

FEDERAL RESERVE statistical release



G.3 (402)

For immediate release

CAPACITY UTILIZATION

Manufacturing, Mining, Utilities, and Industrial Materials

October 17, 1985

Capacity utilization in manufacturing, mining, and utilities declined 0.3 percentage point to 80.2 percent in September, returning to its July level. The manufacturing operating rate also reversed its August increase, declining 0.3 percentage point. Manufacturing utilization in September was 1.8 percentage points below its 1984 high, much of that drop attributable to declines in the durable goods sector. Utilization in mining dropped 0.6 percentage point in September while the utilities operating rate rose 0.7 percentage point.

The September decline in manufacturing utilization occurred primarily in durable goods manufacturing as operating rates fell in the motor vehicles and parts, electrical machinery, and nonelectrical machinery industries. Partly offsetting these declines was a 1.0 percentage point increase in utilization for the aerospace and miscellaneous transportation equipment industry. Utilization in nondurable manufacturing as a whole was unchanged between August and September, but the operating rate for petroleum products declined 1.3 percentage points.

Capacity utilization in materials production edged down 0.1 percentage point to 79.5 percent in September. The operating rate for durable goods materials production fell 0.7 percentage point while the operating rates for energy materials and nondurable goods materials both rose.

Capacity Utilization: Summary

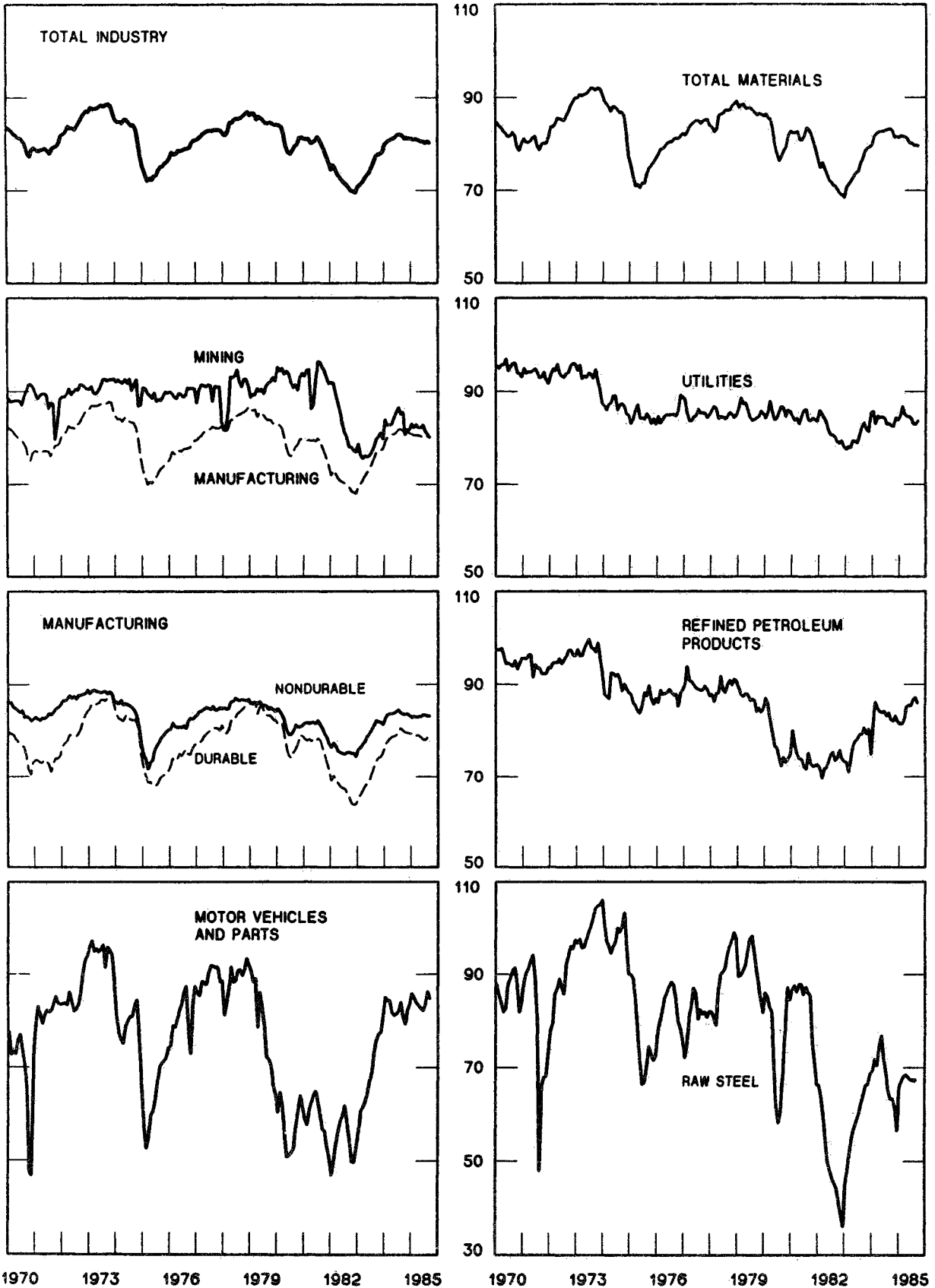
Percent of capacity, seasonally adjusted

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1987 -84 Avg.	1985			
						JUN	JUL	AUG	SEP
Total Industry	88.6	72.1	86.9	69.5	81.7	80.5	80.2	80.5	80.2
Manufacturing	87.7	69.9	86.5	68.0	80.7	80.1	80.0	80.3	80.0
Durable	87.4	67.9	86.3	63.7	78.8	78.0	77.9	78.5	78.0
Nondurable	88.8	71.8	87.0	74.4	83.5	83.4	83.3	83.1	83.1
Mining	92.8	87.8	95.2	76.9	88.0	82.7	81.3	80.6	80.0
Utilities	95.6	82.9	88.5	78.0	88.1	84.1	82.9	82.9	83.6
Industrial Materials	92.0	70.5	89.1	68.4	82.7	80.1	79.6	79.6	79.5

CAPACITY UTILIZATION

SEPTEMBER 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	1987 -84 Avg.	Year ago month	1985											
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Total industry	88.6	72.1	80.9	69.5	81.7	81.7	81.1	80.9	81.0	80.8	80.6	80.5	80.2	80.5	80.2			
Manufacturing	87.7	69.9	86.5	68.0	80.7	81.3	80.7	80.4	80.5	80.5	80.3	80.1	80.0	80.3	80.0			
Primary processing	91.9	68.3	89.1	65.1	81.7	82.0	81.6	81.5	81.8	82.1	81.5	82.0	82.2	82.4	82.4			
Advanced processing	86.0	71.1	85.1	69.5	80.2	80.9	80.2	79.8	79.8	79.2	79.8	79.3	79.1	79.2	78.7			
Durable manufacturing	87.4	67.9	86.3	63.7	78.8	79.9	79.3	78.7	78.9	78.9	78.5	78.0	77.9	78.5	78.0			
Stone, clay and glass products	89.3	67.1	86.6	62.9	77.6	80.4	79.8	78.1	78.6	80.6	81.7	81.4	80.6	81.6				
Primary metals	101.9	67.0	97.1	45.8	80.5	73.6	73.5	72.1	73.7	73.4	69.0	70.8	71.4	72.5	73.3			
Iron and steel, subtotal	105.8	66.6	100.3	37.6	80.1	68.7	67.6	65.4	69.9	68.8	62.7	64.9	65.8	68.4				
Nonferrous metals, subtotal	95.6	62.1	91.1	60.8	81.3	81.7	82.9	83.1	79.8	80.7	79.1	80.2	80.3	81.6				
Fabricated metal products	85.0	64.7	87.4	61.3	77.7	78.9	80.0	80.8	81.6	82.0	81.3	80.6	80.5	81.2	81.1			
Nonelectrical machinery	89.0	68.2	86.0	62.9	78.7	78.1	76.0	75.5	76.0	76.9	76.7	74.6	75.0	75.5	74.4			
Electrical machinery	85.7	63.7	89.9	66.9	78.5	80.8	78.4	76.8	76.4	74.2	74.1	73.9	71.9	71.7	70.9			
Motor vehicles and parts	97.1	52.7	93.3	47.0	77.6	80.7	85.8	85.0	83.8	83.2	82.6	82.2	83.6	86.2	84.7			
Automobiles			93.3	36.6		71.9	85.6	83.7	83.8	82.8	80.5	79.2	82.2	82.0	75.6			
Aerospace and misc. trans. eqp.	77.0	69.6	87.1	70.7	76.2	78.5	80.3	80.8	82.2	82.4	82.9	84.2	85.0	85.7	86.7			
Instruments	89.2	74.9	88.9	77.8	83.4	85.9	83.8	83.5	83.4	82.8	83.3	83.5	83.4	83.2	83.1			
Other durables	87.7	69.0	81.0	69.1	81.7	80.8	82.6	82.3	82.2	83.2	83.3	83.2	83.1	82.9	82.9			
Nondurable manufacturing	88.8	71.8	87.0	74.4	83.5	83.5	82.8	83.0	82.9	83.0	83.0	83.4	83.3	83.1	83.1			
Food and kindred products	85.8	77.6	85.1	76.5	82.5	80.0	79.1	79.6	78.8	80.0	80.1	80.2	80.1	80.0				
Textile mill products	92.1	58.9	88.3	70.6	84.5	82.6	76.5	80.5	81.1	80.8	81.5	84.2	84.7	83.8				
Paper and products	95.6	67.7	92.7	80.8	88.2	93.9	92.9	91.3	91.5	90.1	89.2	91.2	92.4	91.6				
Chemicals and products	88.6	69.2	82.9	67.6	78.7	78.0	78.4	78.4	79.7	78.0	78.5	78.2	77.9	77.6				
Petroleum products	99.6	83.7	91.7	69.7	87.9	82.2	81.4	81.5	82.4	85.1	85.4	85.3	86.7	87.1	85.8			
Rubber and plastics products	97.5	59.5	89.4	71.2	84.5	88.6	88.4	87.9	86.5	86.6	85.9	86.3	86.0	86.9				
Other nondurables	86.4	72.3	92.4	78.9	86.0	87.5	87.3	87.4	87.6	87.4	87.6	87.7	87.2	86.8	86.5			
Mining	92.8	87.8	95.2	76.9	88.0	85.4	82.9	82.1	82.8	82.1	82.2	82.7	81.3	80.6	80.0			
Utilities	95.6	82.9	88.5	78.0	88.1	82.6	84.7	86.7	85.0	84.6	84.5	84.1	82.9	82.9	83.6			
Electric utilities	98.7	83.0	87.6	78.2	89.0	82.2	83.5	85.4	83.4	82.9	82.9	82.6	81.1	81.4	82.2			

Table 2

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT 1985					CAPACITY 1985					UTILIZATION 1985				
	Q3	Q4	Q1	Q2	Q3	Q3	Q4	Q1	Q2	Q3	Q3	Q4	Q1	Q2	Q3
Total industry	123.4	123.1	123.8	124.2	124.5	150.6	151.7	152.8	154.0	155.1	81.9	81.2	81.0	80.7	80.3
Manufacturing	125.6	125.8	126.0	126.6	127.4	153.9	155.2	156.5	157.7	158.9	81.6	81.0	80.5	80.3	80.1
Primary processing	107.6	107.0	107.5	108.1	109.4	131.2	131.4	131.6	132.0	132.4	82.0	81.5	81.6	81.9	82.6
Advanced processing	136.3	137.0	137.1	137.9	138.1	167.6	169.6	171.4	173.2	174.9	81.3	80.8	80.0	79.6	79.0
Durable manufacturing	127.1	127.3	127.7	127.9	128.5	158.8	160.3	161.7	163.1	164.5	80.0	79.4	79.0	78.5	78.1
Stone, clay and glass products	113.4	112.9	111.5	115.6		139.9	140.6	141.4	142.3		81.0	80.3	78.6	81.2	
Primary metals	32.5	30.2	31.2	28.7	30.3	113.1	111.9	111.1	110.8	110.4	73.0	71.7	73.1	71.0	72.7
Iron and steel, subtotal	72.4	70.4	70.9	68.3		107.7	106.0	104.8	104.3		67.2	66.4	67.6	65.5	
Nonferrous metals, subtotal	101.7	98.8	100.7	98.3		123.1	123.0	123.0	122.9		82.6	80.3	81.9	80.0	
Fabricated metal products	104.2	105.8	107.5	108.3	107.9	132.8	132.9	133.1	133.2	133.3	78.4	79.3	80.8	81.3	80.5
Nonelectrical machinery	146.8	145.6	145.5	147.9	147.6	186.8	189.3	191.8	194.3	196.9	78.6	76.9	75.9	76.1	75.0
Electrical machinery	176.1	179.2	174.1	169.2	165.5	217.2	221.7	225.5	228.5	231.5	81.0	80.8	77.2	74.1	71.5
Motor vehicles and parts	106.1	106.7	112.3	110.6	114.9	129.1	130.7	132.3	133.9	135.4	82.2	81.7	84.9	82.7	84.6
Automobiles	100.7	101.9	115.9	112.5	114.6	133.2	135.3	137.3	139.2	141.0	75.7	75.3	84.4	80.8	81.2
Aerospace and misc. trans. eqp.	126.8	127.9	131.8	135.4	139.8	162.4	162.5	162.6	162.8	162.9	78.1	78.7	81.1	83.2	85.8
Instruments	139.8	138.7	138.8	139.7	141.3	162.6	164.3	166.0	167.9	169.8	86.0	84.4	83.6	83.2	83.2
Other durables	121.1	121.2	120.5	122.7	123.2	144.0	145.1	146.2	147.4	148.5	84.0	83.5	82.4	83.3	83.0
Nondurable manufacturing	123.4	123.5	123.6	124.9	125.8	147.1	148.1	149.2	150.2	151.2	83.9	83.4	82.9	83.1	83.2
Food and kindred products	127.9	128.9	128.7	131.3		159.8	161.2	162.6	164.0		80.8	80.0	79.2	80.1	
Textile mill products	103.3	97.4	97.2	100.8		122.0	122.2	122.4	122.7		84.7	79.7	79.4	82.1	
Paper and products	128.4	128.0	127.2	125.4		136.9	137.6	138.4	139.1		93.8	93.0	91.9	90.2	
Chemicals and products	123.0	123.7	126.0	126.3		158.8	159.7	160.6	161.9		77.5	77.5	78.5	78.2	
Petroleum products	86.8	85.8	84.3	87.2	87.9	104.6	103.8	103.0	102.3	101.6	82.9	82.3	81.8	85.2	86.5
Rubber and plastics products	144.9	146.4	145.3	144.9		162.2	163.9	165.8	167.9		89.3	89.3	87.6	86.3	
Other nondurables	126.0	126.5	126.3	127.6	127.7	141.7	143.1	144.5	145.8	147.0	88.9	88.4	87.4	87.6	86.5
Mining	113.8	108.3	110.1	110.0	107.9	132.9	133.1	133.4	133.6	133.9	85.6	81.3	82.6	82.3	80.6
Utilities	109.8	111.1	114.2	113.6	112.6	132.6	133.0	133.7	134.5	135.4	82.8	83.5	85.5	84.4	83.1
Electric utilities	116.3	117.7	120.1	119.3	118.7	141.0	141.7	142.8	144.2	145.5	82.5	83.0	84.1	82.8	81.6

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

Series	1973 High	1975 Low	1978 -80 High	1982 Low	1967 -84 Avg.	Year ago month	1985											
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Materials Industrial	92.0	70.5	89.1	68.4	82.7	82.7	81.7	81.5	81.4	80.9	80.1	80.1	79.6	79.6	79.5			
Durable goods materials	91.8	64.4	89.8	60.9	79.5	80.8	79.9	79.1	78.9	78.3	76.6	76.5	75.8	76.2	75.5			
Metal materials	99.2	67.1	93.6	45.7	78.9	69.0	68.1	68.2	69.8	69.9	66.2	69.0	66.4	67.7	67.2			
Raw steel	106.0	66.4	98.9	36.1	81.9	63.3	65.9	67.2	68.2	68.4	67.9	67.4	67.2	67.4				
Aluminum	95.7	73.0	97.4	58.8	88.9	81.8	78.8	76.6	74.2	73.6	72.9	72.0	71.6	70.5				
Nondurable goods materials	91.1	66.7	88.1	70.6	83.3	81.6	80.9	81.1	80.2	80.2	80.8	81.0	81.7	81.6	81.9			
Textile, paper, and chemical materials	92.8	64.8	89.4	68.6	83.7	82.7	81.7	82.0	81.4	80.7	80.9	81.4	82.7	82.4	82.9			
Pulp and paper materials	98.4	70.6	97.3	79.9	91.3	95.1	93.7	92.6	92.1	89.1	88.8	90.5	92.4	90.6				
Chemical materials	92.5	64.4	87.9	63.3	80.9	79.1	80.1	80.2	79.5	79.2	79.5	79.2	80.1	80.3				
Energy materials	94.6	86.9	94.0	82.2	89.9	88.3	86.6	87.4	88.4	87.6	87.5	87.3	86.2	85.6	86.2			

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

Series	OUTPUT					CAPACITY					UTILIZATION				
	1984 Q3	1985 Q4	1985 Q1	1985 Q2	1985 Q3	1984 Q3	1985 Q4	1985 Q1	1985 Q2	1985 Q3	1984 Q3	1985 Q4	1985 Q1	1985 Q2	1985 Q3
Materials Industrial	116.0	114.5	115.4	114.5	114.1	139.8	140.7	141.6	142.5	143.4	83.0	81.4	81.5	80.4	79.6
Durable goods materials	124.0	123.7	123.6	121.4	120.5	153.1	154.4	155.9	157.4	158.9	81.0	80.1	79.3	77.1	75.8
Metal materials	82.0	80.4	80.6	80.2	78.7	118.8	117.8	117.3	117.3	117.3	69.0	68.2	68.2	68.4	67.1
Raw steel	70.7	64.1	70.4	71.2		107.6	105.8	104.9	104.9		65.7	60.6	67.1	67.9	
Aluminum	99.1	95.9	90.9	86.4		119.3	119.0	118.8	118.6		83.0	80.6	76.5	72.9	
Nondurable goods materials	111.6	110.9	110.9	111.2	113.0	136.3	136.8	137.3	137.8	138.2	81.9	81.0	80.7	80.7	81.7
Textile, paper and chemical materials	112.2	110.7	111.6	111.0	113.6	135.7	136.2	136.7	137.0	137.4	82.7	81.3	81.2	81.0	82.6
Pulp and paper materials	127.7	126.2	126.3	121.8		133.7	135.3	136.1	136.2		95.5	93.3	92.8	89.4	
Chemical materials	110.2	110.9	113.2	112.6		140.8	141.7	143.5	142.0		78.3	78.6	80.0	79.3	
Energy materials	105.7	101.3	105.0	105.2	103.8	119.3	119.7	120.0	120.3	120.6	88.6	84.6	87.5	87.5	86.0

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 methodology used to estimate the series is discussed in "Revised Federal Reserve Rates of Capacity Utilization", *Federal Reserve Bulletin*, October 1985. 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 19, March 18, April 17, May 16, June 17, July 19, August 16, September 16, October 16, November 18, and December 16.