

FEDERAL RESERVE statistical release



G.3 (402)

For Immediate release

CAPACITY UTILIZATION

July 16, 1986

Manufacturing, Mining, Utilities, and Industrial Materials

Capacity utilization in manufacturing, mining, and utilities declined 0.6 percentage point in June to 78.3 percent. About one-third of the June decrease was related to strikes in the aluminum, lumber, and communication equipment industries. The sharpest operating rate declines last month were in durable manufacturing and mining while the rates for nondurable manufacturing and utilities changed little. Since January, the utilization rate for all industry has fallen 2-1/2 percentage points to a level 3.4 percentage points below the average rate for 1967-1985; the drop in operating rates so far this year has been concentrated in durable goods manufacturing and mining.

In durable manufacturing, declines were widespread in June with the exception of a rebound in auto assemblies. The utilization rate in the primary metals industry dropped 4.1 percentage points to 66.5 percent owing to the continued weakness in the steel industry and also because of a strike-related reduction in aluminum production. The further easing of utilization in the machinery industries occurred in part because of a strike that curtailed the output of communication equipment.

Utilization in nondurable manufacturing was 83.8 percent of capacity, about the same as in most recent months. The petroleum refining, paper, and textile industries have operated recently at relatively high rates.

Utilization in mining dropped 1.1 percentage points further in June to 73.6 percent, 14 percentage points below its 1967-85 average. Not only has oil and gas well drilling declined extraordinarily this year, but coal and metal mining have been weak as well.

Producers of industrial materials operated at 77.9 percent of capacity in June, down 0.4 percentage point from the month before. The rates for durable goods materials and energy materials declined 0.5 percentage point while the rate for nondurable goods materials eased slightly.

Capacity Utilization: Summary

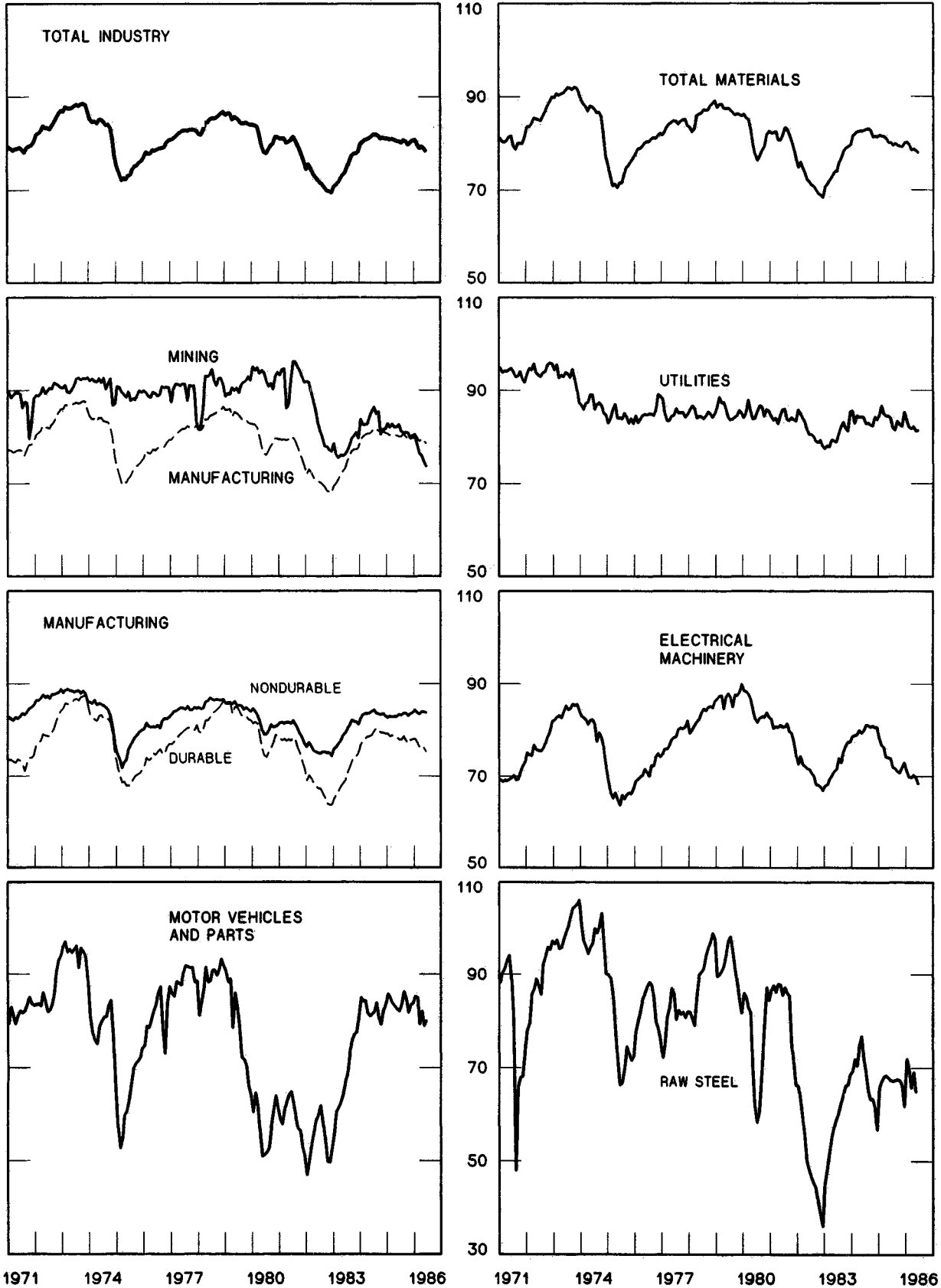
Percent of capacity, seasonally adjusted

| Series | 1973 High | 1975 Low | 1978 -80 High | 1982 Low | 1967 -85 Avg. | 1986 | | | |
|-----------------------------|--------------|-------------|---------------------|-------------|---------------------|------|------|------|------|
| | | | | | | MAR | APR | MAY | JUN |
| Total Industry | 88.6 | 72.1 | 86.9 | 69.5 | 81.7 | 79.0 | 79.4 | 78.9 | 78.3 |
| Manufacturing | 87.7 | 69.9 | 86.5 | 68.0 | 80.6 | 79.1 | 79.5 | 79.2 | 78.6 |
| Durable | 87.4 | 67.9 | 86.3 | 63.7 | 78.8 | 76.3 | 76.6 | 76.1 | 75.3 |
| Nondurable | 88.8 | 71.8 | 87.0 | 74.4 | 83.5 | 83.5 | 84.0 | 84.0 | 83.8 |
| Mining | 92.8 | 87.8 | 95.2 | 76.9 | 87.7 | 76.4 | 76.0 | 74.7 | 73.6 |
| Utilities | 95.6 | 82.9 | 88.5 | 78.0 | 87.9 | 81.8 | 82.2 | 81.3 | 81.4 |
| Industrial Materials | 92.0 | 70.5 | 89.1 | 68.4 | 82.5 | 78.5 | 78.7 | 78.3 | 77.9 |

CAPACITY UTILIZATION

JUNE DATA

SEASONALLY ADJUSTED, PERCENT



INDUSTRIAL MATERIALS

Table 3

Capacity Utilization

Monthly, seasonally adjusted, percent of capacity

| Series | 1973 | 1975 | 1978 | 1982 | 1967 | 1985 | 1985 | | | 1986 | | | | | |
|--|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | High | Low | High | Low | Avg. | JUN | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN |
| Industrial Materials | 92.0 | 70.5 | 89.1 | 68.4 | 82.5 | 80.1 | 79.3 | 79.2 | 80.1 | 80.2 | 79.6 | 78.5 | 78.7 | 78.3 | 77.9 |
| Durable goods materials | 91.8 | 64.4 | 89.8 | 60.9 | 79.4 | 76.5 | 75.2 | 75.8 | 75.8 | 76.4 | 75.2 | 74.2 | 74.1 | 73.5 | 73.0 |
| Metal materials | 99.2 | 67.1 | 93.0 | 45.7 | 78.4 | 69.0 | 69.4 | 70.8 | 70.7 | 71.3 | 68.4 | 66.4 | 66.8 | 66.6 | 64.4 |
| Raw steel | 106.0 | 66.4 | 98.9 | 36.1 | 81.1 | 67.4 | 67.4 | 66.4 | 61.8 | 71.9 | 69.8 | 65.8 | 69.1 | 64.9 | |
| Aluminum | 95.7 | 73.0 | 97.4 | 58.8 | 88.0 | 72.0 | 68.5 | 66.0 | 65.7 | 66.0 | 67.4 | 68.4 | 69.5 | 69.3 | |
| Nondurable goods materials | 91.1 | 66.7 | 88.1 | 70.6 | 83.2 | 81.0 | 81.9 | 81.5 | 82.7 | 83.5 | 83.7 | 82.4 | 83.5 | 83.5 | 83.4 |
| Textile, paper, and chemical materials | 92.8 | 64.8 | 89.4 | 68.0 | 83.6 | 81.4 | 82.4 | 82.1 | 83.5 | 84.3 | 84.6 | 83.4 | 84.2 | 84.3 | 84.4 |
| Pulp and paper materials | 98.4 | 70.6 | 97.3 | 79.9 | 91.3 | 90.5 | 86.8 | 90.1 | 94.7 | 94.8 | 93.7 | 92.9 | 93.6 | 93.1 | |
| Chemical materials | 92.5 | 64.4 | 87.9 | 63.3 | 80.8 | 79.2 | 80.5 | 78.8 | 80.1 | 81.1 | 80.9 | 79.9 | 80.4 | 81.0 | |
| Energy materials | 94.0 | 86.9 | 94.0 | 82.2 | 89.7 | 87.3 | 86.2 | 84.7 | 87.4 | 85.9 | 85.7 | 84.7 | 84.7 | 84.4 | 83.9 |

Table 4

Output, Capacity, and Capacity Utilization

Quarterly, seasonally adjusted

| Series | OUTPUT | | | | | CAPACITY | | | | | UTILIZATION | | | | |
|---------------------------------------|---------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------------|------|------|------|------|
| | 1985 Q2 | Q3 | Q4 | Q1 | Q2 | 1985 Q2 | Q3 | Q4 | Q1 | Q2 | 1985 Q2 | Q3 | Q4 | Q1 | Q2 |
| Industrial Materials | 114.5 | 114.2 | 114.8 | 115.2 | 113.9 | 142.5 | 143.4 | 144.3 | 145.0 | 145.5 | 80.4 | 79.6 | 79.5 | 79.4 | 78.3 |
| Durable goods materials | 121.4 | 120.7 | 121.4 | 121.6 | 119.2 | 157.4 | 158.9 | 160.5 | 161.6 | 162.2 | 77.1 | 76.0 | 75.6 | 75.3 | 73.5 |
| Metal materials | 80.2 | 79.4 | 82.4 | 80.2 | 76.2 | 117.3 | 117.3 | 117.3 | 116.7 | 115.6 | 68.4 | 67.7 | 70.3 | 68.7 | 65.9 |
| Raw steel | 71.2 | 70.7 | 68.3 | 71.9 | | 104.9 | 104.8 | 104.8 | 103.8 | | 67.9 | 67.4 | 65.2 | 69.2 | |
| Aluminum | 86.4 | 83.5 | 78.8 | 79.1 | | 118.6 | 118.3 | 118.1 | 117.6 | | 72.9 | 70.6 | 66.7 | 67.3 | |
| Nondurable goods materials | 111.2 | 113.7 | 113.8 | 115.7 | 116.4 | 137.8 | 138.2 | 138.7 | 139.1 | 139.4 | 80.7 | 82.2 | 82.0 | 83.2 | 83.5 |
| Textile, paper and chemical materials | 111.0 | 114.1 | 114.0 | 116.2 | 116.6 | 137.0 | 137.4 | 137.8 | 138.1 | 138.4 | 81.0 | 83.0 | 82.7 | 84.1 | 84.3 |
| Pulp and paper materials | 121.8 | 123.8 | 124.5 | 128.3 | | 136.2 | 136.3 | 136.5 | 136.8 | | 89.4 | 90.8 | 91.2 | 93.8 | |
| Chemical materials | 112.6 | 114.6 | 114.2 | 115.7 | | 142.0 | 142.6 | 143.1 | 143.5 | | 79.3 | 80.4 | 79.8 | 80.6 | |
| Energy materials | 105.2 | 103.2 | 104.2 | 103.6 | 102.5 | 120.3 | 120.6 | 120.9 | 121.2 | 121.5 | 87.5 | 85.5 | 86.1 | 85.4 | 84.3 |

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. Primary processing includes textile mill products, paper and products, industrial chemicals, petroleum products, rubber and plastics products, lumber and products, primary metals, fabricated metal products, and stone, clay, and glass products. Advanced processing includes foods, tobacco products, apparel products, printing and publishing, chemical products such as drugs and toiletries, leather and products, furniture and fixtures, machinery, transportation equipment, instruments, miscellaneous manufactures, and government-owned-and-operated ordnance facilities. 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 1986. Approximately 11 a.m. on January 17, February 18, March 17, April 16, May 16, June 16, July 16, August 18, September 17, October 17, November 17, and December 17.