.5	90.1	89.2	91.2	91.6	
Chemicals and products	88.6	69.2	82.9	67.6	78.7	76.8	77.1	78.4	78.4	78.7	78.0	78.5	78.1	78.3	
Petroleum products	99.6	83.7	91.7	69.7	87.9	83.7	81.8	81.4	81.5	82.4	85.1	85.4	85.2	85.9	87.0
Rubber and plastics products	97.5	59.5	89.4	71.2	84.5	89.1	89.1	88.4	87.9	86.5	86.6	85.9	85.7	85.9	
Other nondurables	86.4	72.3	92.4	78.9	86.0	89.1	88.4	87.3	87.4	87.6	87.4	87.6	87.6	87.7	87.6
Mining	92.8	87.8	95.2	76.9	88.0	85.0	81.7	82.9	82.1	82.8	82.1	82.2	82.6	81.9	81.3
Utilities	95.6	82.9	88.5	78.0	88.1	83.0	83.8	84.7	86.7	85.0	84.6	84.5	84.4	83.9	83.4
Electric utilities	98.7	83.0	87.6	78.2	89.0	82.8	82.8	83.5	85.4	83.4	82.9	82.9	82.6	81.9	81.3

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1984 Q2	Q3	Q4	Q1	Q2	1984 Q2	Q3	Q4	Q1	Q2	1984 Q2	Q3	Q4	Q1	Q2
Total Industry	121.5	123.4	123.1	123.8	124.2	149.5	150.6	151.7	152.8	154.0	81.3	81.9	81.2	81.0	80.7
Manufacturing	123.4	125.6	125.8	126.0	126.7	152.6	153.9	155.2	156.5	157.7	80.8	81.6	81.0	80.5	80.3
Primary processing	107.0	107.6	107.0	107.5	108.0	131.0	131.2	131.4	131.6	132.0	81.7	82.0	81.5	81.6	81.8
Advanced processing	133.2	136.3	137.0	137.1	137.9	165.7	167.6	169.6	171.4	173.2	80.4	81.3	80.8	80.0	79.6
Durable manufacturing	123.9	127.1	127.3	127.7	128.0	157.3	158.8	160.3	161.7	163.1	78.8	80.0	79.4	79.0	78.5
Stone, clay and glass products	112.5	113.4	112.9	111.5	115.5	139.1	139.9	140.6	141.4	142.3	80.9	81.0	80.3	78.8	81.2
Primary metals	82.4	82.5	80.2	81.2	78.7	114.2	113.1	111.9	111.1	110.8	72.2	73.0	71.7	73.1	71.0
Iron and steel, subtotal	73.8	72.4	70.4	70.9	68.3	109.5	107.7	106.0	104.8	104.3	67.4	67.2	66.4	67.6	65.5
Nonferrous metals, subtotal	98.9	101.7	98.8	100.7	98.3	123.2	123.1	123.0	123.0	122.9	80.3	82.6	80.3	81.9	80.0
Fabricated metal products	102.2	104.2	105.4	107.5	108.3	132.7	132.8	132.9	133.1	133.2	77.0	78.4	79.3	80.8	81.3
Nonelectrical machinery	141.5	146.8	145.6	145.5	148.0	184.4	186.8	189.3	191.8	194.3	76.7	78.6	76.9	75.9	76.1
Electrical machinery	169.9	176.1	179.2	174.1	169.4	212.7	217.2	221.7	225.5	228.5	79.9	81.0	80.8	77.2	74.1
Motor vehicles and parts	103.8	106.1	106.7	112.3	110.6	127.4	129.1	130.7	132.3	133.9	81.4	82.2	81.7	84.9	82.7
Automobiles	104.2	100.7	101.9	115.9	112.5	131.0	133.2	135.3	137.3	139.2	79.5	75.7	75.3	84.4	80.8
Aerospace and misc. trans. eqp.	122.8	126.8	127.9	131.8	135.3	162.4	162.4	162.5	162.6	162.8	75.6	78.1	78.7	81.1	83.1
Instruments	136.3	139.8	138.7	138.8	139.7	161.0	162.6	164.3	166.0	167.9	84.7	86.0	84.4	83.6	83.2
Other durables	119.8	121.1	121.2	120.5	122.8	143.0	144.0	145.1	146.2	147.4	83.8	84.0	83.5	82.4	83.3
Nondurable manufacturing	122.4	123.4	123.5	123.6	124.8	146.1	147.1	148.1	149.2	150.2	83.8	83.9	83.4	82.9	83.1
Food and kindred products	127.0	127.9	128.9	128.7	131.3	158.3	159.8	161.2	162.6	164.0	80.2	80.1	80.0	79.2	80.1
Textile mill products	106.3	103.3	97.4	97.2	100.8	121.8	122.0	122.2	122.4	122.7	87.3	84.7	79.7	79.4	82.1
Paper and products	127.0	128.4	128.0	127.2	125.5	136.2	136.9	137.6	138.4	139.1	93.2	93.8	93.0	91.9	90.2
Chemicals and products	120.5	123.0	123.7	126.0	126.3	158.0	158.8	159.7	160.6	161.5	76.3	77.5	77.5	78.5	78.2
Petroleum products	88.5	86.8	85.4	84.3	87.2	105.4	104.6	103.8	103.0	102.3	83.9	82.9	82.3	81.8	85.2
Rubber and plastics products	142.8	144.9	146.4	145.3	144.6	160.5	162.2	163.9	165.8	167.9	89.0	89.3	89.3	87.6	86.1
Other nondurables	125.5	126.0	126.5	126.3	127.6	140.3	141.7	143.1	144.5	145.8	89.5	88.9	88.4	87.4	87.5
Mining	111.7	113.8	108.3	110.1	109.9	132.6	132.9	133.1	133.4	133.6	84.2	85.6	81.3	82.6	82.3
Utilities	111.4	109.8	111.1	114.2	113.7	132.2	132.6	133.0	133.7	134.5	84.3	82.8	83.5	85.5	84.5
Electric utilities	117.6	116.3	117.7	120.1	119.3	140.3	141.0	141.7	142.8	144.2	83.8	82.5	83.0	84.1	82.8

Note. Data for output are percentages of 1977 output as shown in the Federal Reserve's seasonally adjusted indexes of industrial production. Capacity is also expressed as a percentage of

1977 actual output. Capacity utilization percentages are calculated as ratios of production to capacity.

INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

Monthly, seasonally adjusted, percent of capacity																
Series	1973 High	1975 Low	1978 -80 High	1982 Low	1967 -84 Avg.	Year ago month	1984 1985									
							DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
Materials Industrial	92.0	70.5	89.1	68.4	82.7	83.1	81.3	81.7	81.5	81.4	80.9	80.1	80.2	79.9	79.8	
Durable goods materials	91.8	64.4	89.8	60.9	79.5	81.3	79.7	79.9	79.1	78.9	78.3	76.6	76.7	76.5	76.5	
Metal materials	99.2	67.1	93.6	45.7	78.9	69.3	68.0	68.1	68.2	69.8	69.9	66.2	69.3	68.1	69.5	
Raw steel	106.0	66.4	98.9	36.1	81.9	65.1	56.7	65.9	67.2	68.2	68.4	67.9	67.4	67.2		
Aluminum	95.7	73.0	97.4	58.8	88.9	83.1	80.2	78.8	76.6	74.2	73.6	72.9	72.0	71.0		
Nondurable goods materials	91.1	66.7	88.1	70.6	83.3	81.9	80.8	80.9	81.1	80.2	80.2	80.8	80.9	81.5	81.7	
Textile, paper, and chemical materials	92.8	64.8	89.4	68.6	83.7	82.9	80.7	81.7	82.0	81.4	80.7	80.9	81.2	82.0	82.3	
Pulp and paper materials	98.4	70.6	97.3	79.9	91.3	95.0	93.7	93.7	92.6	92.1	89.1	88.8	89.7	90.6		
Chemical materials	92.5	64.4	87.9	63.3	80.9	78.2	78.3	80.1	80.2	79.5	79.2	79.5	79.1	79.6		
Energy materials	94.6	86.9	94.0	82.2	89.9	88.4	85.5	86.6	87.4	88.4	87.6	87.5	87.3	86.2	85.6	

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1984 Q2	Q3	Q4	1985 Q1	Q2	1984 Q2	Q3	Q4	1985 Q1	Q2	1984 Q2	Q3	Q4	1985 Q1	Q2
Materials Industrial	114.8	116.0	114.5	115.4	114.5	138.9	139.8	140.7	141.6	142.5	82.6	83.0	81.4	81.5	80.4
Durable goods materials	121.9	124.0	123.7	123.6	121.5	151.8	153.1	154.4	155.9	157.4	80.3	81.0	80.1	79.3	77.2
Metal materials	84.1	82.0	80.4	80.6	80.3	119.7	118.8	117.8	117.3	117.3	70.2	69.0	68.2	68.7	68.5
Raw steel	81.4	70.7	64.1	70.4	71.2	109.3	107.6	105.8	104.9	104.9	74.5	65.7	60.6	67.1	67.9
Aluminum	103.5	99.1	95.9	90.9	86.4	119.6	119.3	119.0	118.8	118.6	86.6	83.0	80.6	76.5	72.9
Nondurable goods materials	111.3	111.6	110.9	110.9	111.1	135.7	136.3	136.8	137.3	137.8	82.0	81.9	81.0	80.7	80.6
Textile, paper and chemical materials	111.8	112.2	110.7	111.6	110.9	135.1	135.7	136.2	136.7	137.0	82.7	82.7	81.3	81.7	81.0
Pulp and paper materials	127.4	127.7	126.2	126.3	121.5	132.2	133.7	135.3	136.1	136.2	96.4	95.5	93.3	92.8	89.2
Chemical materials	109.3	110.2	110.9	113.2	112.5	140.6	140.8	141.1	141.5	142.0	77.8	78.3	78.6	80.0	79.2
Energy materials	105.3	105.7	101.3	105.0	105.3	118.9	119.3	119.7	120.0	120.3	88.6	88.6	84.6	87.5	87.5

Definition. This release contains estimates of output, capacity, and capacity utilization for the nation's factories, mines, and electric and gas utilities. Output data are the Federal Reserve's seasonally adjusted indexes of industrial production, which express output as percentages of 1977 output. The capacity estimates are expressed as percentages of 1977 output as well. Capacity utilization percentages are calculated as ratios of production to capacity. The capacity indexes are based on a variety of data, including capacity data in physical units compiled by trade associations, private and government surveys of capacity growth and utilization rates, and estimates of capital stock growth. The concept of practical capacity is applied, which is defined as 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. Because of the large and heterogeneous database, changes in utilization rates may be more meaningful in the analysis of business conditions than any particular level of these rates.

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 basic methodologies used to estimate the series is discussed in *Federal Reserve Measures of Capacity and Capacity Utilization*, February 1978. An article, scheduled to be forthcoming in the October *Federal Reserve Bulletin*, describes the revisions and expansions in the series. Revised data from 1948-84 are included in the statistical supplement to the July 1985 capacity utilization release, which may be obtained from Publications Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

Rounding. Utilization rates are calculated from unrounded capacity and production indexes. Aggregates are derived from unrounded detailed components.

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