# FEDERAL RESERVE statistical release

**G.17 (419)**

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## INDUSTRIAL PRODUCTION AND CAPACITY UTILIZATION

Industrial production declined 0.9 percent in August following six consecutive monthly gains. Hurricane Harvey, which hit the Gulf Coast of Texas in late August, is estimated to have reduced the rate of change in total output by roughly ¾ percentage point. The index for manufacturing decreased 0.3 percent; storm-related effects

(over)

**Industrial Production and Capacity Utilization: Summary**
Seasonally adjusted

| | 2012=100 | | | | | | Percent change | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Industrial production** | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | Aug. '16 to Aug. '17 |
| **Total index** | 103.9 | 105.0 | 105.1 | 105.3 | 105.7 | 104.7 | .2 | 1.1 | .1 | .2 | .4 | -.9 | 1.5 |
| *Previous estimates* | 103.9 | 104.9 | 104.9 | 105.3 | 105.5 | | .2 | .9 | .0 | .4 | .2 | | |
| Major market groups | | | | | | | | | | | | | |
| Final Products | 100.2 | 101.9 | 102.1 | 101.9 | 102.0 | 101.4 | .4 | 1.8 | .1 | -.2 | .1 | -.5 | .8 |
| Consumer goods | 103.6 | 105.0 | 105.6 | 105.2 | 105.6 | 104.8 | .3 | 1.3 | .6 | -.3 | .3 | -.7 | -.3 |
| Business equipment | 99.7 | 102.9 | 101.8 | 101.4 | 100.9 | 100.5 | .4 | 3.1 | -1.1 | -.4 | -.5 | -.4 | 1.9 |
| Nonindustrial supplies | 105.4 | 105.7 | 105.6 | 105.5 | 105.9 | 104.7 | .0 | .3 | -.1 | -.1 | .4 | -1.2 | .8 |
| Construction | 111.0 | 111.9 | 111.1 | 110.8 | 110.8 | 110.2 | -1.3 | .8 | -.7 | -.3 | .0 | -.6 | 2.9 |
| Materials | 106.3 | 107.0 | 107.1 | 107.7 | 108.4 | 107.2 | .1 | .7 | .0 | .6 | .6 | -1.1 | 2.4 |
| Major industry groups | | | | | | | | | | | | | |
| Manufacturing (see note below) | 102.6 | 103.9 | 103.4 | 103.5 | 103.6 | 103.3 | -.7 | 1.2 | -.5 | .2 | .0 | -.3 | 1.5 |
| *Previous estimates* | 102.6 | 103.8 | 103.2 | 103.4 | 103.4 | | -.7 | 1.1 | -.6 | .2 | -.1 | | |
| Mining | 106.6 | 107.5 | 108.5 | 109.7 | 111.2 | 110.3 | -.4 | .9 | .9 | 1.2 | 1.3 | -.8 | 9.7 |
| Utilities | 101.5 | 101.6 | 104.4 | 103.4 | 104.9 | 99.2 | 8.2 | .1 | 2.7 | -1.0 | 1.5 | -5.5 | -7.8 |

| | Percent of capacity | | | | | | | | | | | | Capacity growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Capacity utilization** | Average 1972-2016 | 1988-89 high | 1990-91 low | 1994-95 high | 2009 low | 2016 Aug. | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | Aug. '16 to Aug. '17 |
| **Total industry** | 79.9 | 85.2 | 78.8 | 85.0 | 66.7 | 75.8 | 75.9 | 76.6 | 76.6 | 76.7 | 76.9 | 76.1 | 1.1 |
| *Previous estimates* | | | | | | | 75.9 | 76.5 | 76.5 | 76.7 | 76.7 | | |
| Manufacturing (see note below) | 78.4 | 85.6 | 77.3 | 84.6 | 63.7 | 74.7 | 75.1 | 75.9 | 75.5 | 75.6 | 75.6 | 75.3 | .7 |
| *Previous estimates* | | | | | | | 75.1 | 75.9 | 75.4 | 75.5 | 75.4 | | |
| Mining | 87.0 | 86.1 | 83.8 | 88.6 | 78.4 | 77.9 | 82.2 | 82.6 | 83.2 | 83.9 | 84.8 | 83.9 | 1.8 |
| Utilities | 85.6 | 93.2 | 84.7 | 93.2 | 78.1 | 81.1 | 75.8 | 75.8 | 77.9 | 77.1 | 78.2 | 73.9 | 1.1 |
| Stage-of-process groups | | | | | | | | | | | | | |
| Crude | 86.1 | 87.7 | 84.5 | 90.1 | 76.3 | 78.2 | 81.6 | 82.1 | 82.6 | 83.5 | 84.1 | 82.7 | 2.0 |
| Primary and semifinished | 80.5 | 86.5 | 78.1 | 87.8 | 63.8 | 75.9 | 75.5 | 75.8 | 76.1 | 76.0 | 76.2 | 75.0 | .7 |
| Finished | 76.9 | 83.4 | 77.3 | 80.6 | 66.7 | 74.6 | 74.3 | 75.6 | 75.0 | 74.9 | 74.9 | 75.0 | .8 |

r Revised. p Preliminary.

Note. The statistics in this release cover output, capacity, and capacity utilization in the U.S. industrial sector, which is defined by the Federal Reserve to comprise manufacturing, mining, and electric and gas utilities. Mining is defined as all industries in sector 21 of the North American Industry Classification System (NAICS); electric and gas utilities are those in NAICS sectors 2211 and 2212. Manufacturing comprises NAICS manufacturing industries (sector 31-33) plus the logging industry and the newspaper, periodical, book, and directory publishing industries. Logging and publishing are classified elsewhere in NAICS (under agriculture and information, respectively), but historically they were considered to be manufacturing and were included in the industrial sector under the Standard Industrial Classification (SIC) system. In December 2002 the Federal Reserve reclassified all its industrial output data from the SIC system to NAICS.

appear to have reduced the rate of change in factory output in August about ¾ percentage point. The manufacturing industries with the largest estimated storm-related effects were petroleum refining, organic chemicals, and plastics materials and resins.

The output of mining fell 0.8 percent in August, as Hurricane Harvey temporarily curtailed drilling, servicing, and extraction activity for oil and natural gas. The output of utilities dropped 5.5 percent, as unseasonably mild temperatures, particularly on the East Coast, reduced the demand for air conditioning.

At 104.7 percent of its 2012 average, total industrial production in August was 1.5 percent above its year-earlier level. Capacity utilization for the industrial sector decreased 0.8 percentage point in August to 76.1 percent, a rate that is 3.8 percentage points below its long-run (1972–2016) average.

## Market Groups

The output of consumer goods moved down 0.7 percent in August. Consumer durables posted an increase of 0.8 percent, but this gain was offset by declines in the indexes for consumer nondurables and consumer energy products, which fell 1.1 percent and 4.8 percent, respectively. The large drop in the output of consumer energy products reflected the weather-related decrease in utilities output as well as the hurricane-related reduction in petroleum refining. The index for business equipment moved down 0.4 percent, as a decline of 1.1 percent in industrial and other equipment was partially offset by gains elsewhere. Construction supplies recorded a decrease of 0.6 percent, and the output of business supplies fell 1.5 percent. The production of materials dropped 1.1 percent. The indexes for energy materials and for nondurable materials each fell nearly 2 percent; although both indexes were reduced as a consequence of Hurricane Harvey, the output of energy materials was also lowered by the cut for utilities. The production of durable materials rose 0.5 percent.

## Industry Groups

Manufacturing output decreased 0.3 percent in August. A gain of 0.3 percent for durables was outweighed by decreases of 0.9 percent for both nondurables and other manufacturing (publishing and logging). Among durable manufacturing industries, the largest increase was recorded by motor vehicles and parts, which rose 2.2 percent following a drop of 4.2 percent in July. Other notable gains in durable manufacturing in August came from the indexes for primary metals and for aerospace and miscellaneous transportation equipment, each of which advanced more than 1 percent. The largest contributors to the decline in nondurable manufacturing were the indexes for chemicals and for petroleum and coal products, both of which were held down by factory shutdowns related to Hurricane Harvey.

In August, the index for mining dropped 0.8 percent while the output of utilities fell 5.5 percent. Within mining, all of the major components recorded losses; the largest decrease was for oil and gas well drilling and servicing, which fell for a second month in a row. Even so, the index for mining in August was 9.7 percent above its year-earlier level.

Capacity utilization for manufacturing moved down 0.3 percentage point in August to 75.3 percent, a rate that is 3.1 percentage points below its long-run average. Utilization for durable manufacturing increased 0.2 percentage point to 74.5 percent, while the operating rate for nondurable manufacturing fell 0.7 percentage point to 77.2 percent. The operating rate for mining decreased 0.9 percentage point to 83.9 percent, and the rate for utilities fell 4.3 percentage points to 73.9 percent.

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1. Industrial Production: Market and Industry Group Summary; percent change
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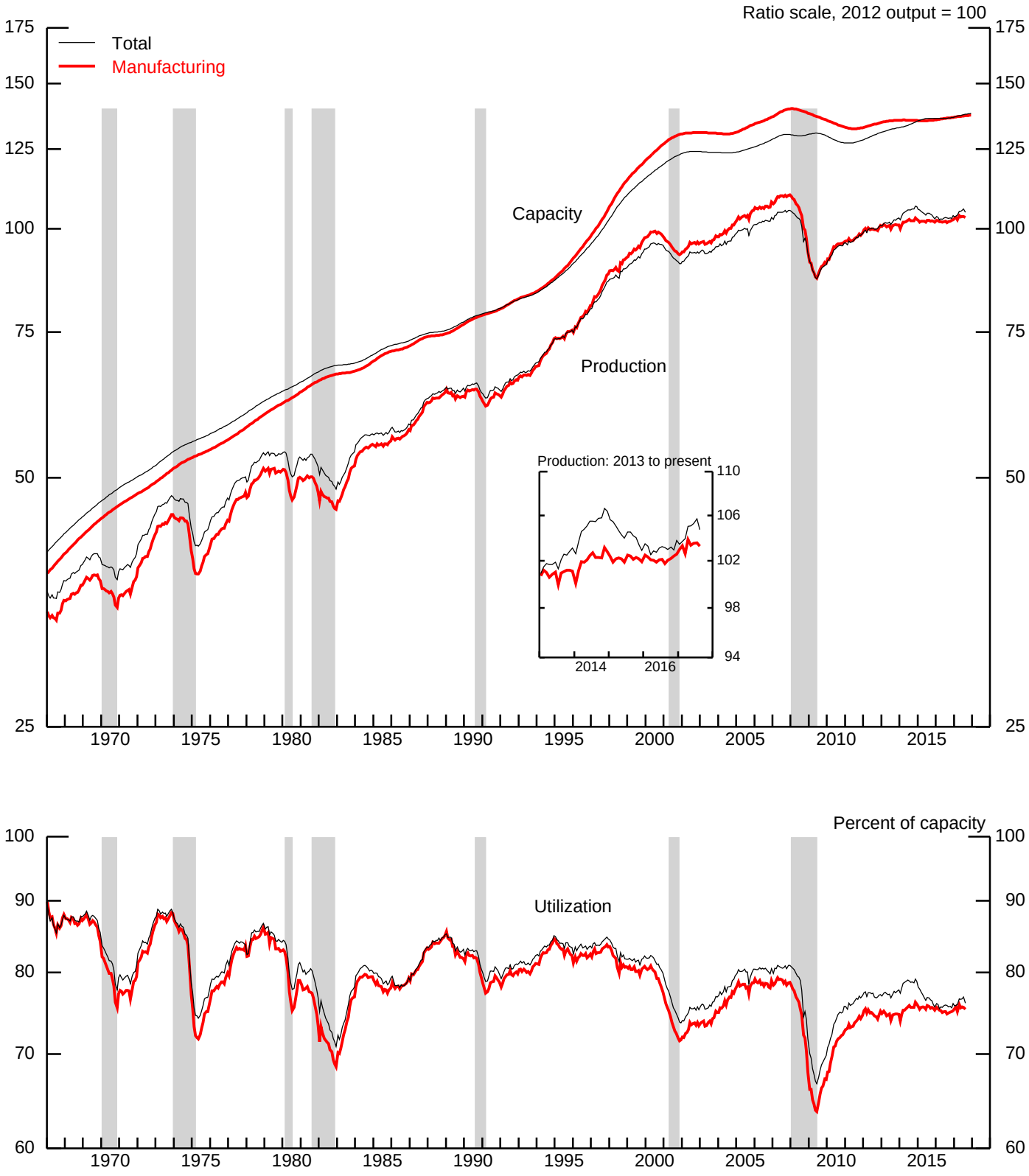
Further detail is available on the Board's website (**www.federalreserve.gov/releases/G17/**).

**Technical Q&A for Hurricane Harvey Effects**

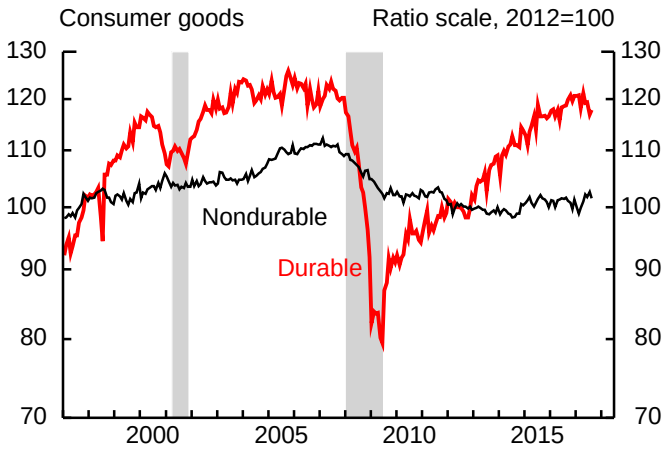
A technical Q&A discussing the effect of Hurricane Harvey on industrial production for August will be published on the Board's website at: https://www.federalreserve.gov/releases/g17/g17_technical_qa.htm#hurricaneharvey2017.

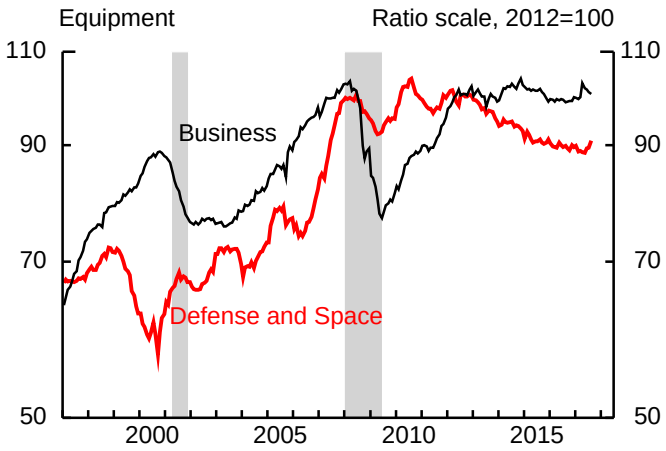
1. Industrial production, capacity, and utilization

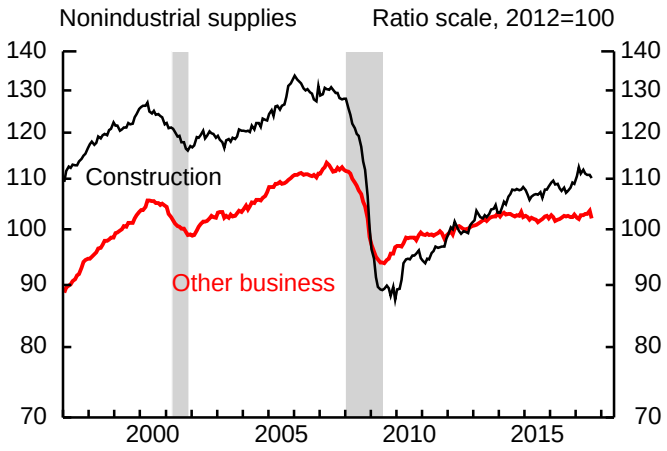


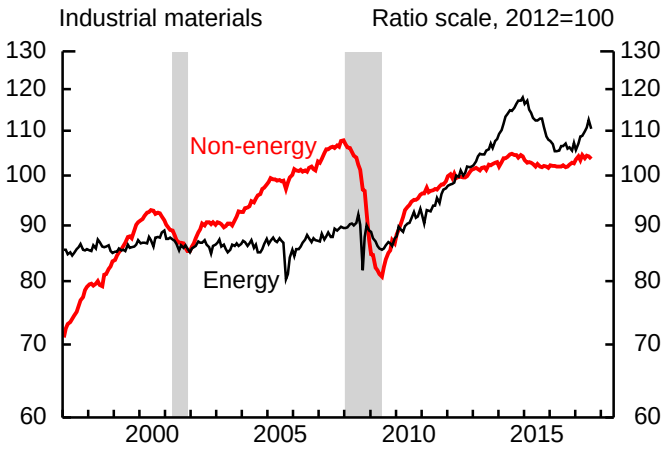

Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

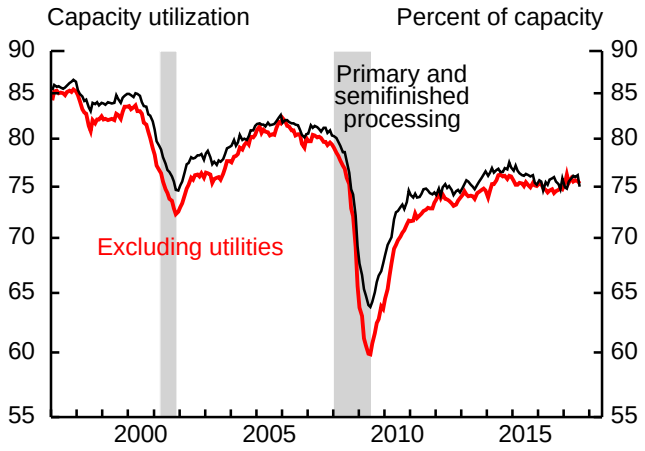
## 2. Industrial production and capacity utilization

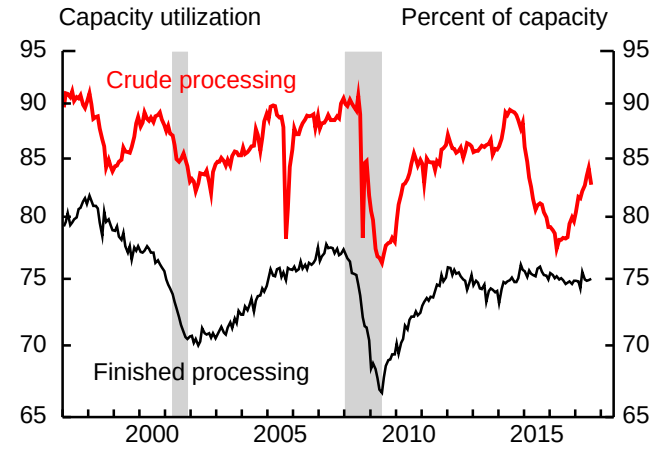


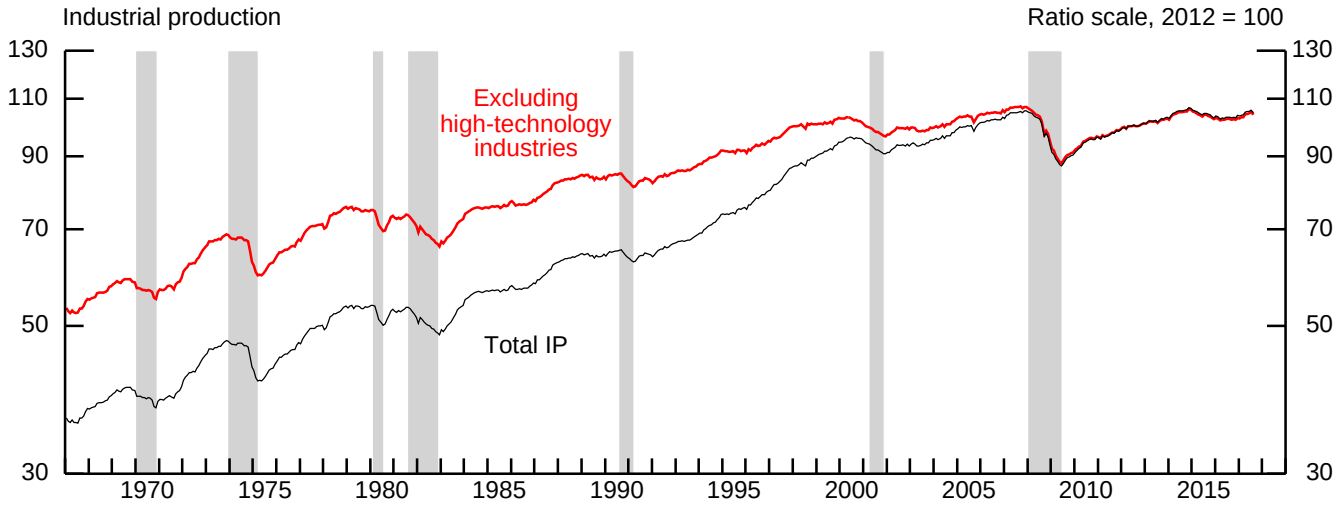



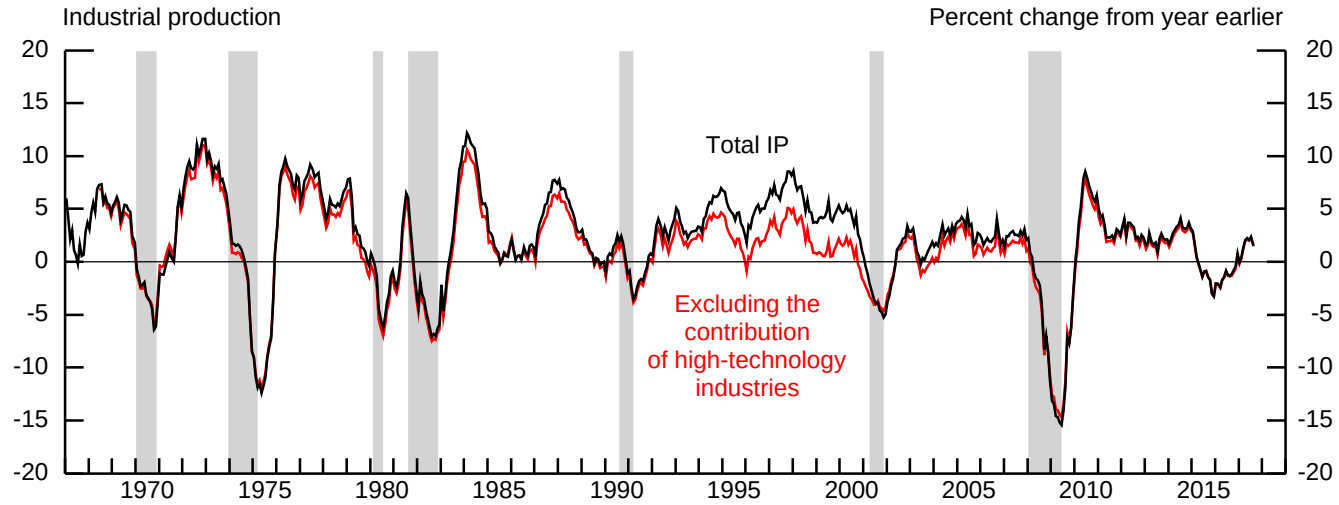



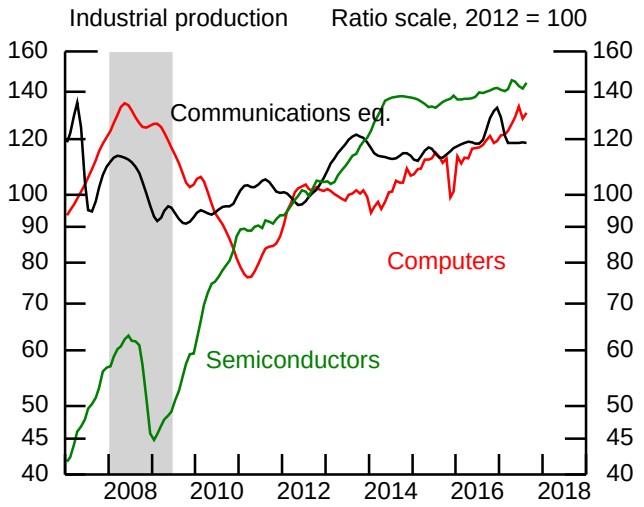



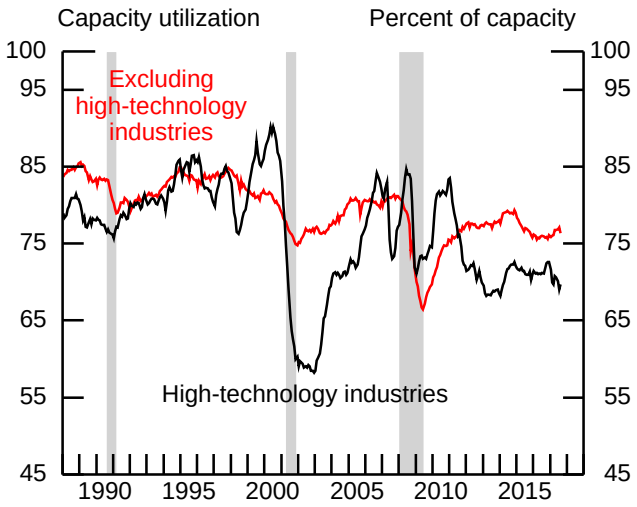

Note: The shaded areas are periods of business recession as defined by the National Bureau of Economic Research (NBER).

## 3. Industrial production and capacity utilization, high-technology industries




Notes: High-technology industries are defined as semiconductors and related electronic components (NAICS 3344), computers (NAICS 3341), and communications equipment (NAICS 3342).
The shaded areas are periods of business recession as defined by the NBER.

## Table 1
## Industrial Production: Market and Industry Group Summary

Percent change, seasonally adjusted

| Item | 2016 proportion[1] | Fourth quarter to fourth quarter | | | Annual rate | | | Monthly rate | | | | | | Aug. '16 to Aug. '17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2014 | 2015 | 2016 | 2016 Q4 | 2017 Q1[r] | Q2[r] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | |
| **Total IP** | 100.00 | 3.4 | -2.7 | -.1 | .7 | 1.5 | 5.7 | .2 | 1.1 | .1 | .2 | .4 | -.9 | 1.5 |
| **Market Groups** | | | | | | | | | | | | | | |
| **Final products and nonindustrial supplies** | 55.33 | 1.6 | -1.2 | .2 | .1 | -.3 | 6.0 | .3 | 1.4 | .1 | -.2 | .2 | -.7 | .8 |
| **Consumer goods** | 28.22 | 1.2 | 1.3 | .6 | -1.6 | -3.3 | 6.4 | .3 | 1.3 | .6 | -.3 | .3 | -.7 | -.3 |
| **Durable** | 6.33 | 4.1 | 3.1 | 3.3 | 4.5 | -1.5 | -.1 | -2.1 | 2.4 | -1.6 | .1 | -2.0 | .8 | -.8 |
| Automotive products | 3.28 | 6.4 | 5.0 | 5.9 | 5.5 | -5.3 | -1.0 | -3.5 | 3.9 | -2.2 | -.8 | -4.0 | 1.8 | -3.7 |
| Home electronics | .15 | -1.1 | 2.4 | 4.7 | 20.7 | -12.2 | 2.6 | 1.0 | 2.3 | -.7 | -2.0 | -.2 | .9 | 1.3 |
| Appliances, furniture, carpeting | .90 | 3.5 | 3.8 | 1.0 | 4.6 | .2 | -.6 | -2.2 | 1.6 | -.5 | 2.1 | -1.4 | -.9 | .7 |
| Miscellaneous goods | 2.00 | 1.4 | .1 | .2 | 1.7 | 5.1 | 1.2 | .0 | .5 | -1.1 | .8 | .8 | -.1 | 3.2 |
| **Nondurable** | 21.88 | .4 | .8 | -.2 | -3.4 | -3.8 | 8.4 | 1.0 | 1.0 | 1.2 | -.4 | 1.0 | -1.1 | -.1 |
| Non-energy | 17.16 | 1.8 | 2.0 | -1.1 | -.6 | 1.2 | 1.9 | -.9 | .8 | .1 | .0 | 1.0 | .0 | 1.7 |
| Foods and tobacco | 9.53 | .4 | 2.3 | -.1 | -2.2 | 7.4 | 3.4 | -1.4 | 1.8 | -.4 | -.1 | .8 | .0 | 2.5 |
| Clothing | .22 | -2.5 | -5.7 | -6.4 | 3.2 | -13.9 | -16.0 | -3.1 | -1.5 | .4 | -2.0 | 1.5 | -2.6 | -8.7 |
| Chemical products | 5.78 | 6.5 | 3.1 | -1.5 | 2.8 | -8.7 | 2.1 | -.1 | -.2 | 1.4 | .1 | 1.6 | .3 | 1.6 |
| Paper products | 1.13 | -2.6 | -2.3 | -7.1 | -1.9 | 7.7 | -2.9 | .1 | -1.7 | -.7 | .0 | -.1 | -.2 | .6 |
| Energy | 4.73 | -3.9 | -3.9 | 3.7 | -13.1 | -20.5 | 34.9 | 8.8 | 1.6 | 5.0 | -1.8 | .7 | -4.8 | -6.8 |
| **Business equipment** | 10.23 | 3.5 | -3.3 | -.4 | 1.4 | 1.5 | 10.2 | .4 | 3.1 | -1.1 | -.4 | -.5 | -.4 | 1.9 |
| Transit | 2.73 | 11.2 | 1.2 | -3.5 | -.2 | -5.3 | 5.2 | -2.3 | 3.3 | -1.3 | .6 | -2.1 | .5 | -1.9 |
| Information processing | 2.22 | -.2 | .2 | 4.0 | 9.0 | 1.4 | 2.3 | 1.2 | 1.1 | -1.5 | .3 | -.2 | .4 | 2.6 |
| Industrial and other | 5.27 | 1.5 | -6.8 | -.6 | -.8 | 5.1 | 16.4 | 1.5 | 3.9 | -.8 | -1.1 | .2 | -1.1 | 3.5 |
| **Defense and space equipment** | 2.30 | -2.4 | -2.9 | -1.1 | -.3 | -1.8 | -1.2 | .1 | -.2 | -.1 | .9 | .2 | 1.6 | 1.2 |
| **Construction supplies** | 4.98 | 3.8 | .1 | .7 | 4.5 | 9.7 | -.1 | -1.3 | .8 | -.7 | -.3 | .0 | -.6 | 2.9 |
| **Business supplies** | 9.30 | .1 | -.3 | .1 | .0 | -1.0 | 2.3 | .7 | .0 | .2 | .0 | .7 | -1.5 | -.4 |
| **Materials** | 44.67 | 5.2 | -4.3 | -.6 | 1.4 | 3.8 | 5.2 | .1 | .7 | .0 | .6 | .6 | -1.1 | 2.4 |
| **Non-energy** | 27.44 | 1.4 | -2.2 | .7 | 2.5 | 4.2 | 2.0 | -.8 | 1.1 | -.7 | .5 | -.1 | -.5 | 1.9 |
| **Durable** | 16.57 | 2.9 | -3.4 | .5 | 1.1 | 5.4 | .5 | -1.3 | 1.4 | -1.3 | .3 | -.1 | .5 | 1.8 |
| Consumer parts | 3.18 | 4.3 | .1 | 5.2 | -2.5 | 1.5 | -1.1 | -2.5 | 1.8 | -.9 | .0 | -2.4 | 2.2 | -.9 |
| Equipment parts | 5.14 | 4.3 | -5.1 | -.8 | 1.3 | 2.5 | 1.8 | -.7 | 1.4 | -.8 | .4 | .2 | .4 | 1.8 |
| Other | 8.25 | 1.6 | -3.5 | -.4 | 2.3 | 8.8 | .4 | -1.2 | 1.2 | -1.8 | .4 | .5 | -.2 | 3.0 |
| **Nondurable** | 10.87 | -1.0 | -.3 | .9 | 4.7 | 2.4 | 4.3 | -.1 | .7 | .3 | .9 | .0 | -2.0 | 1.9 |
| Textile | .39 | -2.8 | -2.7 | 1.7 | 5.7 | -7.9 | -6.3 | -2.2 | 1.5 | -1.5 | -.3 | -.9 | 1.6 | -1.7 |
| Paper | 1.93 | -.4 | -2.9 | -1.5 | 6.1 | -1.8 | -3.0 | -1.3 | .7 | -1.8 | .0 | -.3 | 1.2 | 1.2 |
| Chemical | 5.31 | -2.4 | .0 | 1.0 | 6.6 | 3.5 | 11.1 | 1.3 | .8 | 1.1 | 2.0 | .1 | -4.5 | 2.7 |
| **Energy** | 17.23 | 9.5 | -7.1 | -2.6 | -.5 | 3.1 | 10.3 | 1.5 | .0 | 1.1 | .8 | 1.6 | -1.9 | 3.1 |
| **Industry Groups** | | | | | | | | | | | | | | |
| **Manufacturing** | 76.46 | 1.5 | -.6 | .3 | 1.6 | 2.3 | 2.5 | -.7 | 1.2 | -.5 | .2 | .0 | -.3 | 1.5 |
| **Manufacturing (NAICS)** | **31–33** | 74.21 | 1.8 | -.5 | .5 | 1.8 | 2.3 | 2.8 | -.7 | 1.3 | -.5 | .2 | .0 | -.3 | 1.6 |
| **Durable manufacturing** | | 39.06 | 2.7 | -2.0 | .8 | 2.0 | 2.6 | 2.1 | -.7 | 1.7 | -1.1 | -.1 | -.5 | .3 | 1.2 |
| Wood products | 321 | 1.32 | 3.7 | 3.8 | 3.8 | 18.5 | 8.1 | -7.8 | -1.1 | -1.3 | -.3 | -1.1 | 1.9 | -.8 | 4.5 |
| Nonmetallic mineral products | 327 | 2.20 | 3.2 | 2.4 | .1 | 4.7 | 16.7 | -5.2 | -.1 | -1.5 | -.9 | .0 | 1.0 | -1.2 | 3.8 |
| Primary metals | 331 | 2.33 | -1.3 | -8.1 | -2.0 | 2.9 | 18.3 | -5.7 | -1.3 | .2 | -2.8 | 1.2 | -1.2 | 1.1 | 2.9 |
| Fabricated metal products | 332 | 5.56 | .2 | -4.7 | -.8 | 2.5 | 4.3 | 2.1 | -.5 | .6 | .1 | -.4 | .3 | .7 | 3.3 |
| Machinery | 333 | 5.66 | 2.3 | -9.0 | .5 | -.5 | 5.6 | 21.4 | .6 | 4.8 | -.1 | -.4 | -.2 | -1.4 | 4.6 |
| Computer and electronic products | 334 | 5.18 | 4.4 | -.5 | 3.6 | 8.7 | .3 | 4.0 | 1.1 | 1.6 | -1.2 | -.4 | -.3 | .8 | 2.9 |
| Electrical equip., appliances, and components | 335 | 1.88 | .8 | 1.8 | .6 | -.9 | .9 | 1.7 | -1.3 | 2.3 | -.8 | .2 | 1.6 | -2.5 | -.4 |
| Motor vehicles and parts | 3361–3 | 5.77 | 6.9 | 3.9 | 4.8 | 2.4 | -4.5 | .9 | -3.6 | 4.2 | -2.4 | -.7 | -4.2 | 2.2 | -3.6 |
| Aerospace and miscellaneous transportation equipment | 3364–9 | 4.97 | 4.9 | -2.0 | -2.0 | -2.6 | -4.0 | -2.8 | -.7 | .0 | -.4 | .9 | .0 | 1.7 | -.5 |
| Furniture and related products | 337 | 1.21 | 4.4 | 3.8 | -1.8 | 5.4 | 4.6 | -4.1 | -.2 | -.3 | -.5 | .4 | -.8 | .3 | 1.2 |
| Miscellaneous | 339 | 2.99 | -1.8 | -.9 | -.9 | -7.2 | -.5 | -6.0 | -.8 | 1.3 | -3.9 | .5 | .4 | -.8 | -3.8 |
| **Nondurable manufacturing** | | 35.15 | .7 | 1.2 | .2 | 1.5 | 2.0 | 3.5 | -.6 | .9 | .2 | .4 | .6 | -.9 | 2.1 |
| Food, beverage, and tobacco products | 311,2 | 11.46 | .7 | 2.4 | .2 | -1.6 | 7.4 | 3.0 | -1.5 | 1.7 | -.2 | -.2 | .8 | .1 | 2.8 |
| Textile and product mills | 313,4 | .71 | .9 | -1.9 | .9 | .6 | -4.0 | -2.6 | -.9 | 1.5 | -1.5 | .1 | .0 | .4 | -.8 |
| Apparel and leather | 315,6 | .23 | -2.4 | -5.6 | -6.0 | 3.5 | -13.4 | -15.1 | -2.9 | -1.4 | .4 | -2.0 | 1.6 | -2.5 | -8.1 |
| Paper | 322 | 2.53 | 1.1 | -3.3 | -.1 | 7.3 | -1.6 | -3.1 | -.8 | .0 | -.9 | .0 | -.9 | .9 | .6 |
| Printing and support | 323 | 1.47 | -2.8 | 2.9 | -1.9 | 6.1 | 1.1 | -.5 | -1.5 | 1.3 | -1.2 | .0 | -.4 | .4 | 1.8 |
| Petroleum and coal products | 324 | 2.97 | -5.5 | 1.5 | 2.1 | .1 | 4.3 | 14.7 | 1.6 | 2.2 | .7 | .1 | -.5 | -1.6 | 2.9 |
| Chemicals | 325 | 12.41 | 1.7 | 1.3 | .2 | 4.3 | -1.8 | 4.8 | .4 | -.1 | 1.4 | 1.0 | 1.2 | -2.2 | 2.3 |
| Plastics and rubber products | 326 | 3.37 | 4.4 | .7 | -.5 | -2.4 | 2.0 | -.5 | -2.5 | 1.1 | -1.1 | 1.4 | .5 | -.3 | 1.1 |
| **Other manufacturing (non-NAICS)** | **1133,5111** | 2.24 | -4.7 | -2.3 | -7.3 | -3.8 | .2 | -7.0 | -1.6 | -1.4 | -.4 | .5 | -.4 | -.9 | -3.4 |
| **Mining** | **21** | 12.91 | 11.9 | -10.9 | -5.0 | 6.6 | 14.3 | 11.6 | -.4 | .9 | .9 | 1.2 | 1.3 | -.8 | 9.7 |
| **Utilities** | **2211,2** | 10.64 | -.6 | -3.8 | 2.4 | -11.4 | -17.4 | 22.9 | 8.2 | .1 | 2.7 | -1.0 | 1.5 | -5.5 | -7.8 |
| Electric | 2211 | 9.42 | -.3 | -2.7 | 2.1 | -11.7 | -15.1 | 20.0 | 6.9 | 1.1 | .8 | -.5 | 2.1 | -5.9 | -8.1 |
| Natural gas | 2212 | 1.21 | -2.9 | -12.1 | 4.4 | -9.5 | -33.2 | 47.9 | 18.5 | -7.4 | 18.8 | -3.9 | -3.1 | -2.1 | -5.9 |

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NOTE. Under the industry groups, the figures to the right of the series descriptions are 2012 North American Industry Classification System (NAICS) codes. The abbreviation pt denotes part of a NAICS code. Additional industry detail is available on the Board's website (www.federalreserve.gov/releases/G17). Under market groups, in the products category, miscellaneous consumer nondurables, oil and gas drilling, and manufactured homes are not shown separately; in the nondurable materials category, containers and miscellaneous nondurable materials are not shown separately.

1. The proportion data are the relative weights for the rates of change for each series in the computation of the change in total industrial production in the following year.

## Table 2
## Industrial Production: Special Aggregates and Selected Detail
Percent change, seasonally adjusted

| Item | | 2016 proportion | Fourth quarter to fourth quarter | | | Annual rate | | | Monthly rate | | | | | | Aug. '16 to Aug. '17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2014 | 2015 | 2016 | 2016 Q4 | 2017 Q1[r] | Q2[r] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | |
| **Total industry** | | 100.00 | 3.4 | -2.7 | -.1 | .7 | 1.5 | 5.7 | .2 | 1.1 | .1 | .2 | .4 | -.9 | 1.5 |
| **Energy** | | 24.59 | 6.8 | -7.8 | -1.3 | -3.1 | -1.4 | 15.6 | 3.2 | .3 | 2.0 | .3 | 1.4 | -2.7 | 1.2 |
| Consumer products | | 4.73 | -3.9 | -3.9 | 3.7 | -13.1 | -20.5 | 34.9 | 8.8 | 1.6 | 5.0 | -1.8 | .7 | -4.8 | -6.8 |
| Commercial products | | 2.40 | .2 | -.3 | 1.7 | -6.1 | -4.0 | 8.3 | 5.3 | -2.1 | 2.4 | -.5 | 1.0 | -3.7 | -4.3 |
| Oil and gas well drilling | 213111 | .24 | 6.4 | -59.7 | -22.9 | 85.4 | 158.8 | 147.7 | 7.7 | 9.0 | 3.8 | 6.8 | -.9 | -4.8 | 85.8 |
| Converted fuel | | 4.78 | .8 | -1.4 | 1.6 | -14.3 | -16.8 | 19.0 | 6.9 | .7 | .9 | -1.3 | 1.9 | -4.2 | -7.9 |
| Primary energy | | 12.45 | 11.7 | -8.6 | -4.4 | 6.0 | 11.6 | 7.4 | -.2 | -.2 | 1.1 | 1.4 | 1.6 | -1.2 | 7.7 |
| **Non-energy** | | 75.41 | 1.9 | -.7 | .2 | 1.9 | 2.5 | 2.4 | -.8 | 1.3 | -.6 | .2 | .0 | -.2 | 1.6 |
| **Selected high-technology industries** | | 2.32 | 9.1 | -.4 | 7.5 | 13.2 | -6.2 | 6.0 | .1 | 2.0 | .2 | -.3 | -1.2 | 1.4 | 3.4 |
| Computers and peripheral equipment | 3341 | .34 | 6.0 | -2.1 | 14.7 | 6.0 | 8.6 | 26.3 | 1.4 | 2.3 | 2.0 | 3.8 | -4.0 | 1.8 | 11.0 |
| Communications equipment | 3342 | .61 | -4.9 | .9 | 13.6 | 39.9 | -22.5 | -13.4 | -2.3 | .0 | .0 | .0 | .1 | -.1 | -.9 |
| Semiconductors and related electronic components | 3344 | 1.37 | 15.9 | -.5 | 3.1 | 4.8 | -1.4 | 10.3 | .8 | 2.8 | -.2 | -1.5 | -.9 | 1.9 | 3.4 |
| **Excluding selected high-technology industries** | | 73.09 | 1.6 | -.7 | .0 | 1.5 | 2.8 | 2.3 | -.8 | 1.3 | -.6 | .2 | .1 | -.3 | 1.5 |
| **Motor vehicles and parts** | **3361–3** | 5.77 | 6.9 | 3.9 | 4.8 | 2.4 | -4.5 | .9 | -3.6 | 4.2 | -2.4 | -.7 | -4.2 | 2.2 | -3.6 |
| Motor vehicles | 3361 | 2.70 | 5.3 | 4.8 | 2.0 | 1.4 | -8.4 | .8 | -5.7 | 6.8 | -3.5 | -1.5 | -6.5 | 1.5 | -8.6 |
| Motor vehicle parts | 3363 | 2.61 | 8.5 | 2.9 | 7.6 | -.5 | 1.8 | -1.2 | -2.1 | 1.9 | -1.6 | -.6 | -2.1 | 3.1 | .1 |
| **Excluding motor vehicles and parts** | | 67.32 | 1.2 | -1.1 | -.5 | 1.4 | 3.4 | 2.4 | -.6 | 1.1 | -.5 | .3 | .4 | -.5 | 2.0 |
| Consumer goods | | 20.58 | 1.9 | 1.9 | -.9 | .0 | 1.7 | 1.6 | -.9 | .9 | -.1 | .1 | .9 | .0 | 1.9 |
| Business equipment | | 8.68 | 3.6 | -4.4 | -.9 | -.6 | 3.1 | 10.3 | 1.2 | 2.7 | -1.0 | -.6 | .0 | -.4 | 2.2 |
| Construction supplies | | 4.96 | 3.9 | .1 | .7 | 4.4 | 9.9 | -.1 | -1.3 | .8 | -.7 | -.3 | .0 | -.6 | 2.9 |
| Business supplies | | 6.54 | -1.2 | -.3 | -.9 | 1.6 | .3 | -.1 | -.9 | .8 | -.6 | .2 | .5 | -.8 | .8 |
| Materials | | 24.26 | .4 | -2.5 | .0 | 2.7 | 4.9 | 2.1 | -.7 | .9 | -.6 | .7 | .2 | -1.0 | 2.1 |
| **Measures excluding selected high-technology industries** | | | | | | | | | | | | | | | |
| Total industry | | 97.68 | 3.2 | -2.7 | -.3 | .4 | 1.7 | 5.6 | .2 | 1.0 | .1 | .2 | .4 | -.9 | 1.5 |
| Manufacturing[1] | | 74.14 | 1.3 | -.6 | .0 | 1.2 | 2.5 | 2.4 | -.7 | 1.2 | -.5 | .2 | .1 | -.3 | 1.4 |
| Durable | | 36.91 | 2.2 | -2.2 | .4 | 1.3 | 3.1 | 1.8 | -.8 | 1.7 | -1.2 | -.1 | -.5 | .2 | 1.0 |
| **Measures excluding motor vehicles and parts** | | | | | | | | | | | | | | | |
| Total industry | | 94.23 | 3.2 | -3.0 | -.4 | .6 | 1.9 | 5.9 | .4 | .9 | .2 | .2 | .6 | -1.1 | 1.9 |
| Manufacturing[1] | | 70.69 | 1.2 | -.9 | -.1 | 1.6 | 2.8 | 2.6 | -.4 | 1.0 | -.3 | .2 | .4 | -.5 | 1.9 |
| Durable | | 33.46 | 2.0 | -3.0 | .1 | 2.0 | 3.8 | 2.3 | -.2 | 1.3 | -.9 | .0 | .1 | .0 | 2.0 |
| **Measures excluding selected high-technology industries and motor vehicles and parts** | | | | | | | | | | | | | | | |
| Total industry | | 91.91 | 3.0 | -3.1 | -.7 | .3 | 2.1 | 5.9 | .4 | .9 | .2 | .3 | .7 | -1.1 | 1.8 |
| Manufacturing[1] | | 68.37 | .8 | -.9 | -.4 | 1.1 | 3.2 | 2.5 | -.5 | 1.0 | -.3 | .2 | .4 | -.5 | 1.8 |
| **Stage-of-process components of non-energy materials, measures of the input to** | | | | | | | | | | | | | | | |
| Finished processors | | 10.64 | 3.1 | -3.1 | .9 | 1.2 | 1.0 | -.3 | -1.4 | 1.4 | -1.1 | .2 | -.7 | 1.1 | .7 |
| Primary and semifinished processors | | 16.80 | .3 | -1.6 | .5 | 3.3 | 6.3 | 3.4 | -.5 | 1.0 | -.4 | .8 | .3 | -1.5 | 2.6 |

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1. Refer to note on cover page.

## Table 3
## Motor Vehicle Assemblies
Millions of units, seasonally adjusted annual rate

| Item | 2016 average | 2016 Q3 | Q4 | 2017 Q1 | Q2 | 2017 Mar. | Apr. | May | June | July | Aug. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | 12.18 | 12.12 | 12.10 | 11.59 | 11.42 | 11.20 | 11.76 | 11.44 | 11.07 | 10.16 | 10.65 |
| Autos | 3.92 | 3.88 | 3.75 | 3.31 | 3.27 | 3.05 | 3.48 | 3.39 | 2.94 | 2.53 | 3.02 |
| Trucks | 8.26 | 8.24 | 8.35 | 8.28 | 8.15 | 8.16 | 8.28 | 8.05 | 8.13 | 7.62 | 7.63 |
| Light | 7.99 | 8.01 | 8.11 | 8.03 | 7.87 | 7.91 | 8.00 | 7.77 | 7.84 | 7.32 | 7.37 |
| Medium and heavy | .27 | .23 | .25 | .25 | .28 | .24 | .28 | .27 | .30 | .30 | .26 |
| **Memo** | | | | | | | | | | | |
| Autos and light trucks | 11.91 | 11.89 | 11.85 | 11.34 | 11.14 | 10.96 | 11.48 | 11.17 | 10.77 | 9.86 | 10.39 |

NOTE. Seasonal factors and underlying data for auto, light truck, and medium and heavy truck production are available on the Board's website, www.federalreserve.gov/releases/G17/mvsf.htm

## Table 4
## Industrial Production Indexes: Market and Industry Group Summary

2012 = 100, seasonally adjusted

| Item | | 2016 proportion | 2016 Dec. | 2017 Jan. | Feb. | Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total IP** | | 100.00 | 103.8 | 103.5 | 103.7 | 103.9 | 105.0 | 105.1 | 105.3 | 105.7 | 104.7 |
| **Market Groups** | | | | | | | | | | | |
| **Final products and nonindustrial supplies** | | 55.33 | 102.0 | 101.5 | 101.2 | 101.5 | 102.9 | 103.0 | 102.8 | 103.0 | 102.2 |
| **Consumer goods** | | 28.22 | 105.1 | 104.0 | 103.3 | 103.6 | 105.0 | 105.6 | 105.2 | 105.6 | 104.8 |
| **Durable** | | 6.33 | 120.7 | 120.7 | 120.8 | 118.2 | 121.1 | 119.2 | 119.3 | 116.9 | 117.8 |
| Automotive products | | 3.28 | 136.5 | 135.3 | 135.7 | 131.0 | 136.1 | 133.0 | 132.0 | 126.7 | 129.0 |
| Home electronics | | .15 | 110.9 | 109.1 | 105.5 | 106.6 | 109.0 | 108.2 | 106.0 | 105.8 | 106.8 |
| Appliances, furniture, carpeting | | .90 | 111.3 | 113.6 | 111.6 | 109.1 | 110.9 | 110.3 | 112.6 | 111.0 | 110.0 |
| Miscellaneous goods | | 2.00 | 104.6 | 105.4 | 106.1 | 106.2 | 106.7 | 105.5 | 106.4 | 107.2 | 107.1 |
| **Nondurable** | | 21.88 | 101.2 | 99.8 | 98.9 | 99.9 | 100.9 | 102.1 | 101.6 | 102.6 | 101.5 |
| Non-energy | | 17.16 | 99.3 | 99.5 | 100.1 | 99.2 | 100.1 | 100.1 | 100.1 | 101.2 | 101.1 |
| Foods and tobacco | | 9.53 | 103.9 | 105.7 | 106.8 | 105.3 | 107.1 | 106.7 | 106.6 | 107.5 | 107.5 |
| Clothing | | .22 | 77.6 | 76.2 | 75.6 | 73.2 | 72.1 | 72.4 | 71.0 | 72.0 | 70.2 |
| Chemical products | | 5.78 | 96.3 | 94.0 | 93.4 | 93.3 | 93.2 | 94.5 | 94.6 | 96.1 | 96.4 |
| Paper products | | 1.13 | 83.2 | 83.2 | 86.7 | 86.8 | 85.3 | 84.7 | 84.7 | 84.6 | 84.4 |
| Energy | | 4.73 | 107.0 | 99.7 | 92.9 | 101.1 | 102.7 | 107.8 | 105.9 | 106.7 | 101.6 |
| **Business equipment** | | 10.23 | 99.7 | 99.6 | 99.3 | 99.7 | 102.9 | 101.8 | 101.4 | 100.9 | 100.5 |
| Transit | | 2.73 | 116.9 | 115.6 | 116.5 | 113.8 | 117.5 | 116.0 | 116.8 | 114.3 | 114.9 |
| Information processing | | 2.22 | 103.7 | 104.3 | 102.9 | 104.2 | 105.3 | 103.8 | 104.1 | 103.8 | 104.2 |
| Industrial and other | | 5.27 | 91.1 | 91.3 | 90.9 | 92.3 | 95.9 | 95.1 | 94.0 | 94.2 | 93.1 |
| **Defense and space equipment** | | 2.30 | 89.6 | 89.8 | 88.7 | 88.8 | 88.6 | 88.5 | 89.3 | 89.5 | 90.9 |
| **Construction supplies** | | 4.98 | 109.0 | 110.5 | 112.4 | 111.0 | 111.9 | 111.1 | 110.8 | 110.8 | 110.2 |
| **Business supplies** | | 9.30 | 102.9 | 102.2 | 101.9 | 102.6 | 102.7 | 102.9 | 102.9 | 103.6 | 102.0 |
| **Materials** | | 44.67 | 105.3 | 105.3 | 106.2 | 106.3 | 107.0 | 107.1 | 107.7 | 108.4 | 107.2 |
| **Non-energy** | | 27.44 | 102.7 | 103.5 | 104.1 | 103.3 | 104.4 | 103.7 | 104.3 | 104.2 | 103.7 |
| **Durable** | | 16.57 | 104.3 | 105.2 | 106.5 | 105.1 | 106.5 | 105.1 | 105.5 | 105.3 | 105.8 |
| Consumer parts | | 3.18 | 116.7 | 117.4 | 118.3 | 115.3 | 117.4 | 116.3 | 116.3 | 113.5 | 116.0 |
| Equipment parts | | 5.14 | 102.6 | 103.2 | 103.1 | 102.4 | 103.8 | 103.0 | 103.3 | 103.6 | 104.0 |
| Other | | 8.25 | 101.0 | 102.2 | 104.4 | 103.2 | 104.5 | 102.6 | 103.1 | 103.6 | 103.4 |
| **Nondurable** | | 10.87 | 100.2 | 101.0 | 100.7 | 100.5 | 101.3 | 101.6 | 102.5 | 102.5 | 100.4 |
| Textile | | .39 | 100.9 | 101.9 | 100.4 | 98.2 | 99.7 | 98.2 | 97.8 | 97.0 | 98.5 |
| Paper | | 1.93 | 94.5 | 93.3 | 95.0 | 93.8 | 94.4 | 92.7 | 92.7 | 92.5 | 93.6 |
| Chemical | | 5.31 | 98.5 | 99.7 | 98.3 | 99.6 | 100.4 | 101.5 | 103.6 | 103.6 | 99.0 |
| **Energy** | | 17.23 | 107.1 | 105.6 | 107.0 | 108.7 | 108.7 | 109.9 | 110.7 | 112.5 | 110.3 |
| **Industry Groups** | | | | | | | | | | | |
| **Manufacturing** | | 76.46 | 102.6 | 103.0 | 103.3 | 102.6 | 103.9 | 103.4 | 103.5 | 103.6 | 103.3 |
| **Manufacturing (NAICS)** | **31–33** | 74.21 | 103.3 | 103.8 | 104.0 | 103.3 | 104.7 | 104.2 | 104.3 | 104.4 | 104.1 |
| **Durable manufacturing** | | 39.06 | 105.1 | 105.4 | 105.7 | 105.0 | 106.7 | 105.5 | 105.4 | 104.9 | 105.2 |
| Wood products | 321 | 1.32 | 120.9 | 121.0 | 123.1 | 121.7 | 120.2 | 119.8 | 118.5 | 120.7 | 119.8 |
| Nonmetallic mineral products | 327 | 2.20 | 113.0 | 114.7 | 117.8 | 117.7 | 115.9 | 114.9 | 114.8 | 115.9 | 114.6 |
| Primary metals | 331 | 2.33 | 94.5 | 96.0 | 97.8 | 96.6 | 96.8 | 94.1 | 95.2 | 94.0 | 95.1 |
| Fabricated metal products | 332 | 5.56 | 97.8 | 98.4 | 99.5 | 99.0 | 99.6 | 99.7 | 99.2 | 99.6 | 100.2 |
| Machinery | 333 | 5.66 | 89.4 | 89.5 | 89.4 | 90.0 | 94.3 | 94.1 | 93.8 | 93.6 | 92.4 |
| Computer and electronic products | 334 | 5.18 | 113.0 | 113.2 | 111.9 | 113.1 | 114.9 | 113.5 | 113.1 | 112.7 | 113.7 |
| Electrical equip., appliances, and components | 335 | 1.88 | 103.7 | 105.5 | 103.9 | 102.6 | 104.9 | 104.1 | 104.3 | 105.9 | 103.2 |
| Motor vehicles and parts | 3361–3 | 5.77 | 131.0 | 129.5 | 131.1 | 126.4 | 131.7 | 128.6 | 127.7 | 122.3 | 125.0 |
| Aerospace and miscellaneous transportation equipment | 3364–9 | 4.97 | 104.0 | 103.8 | 102.9 | 102.1 | 102.2 | 101.7 | 102.7 | 102.7 | 104.4 |
| Furniture and related products | 337 | 1.21 | 106.2 | 108.0 | 106.7 | 106.5 | 106.2 | 105.6 | 106.0 | 105.2 | 105.6 |
| Miscellaneous | 339 | 2.99 | 98.7 | 99.1 | 99.4 | 98.6 | 99.9 | 96.1 | 96.5 | 96.9 | 96.1 |
| **Nondurable manufacturing** | | 35.15 | 101.4 | 101.9 | 102.2 | 101.6 | 102.5 | 102.7 | 103.1 | 103.8 | 102.9 |
| Food, beverage, and tobacco products | 311,2 | 11.46 | 105.2 | 107.0 | 108.1 | 106.5 | 108.2 | 108.0 | 107.7 | 108.6 | 108.7 |
| Textile and product mills | 313,4 | .71 | 103.8 | 105.9 | 104.4 | 103.4 | 104.9 | 103.3 | 103.4 | 103.4 | 103.9 |
| Apparel and leather | 315,6 | .23 | 78.6 | 77.3 | 76.7 | 74.4 | 73.4 | 73.7 | 72.2 | 73.3 | 71.5 |
| Paper | 322 | 2.53 | 96.4 | 95.8 | 96.9 | 96.1 | 96.1 | 95.2 | 95.2 | 94.4 | 95.2 |
| Printing and support | 323 | 1.47 | 99.6 | 98.9 | 100.0 | 98.5 | 99.8 | 98.6 | 98.6 | 98.2 | 98.6 |
| Petroleum and coal products | 324 | 2.97 | 100.9 | 102.6 | 101.6 | 103.3 | 105.6 | 106.3 | 106.4 | 105.9 | 104.2 |
| Chemicals | 325 | 12.41 | 98.5 | 98.1 | 97.2 | 97.6 | 97.5 | 98.9 | 99.9 | 101.1 | 98.9 |
| Plastics and rubber products | 326 | 3.37 | 105.0 | 105.5 | 108.0 | 105.3 | 106.5 | 105.3 | 106.7 | 107.2 | 106.9 |
| **Other manufacturing (non-NAICS)** | **1133,5111** | 2.24 | 81.9 | 81.5 | 83.5 | 82.2 | 81.0 | 80.7 | 81.1 | 80.8 | 80.1 |
| **Mining** | **21** | 12.91 | 101.9 | 103.3 | 107.0 | 106.6 | 107.5 | 108.5 | 109.7 | 111.2 | 110.3 |
| **Utilities** | **2211,2** | 10.64 | 106.2 | 98.5 | 93.8 | 101.5 | 101.6 | 104.4 | 103.4 | 104.9 | 99.2 |
| Electric | 2211 | 9.42 | 104.1 | 98.5 | 94.6 | 101.2 | 102.3 | 103.1 | 102.6 | 104.8 | 98.6 |
| Natural gas | 2212 | 1.21 | 122.3 | 98.6 | 87.5 | 103.6 | 95.9 | 113.9 | 109.5 | 106.1 | 103.8 |

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NOTE. Refer to notes on table 1.

## Table 5
## Industrial Production Indexes: Special Aggregates

2012 = 100, seasonally adjusted

| Item | | 2016 proportion | 2016 Dec. | 2017 Jan. | Feb. | Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total industry** | | 100.00 | 103.8 | 103.5 | 103.7 | 103.9 | 105.0 | 105.1 | 105.3 | 105.7 | 104.7 |
| **Energy** | | 24.59 | 105.0 | 102.3 | 102.0 | 105.3 | 105.5 | 107.6 | 107.9 | 109.4 | 106.4 |
| Consumer products | | 4.73 | 107.0 | 99.7 | 92.9 | 101.1 | 102.7 | 107.8 | 105.9 | 106.7 | 101.6 |
| Commercial products | | 2.40 | 107.4 | 104.6 | 102.5 | 107.9 | 105.6 | 108.1 | 107.5 | 108.6 | 104.6 |
| Oil and gas well drilling | 213111 | .24 | 32.4 | 34.2 | 39.3 | 42.3 | 46.2 | 47.9 | 51.2 | 50.7 | 48.3 |
| Converted fuel | | 4.78 | 105.3 | 97.0 | 94.5 | 101.0 | 101.7 | 102.6 | 101.3 | 103.2 | 98.8 |
| Primary energy | | 12.45 | 106.1 | 107.3 | 110.2 | 110.0 | 109.8 | 111.0 | 112.6 | 114.4 | 113.0 |
| **Non-energy** | | 75.41 | 102.7 | 103.2 | 103.6 | 102.8 | 104.2 | 103.5 | 103.7 | 103.7 | 103.5 |
| **Selected high-technology industries** | | 2.32 | 136.3 | 135.0 | 132.5 | 132.6 | 135.3 | 135.6 | 135.2 | 133.6 | 135.5 |
| Computers and peripheral equipment | 3341 | .34 | 119.2 | 121.5 | 121.6 | 123.3 | 126.1 | 128.7 | 133.6 | 128.2 | 130.6 |
| Communications equipment | 3342 | .61 | 132.9 | 128.7 | 121.3 | 118.5 | 118.5 | 118.5 | 118.6 | 118.7 | 118.6 |
| Semiconductors and related electronic components | 3344 | 1.37 | 141.8 | 141.1 | 140.3 | 141.4 | 145.3 | 145.0 | 142.9 | 141.6 | 144.2 |
| **Excluding selected high-technology industries** | | 73.09 | 101.6 | 102.1 | 102.6 | 101.7 | 103.1 | 102.4 | 102.6 | 102.7 | 102.4 |
| **Motor vehicles and parts** | **3361–3** | 5.77 | 131.0 | 129.5 | 131.1 | 126.4 | 131.7 | 128.6 | 127.7 | 122.3 | 125.0 |
| Motor vehicles | 3361 | 2.70 | 130.0 | 128.3 | 129.9 | 122.4 | 130.8 | 126.2 | 124.3 | 116.2 | 118.0 |
| Motor vehicle parts | 3363 | 2.61 | 130.7 | 130.3 | 132.2 | 129.5 | 132.0 | 129.8 | 129.0 | 126.3 | 130.2 |
| **Excluding motor vehicles and parts** | | 67.32 | 99.5 | 100.2 | 100.6 | 100.0 | 101.1 | 100.6 | 100.9 | 101.3 | 100.8 |
| Consumer goods | | 20.58 | 100.5 | 100.9 | 101.4 | 100.4 | 101.3 | 101.2 | 101.3 | 102.2 | 102.2 |
| Business equipment | | 8.68 | 96.8 | 97.0 | 96.5 | 97.7 | 100.3 | 99.3 | 98.8 | 98.8 | 98.4 |
| Construction supplies | | 4.96 | 108.9 | 110.5 | 112.4 | 111.0 | 111.9 | 111.1 | 110.8 | 110.8 | 110.2 |
| Business supplies | | 6.54 | 98.2 | 98.3 | 98.7 | 97.8 | 98.5 | 98.0 | 98.2 | 98.7 | 97.9 |
| Materials | | 24.26 | 99.3 | 100.3 | 100.9 | 100.2 | 101.1 | 100.5 | 101.3 | 101.5 | 100.5 |
| **Measures excluding selected high-technology industries** | | | | | | | | | | | |
| Total industry | | 97.68 | 103.0 | 102.7 | 103.0 | 103.2 | 104.3 | 104.3 | 104.6 | 105.0 | 104.0 |
| Manufacturing[1] | | 74.14 | 101.5 | 101.9 | 102.3 | 101.6 | 102.8 | 102.3 | 102.5 | 102.5 | 102.2 |
| Durable | | 36.91 | 103.0 | 103.4 | 103.8 | 103.0 | 104.7 | 103.5 | 103.4 | 102.9 | 103.2 |
| **Measures excluding motor vehicles and parts** | | | | | | | | | | | |
| Total industry | | 94.23 | 102.5 | 102.2 | 102.4 | 102.8 | 103.7 | 104.0 | 104.2 | 104.9 | 103.8 |
| Manufacturing[1] | | 70.69 | 100.7 | 101.2 | 101.5 | 101.0 | 102.0 | 101.7 | 102.0 | 102.3 | 101.8 |
| Durable | | 33.46 | 101.5 | 102.1 | 102.2 | 102.0 | 103.3 | 102.3 | 102.4 | 102.5 | 102.5 |
| **Measures excluding selected high-technology industries and motor vehicles and parts** | | | | | | | | | | | |
| Total industry | | 91.91 | 101.6 | 101.4 | 101.6 | 102.1 | 102.9 | 103.2 | 103.4 | 104.1 | 103.0 |
| Manufacturing[1] | | 68.37 | 99.5 | 100.0 | 100.3 | 99.9 | 100.8 | 100.5 | 100.8 | 101.2 | 100.6 |
| **Stage-of-process components of non-energy materials, measures of the input to** | | | | | | | | | | | |
| Finished processors | | 10.64 | 104.8 | 105.1 | 105.5 | 104.1 | 105.5 | 104.4 | 104.6 | 103.8 | 105.0 |
| Primary and semifinished processors | | 16.80 | 101.3 | 102.5 | 103.2 | 102.7 | 103.7 | 103.3 | 104.1 | 104.4 | 102.8 |

r Revised. p Preliminary.

1. Refer to note on cover page.

## Table 6
## Diffusion Indexes of Industrial Production

Percent

| Item | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **One month earlier** | | | | | | | | | | | | |
| 2015 | 44.8 | 46.2 | 53.2 | 51.2 | 50.5 | 46.5 | 58.9 | 50.2 | 40.5 | 53.5 | 48.2 | 46.8 |
| 2016 | 54.8 | 50.8 | 45.8 | 47.8 | 51.2 | 48.2 | 53.8 | 49.2 | 58.2 | 60.5 | 49.2 | 52.5 |
| 2017 | 58.5 | 51.5 | 45.2 | 66.2 | 42.8 | 55.2 | 51.2 | | | | | |
| **Three months earlier** | | | | | | | | | | | | |
| 2015 | 56.2 | 39.8 | 44.5 | 49.8 | 52.8 | 46.8 | 53.2 | 55.9 | 51.8 | 51.2 | 46.5 | 45.5 |
| 2016 | 50.8 | 51.5 | 50.8 | 44.8 | 46.2 | 50.8 | 51.5 | 47.2 | 54.5 | 56.9 | 58.9 | 56.2 |
| 2017 | 55.9 | 59.5 | 48.2 | 56.5 | 43.1 | 55.9 | 49.5 | | | | | |
| **Six months earlier** | | | | | | | | | | | | |
| 2015 | 50.2 | 47.5 | 49.8 | 51.8 | 46.5 | 41.8 | 50.2 | 52.8 | 51.5 | 49.8 | 49.2 | 49.8 |
| 2016 | 50.2 | 45.8 | 46.5 | 45.2 | 50.8 | 51.5 | 53.2 | 47.5 | 57.5 | 58.9 | 57.2 | 61.9 |
| 2017 | 61.2 | 62.5 | 54.8 | 63.2 | 54.5 | 52.5 | 50.2 | | | | | |

NOTE. The diffusion indexes are calculated as the percentage of series that increased over the indicated span (one, three, or six months) plus one-half the percentage that were unchanged.

## Table 7
## CAPACITY UTILIZATION
Percent of capacity, seasonally adjusted

| Item | | 2016 proportion | 1972-2016 ave. | 1994-95 high | 2009 low | 2016 Q4 | 2017 Q1[r] | Q2[r] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total industry** | | 100.00 | 79.9 | 85.0 | 66.7 | 75.8 | 75.8 | 76.6 | 75.9 | 76.6 | 76.6 | 76.7 | 76.9 | 76.1 |
| **Manufacturing[1]** | | 78.37 | 78.4 | 84.6 | 63.7 | 75.1 | 75.4 | 75.7 | 75.1 | 75.9 | 75.5 | 75.6 | 75.6 | 75.3 |
| **Manufacturing (NAICS)** | **31–33** | 75.63 | 78.3 | 84.7 | 63.5 | 75.5 | 75.8 | 76.1 | 75.5 | 76.4 | 76.0 | 76.0 | 76.0 | 75.8 |
| **Durable manufacturing** | | 40.58 | 76.9 | 83.7 | 58.3 | 74.7 | 75.0 | 75.1 | 74.6 | 75.8 | 74.9 | 74.8 | 74.3 | 74.5 |
| Wood products | 321 | 1.35 | 76.4 | 86.6 | 48.1 | 76.8 | 78.2 | 76.5 | 78.0 | 77.0 | 76.7 | 75.9 | 77.3 | 76.7 |
| Nonmetallic mineral products | 327 | 2.59 | 73.8 | 82.6 | 45.1 | 64.7 | 66.9 | 65.7 | 67.4 | 66.2 | 65.5 | 65.3 | 65.8 | 64.9 |
| Primary metals | 331 | 2.63 | 78.6 | 94.1 | 49.2 | 66.5 | 69.3 | 68.3 | 69.1 | 69.3 | 67.4 | 68.2 | 67.5 | 68.3 |
| Fabricated metal products | 332 | 5.51 | 77.7 | 84.9 | 62.2 | 78.3 | 79.2 | 79.7 | 79.2 | 79.7 | 79.9 | 79.5 | 79.8 | 80.4 |
| Machinery | 333 | 6.37 | 77.5 | 87.2 | 58.6 | 69.1 | 70.1 | 73.6 | 70.4 | 73.8 | 73.7 | 73.4 | 73.3 | 72.3 |
| Computer and electronic products | 334 | 5.83 | 77.6 | 84.4 | 70.1 | 69.9 | 69.2 | 69.2 | 69.2 | 70.1 | 69.0 | 68.5 | 68.1 | 68.4 |
| Electrical equip., appliances, and components | 335 | 1.81 | 82.4 | 92.8 | 66.8 | 80.7 | 80.9 | 81.3 | 79.8 | 81.7 | 81.0 | 81.1 | 82.4 | 80.3 |
| Motor vehicles and parts | 3361–3 | 5.50 | 75.2 | 87.7 | 33.8 | 82.9 | 81.8 | 81.9 | 80.1 | 83.4 | 81.4 | 80.8 | 77.4 | 79.0 |
| Aerospace and miscellaneous transportation equipment | 3364–9 | 4.85 | 74.2 | 70.0 | 73.1 | 78.5 | 77.4 | 76.6 | 76.7 | 76.7 | 76.3 | 76.9 | 76.8 | 78.0 |
| Furniture and related products | 337 | 1.19 | 76.7 | 82.6 | 56.0 | 79.2 | 79.9 | 78.9 | 79.4 | 79.1 | 78.6 | 78.9 | 78.2 | 78.3 |
| Miscellaneous | 339 | 2.96 | 76.5 | 81.1 | 68.3 | 77.4 | 77.3 | 76.1 | 77.0 | 78.0 | 75.0 | 75.3 | 75.6 | 74.9 |
| **Nondurable manufacturing** | | 35.06 | 80.2 | 86.0 | 69.2 | 76.4 | 76.7 | 77.2 | 76.4 | 77.1 | 77.2 | 77.5 | 77.9 | 77.2 |
| Food, beverage, and tobacco products | 311,2 | 11.47 | 80.7 | 85.3 | 75.2 | 76.8 | 78.0 | 78.4 | 77.4 | 78.7 | 78.4 | 78.2 | 78.7 | 78.7 |
| Textile and product mills | 313,4 | .77 | 79.1 | 91.8 | 53.6 | 71.6 | 70.8 | 70.3 | 70.0 | 71.0 | 69.9 | 69.9 | 69.9 | 70.2 |
| Apparel and leather | 315,6 | .27 | 76.7 | 87.0 | 56.9 | 67.6 | 65.9 | 64.0 | 64.7 | 64.0 | 64.5 | 63.4 | 64.6 | 63.2 |
| Paper | 322 | 2.28 | 86.6 | 92.7 | 72.9 | 87.2 | 87.1 | 86.6 | 87.1 | 87.1 | 86.3 | 86.3 | 85.5 | 86.2 |
| Printing and support | 323 | 1.71 | 79.4 | 84.9 | 58.8 | 67.2 | 67.6 | 67.7 | 67.2 | 68.2 | 67.5 | 67.5 | 67.3 | 67.7 |
| Petroleum and coal products | 324 | 2.60 | 85.3 | 91.0 | 76.0 | 80.1 | 80.7 | 83.4 | 81.3 | 83.0 | 83.6 | 83.6 | 83.2 | 81.9 |
| Chemicals | 325 | 12.76 | 76.9 | 82.1 | 65.6 | 74.1 | 73.6 | 74.3 | 73.5 | 73.4 | 74.5 | 75.2 | 76.0 | 74.4 |
| Plastics and rubber products | 326 | 3.20 | 82.2 | 93.3 | 58.4 | 80.9 | 80.9 | 80.5 | 80.1 | 80.9 | 79.9 | 80.8 | 81.1 | 80.8 |
| **Other manufacturing (non-NAICS)** | **1133,5111** | 2.73 | 80.5 | 83.2 | 67.6 | 62.9 | 63.6 | 63.1 | 63.7 | 63.0 | 62.9 | 63.5 | 63.5 | 63.1 |
| **Mining** | **21** | 11.24 | 87.0 | 88.6 | 78.4 | 79.2 | 81.6 | 83.2 | 82.2 | 82.6 | 83.2 | 83.9 | 84.8 | 83.9 |
| **Utilities** | **2211,2** | 10.39 | 85.6 | 93.2 | 78.1 | 77.0 | 73.2 | 76.9 | 75.8 | 75.8 | 77.9 | 77.1 | 78.2 | 73.9 |
| **Selected high-technology industries** | | 2.61 | 77.3 | 86.5 | 71.1 | 72.5 | 70.4 | 70.5 | 69.7 | 70.8 | 70.6 | 70.1 | 69.0 | 69.7 |
| Computers and peripheral equipment | 3341 | .38 | 77.5 | 88.0 | 83.0 | 76.5 | 78.8 | 84.3 | 79.8 | 81.9 | 83.8 | 87.3 | 84.1 | 86.0 |
| Communications equipment | 3342 | .67 | 76.5 | 84.3 | 77.5 | 75.9 | 70.4 | 67.2 | 67.6 | 67.4 | 67.2 | 67.0 | 66.8 | 66.6 |
| Semiconductors and related electronic components | 3344 | 1.56 | 78.6 | 91.8 | 62.8 | 70.1 | 68.5 | 68.8 | 68.2 | 69.7 | 69.1 | 67.7 | 66.7 | 67.5 |
| **Measures excluding selected high-technology industries** | | | | | | | | | | | | | | |
| Total industry | | 97.39 | 80.1 | 84.9 | 66.4 | 75.8 | 76.0 | 76.8 | 76.1 | 76.8 | 76.8 | 76.8 | 77.1 | 76.3 |
| Manufacturing[1] | | 75.75 | 78.5 | 84.5 | 63.3 | 75.2 | 75.5 | 75.9 | 75.3 | 76.1 | 75.7 | 75.8 | 75.9 | 75.6 |
| STAGE-OF-PROCESS GROUPS | | | | | | | | | | | | | | |
| Crude | | 15.14 | 86.1 | 90.1 | 76.3 | 79.7 | 81.2 | 82.8 | 81.6 | 82.1 | 82.6 | 83.5 | 84.1 | 82.7 |
| Primary and semifinished | | 44.74 | 80.5 | 87.8 | 63.8 | 75.3 | 75.1 | 76.0 | 75.5 | 75.8 | 76.1 | 76.0 | 76.2 | 75.0 |
| Finished | | 40.11 | 76.9 | 80.6 | 66.7 | 74.8 | 74.7 | 75.1 | 74.3 | 75.6 | 75.0 | 74.9 | 74.9 | 75.0 |

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1. Refer to note on cover page.

## Table 8
## INDUSTRIAL CAPACITY
Percent change

| Item | Average annual rate | | | | Fourth quarter to fourth quarter | | | | Annual rate | | | | Monthly rate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1972-79 | 1980-88 | 1989-94 | 1995-2017 | 2014 | 2015 | 2016 | 2017 | 2016 Q4 | 2017 Q1 | Q2 | Q3 | 2017 Aug. |
| **Total industry** | 3.0 | 1.9 | 2.3 | 2.1 | 1.7 | 1.1 | .2 | 1.1 | .8 | 1.2 | 1.3 | 1.2 | .1 |
| Manufacturing[1] | 3.2 | 2.2 | 2.6 | 2.0 | .0 | .1 | .7 | .7 | .7 | .7 | .7 | .6 | .1 |
| Mining | .7 | .1 | -.7 | 1.1 | 7.2 | .7 | -4.1 | 2.7 | -.9 | 1.6 | 3.1 | 3.3 | .3 |
| Utilities | 4.4 | 2.2 | 1.8 | 1.7 | .5 | 1.0 | 2.2 | .7 | 1.9 | 1.3 | .8 | .4 | .0 |
| Selected high-technology industries | 18.6 | 16.8 | 15.7 | 18.1 | 3.8 | 1.7 | 5.0 | 5.3 | 6.0 | 5.8 | 5.5 | 5.1 | .4 |
| Manufacturing[1] ex. selected high-technology industries | 2.6 | 1.3 | 1.6 | .8 | -.2 | .1 | .6 | .5 | .5 | .5 | .4 | .4 | .0 |
| STAGE-OF-PROCESS GROUPS | | | | | | | | | | | | | |
| Crude | 1.5 | .5 | -.5 | 1.1 | 5.8 | .6 | -3.2 | 2.7 | -.4 | 1.9 | 3.1 | 3.2 | .3 |
| Primary and semifinished | 3.0 | 1.3 | 2.5 | 2.2 | -.1 | -.2 | 1.1 | .5 | 1.0 | .7 | .5 | .4 | .0 |
| Finished | 3.9 | 3.3 | 2.8 | 1.9 | .3 | .9 | .7 | .8 | .7 | .8 | .8 | .8 | .1 |

1. Refer to note on cover page.

## Table 9
## GROSS VALUE OF FINAL PRODUCTS AND NONINDUSTRIAL SUPPLIES
Billions of 2009 dollars at annual rate, seasonally adjusted

| Item | 2009 | 2016 | 2016 Q4 | 2017 Q1[r] | Q2[r] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Final products and nonindustrial supplies** | 3,234.2 | 3,625.2 | 3,634.4 | 3,625.0 | 3,684.1 | 3,627.3 | 3,687.9 | 3,687.3 | 3,677.2 | 3,674.7 | 3,647.6 |
| **Final products** | 2,407.8 | 2,701.7 | 2,707.5 | 2,691.3 | 2,743.7 | 2,690.0 | 2,747.0 | 2,746.6 | 2,737.4 | 2,731.3 | 2,716.6 |
| Consumer goods | 1,780.8 | 1,955.2 | 1,960.4 | 1,941.5 | 1,975.0 | 1,940.7 | 1,973.7 | 1,979.8 | 1,971.4 | 1,971.7 | 1,958.2 |
| Durable | 342.0 | 509.6 | 517.3 | 511.1 | 510.3 | 501.1 | 518.0 | 508.3 | 504.5 | 489.2 | 497.3 |
| Automotive products | 188.1 | 340.5 | 347.0 | 339.6 | 338.3 | 330.6 | 345.7 | 337.5 | 331.7 | 316.3 | 325.2 |
| Other durable goods | 153.9 | 168.8 | 170.0 | 171.1 | 171.6 | 170.1 | 171.9 | 170.4 | 172.3 | 172.3 | 171.6 |
| Nondurable | 1,438.8 | 1,460.7 | 1,458.3 | 1,445.3 | 1,479.2 | 1,453.9 | 1,470.8 | 1,485.8 | 1,481.0 | 1,495.2 | 1,474.6 |
| Equipment, total | 627.0 | 751.9 | 752.5 | 755.4 | 774.8 | 755.0 | 779.6 | 772.6 | 772.0 | 765.3 | 764.2 |
| Business and defense | 609.7 | 745.1 | 744.6 | 745.0 | 762.5 | 743.9 | 767.9 | 760.6 | 759.1 | 753.0 | 752.3 |
| Business | 492.9 | 634.3 | 634.1 | 635.3 | 653.6 | 634.7 | 659.3 | 652.1 | 649.5 | 643.2 | 640.4 |
| Defense and space | 116.8 | 111.5 | 111.2 | 110.5 | 110.0 | 110.1 | 109.9 | 109.6 | 110.6 | 110.7 | 112.5 |
| **Nonindustrial supplies** | 826.4 | 924.0 | 927.5 | 935.0 | 941.0 | 938.8 | 941.4 | 941.2 | 940.4 | 944.4 | 931.5 |
| Construction supplies | 232.1 | 280.1 | 281.6 | 287.3 | 288.2 | 286.0 | 289.8 | 287.8 | 287.0 | 286.7 | 285.1 |
| Business supplies | 594.3 | 643.9 | 645.9 | 647.3 | 652.5 | 652.6 | 651.2 | 653.1 | 653.2 | 657.7 | 646.1 |
| Commercial energy products | 218.1 | 229.7 | 229.9 | 230.6 | 234.1 | 237.4 | 232.1 | 235.3 | 234.8 | 237.1 | 228.2 |

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## Table 10
## GROSS-VALUE-WEIGHTED INDUSTRIAL PRODUCTION: STAGE-OF-PROCESS GROUPS
Percent change, seasonally adjusted

| Item | 2016 gross value[1] | Fourth quarter to fourth quarter | | | Annual rate | | | Monthly rate | | | | | | Aug. '16 to Aug. '17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2014 | 2015 | 2016 | 2016 Q4 | 2017 Q1[r] | Q2[r] | 2017 Mar.[r] | Apr.[r] | May[r] | June[r] | July[r] | Aug.[p] | |
| Finished | 2,146.8 | 2.7 | -.3 | .7 | 2.0 | .5 | 4.3 | -1.0 | 2.3 | -.8 | -.2 | -.5 | .3 | 1.1 |
| Semifinished | 1,900.9 | 3.3 | -1.2 | 1.0 | -2.3 | -1.3 | 5.8 | .5 | 1.5 | -.2 | -.3 | .2 | -.9 | -.6 |
| Primary | 1,430.8 | -3.2 | -2.5 | 1.6 | -2.7 | -1.0 | 6.7 | 2.1 | -.4 | 1.1 | .0 | .3 | -2.0 | -1.1 |
| Crude | 712.8 | 4.4 | -5.0 | -1.8 | 6.8 | 8.7 | 7.9 | -.2 | .9 | .5 | 1.5 | .7 | -2.0 | 5.9 |

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1. Billions of 2009 dollars.

**Table 11**
**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION:** Total Industry
Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IP** (*percent change*)[1] | | | | | | | | | | | | | | | | | |
| 1995 | .2 | -.1 | .1 | .0 | .3 | .3 | -.4 | 1.3 | .4 | -.1 | .3 | .4 | 4.2 | 1.3 | 3.7 | 3.5 | 4.7 |
| 1996 | -.6 | 1.6 | -.1 | .9 | .7 | .8 | -.2 | .6 | .7 | -.1 | .9 | .6 | 2.8 | 8.8 | 5.1 | 5.7 | 4.5 |
| 1997 | .1 | 1.2 | .7 | .0 | .6 | .5 | .8 | 1.1 | .9 | .9 | .9 | .3 | 7.8 | 6.0 | 9.5 | 10.4 | 7.2 |
| 1998 | .5 | .1 | .1 | .4 | .6 | -.6 | -.4 | 2.1 | -.2 | .8 | -.1 | .4 | 4.5 | 2.7 | 3.0 | 5.9 | 5.8 |
| 1999 | .5 | .5 | .2 | .3 | .7 | -.2 | .6 | .4 | -.4 | 1.3 | .5 | .8 | 4.5 | 4.0 | 3.7 | 7.2 | 4.4 |
| 2000 | .0 | .3 | .4 | .7 | .2 | .1 | -.1 | -.3 | .4 | -.3 | .0 | -.3 | 4.1 | 5.1 | -.4 | -.8 | 3.9 |
| 2001 | -.7 | -.6 | -.3 | -.2 | -.7 | -.6 | -.6 | -.2 | -.4 | -.4 | -.5 | .0 | -5.2 | -4.9 | -5.6 | -4.2 | -3.1 |
| 2002 | .6 | .0 | .8 | .4 | .4 | .9 | -.2 | .0 | .1 | -.3 | .5 | -.5 | 2.9 | 6.4 | 2.5 | -.2 | .3 |
| 2003 | .6 | .3 | -.2 | -.7 | .0 | .1 | .4 | -.2 | .6 | .1 | .8 | -.1 | 2.2 | -2.8 | 2.5 | 4.1 | 1.2 |
| 2004 | .2 | .6 | -.5 | .4 | .8 | -.8 | .8 | .1 | .1 | .9 | .2 | .7 | 2.7 | 2.3 | 2.3 | 5.7 | 2.6 |
| 2005 | .5 | .7 | -.2 | .1 | .2 | .4 | -.3 | .2 | -1.8 | 1.3 | 1.0 | .6 | 5.8 | 2.0 | -1.9 | 3.9 | 3.3 |
| 2006 | .1 | .0 | .2 | .4 | -.1 | .4 | .0 | .3 | -.2 | .0 | -.1 | 1.1 | 3.8 | 2.4 | 1.4 | 1.0 | 2.2 |
| 2007 | -.5 | 1.0 | .2 | .7 | .0 | .0 | .0 | .2 | .3 | -.5 | .5 | .0 | 3.7 | 5.0 | .9 | .7 | 2.5 |
| 2008 | -.3 | -.3 | -.2 | -.7 | -.5 | -.2 | -.5 | -1.5 | -4.3 | .9 | -1.2 | -2.9 | -1.7 | -5.5 | -12.1 | -15.9 | -3.5 |
| 2009 | -2.4 | -.6 | -1.6 | -.9 | -1.1 | -.4 | 1.1 | 1.1 | .8 | .3 | .4 | .3 | -20.6 | -11.5 | 5.7 | 6.4 | -11.5 |
| 2010 | 1.1 | .4 | .7 | .4 | 1.5 | .2 | .5 | .4 | .3 | -.2 | .0 | .9 | 8.0 | 8.6 | 6.0 | 1.6 | 5.5 |
| 2011 | -.1 | -.4 | 1.0 | -.4 | .2 | .2 | .4 | .6 | -.1 | .7 | -.1 | .5 | 2.1 | 1.3 | 4.2 | 3.8 | 3.1 |
| 2012 | .6 | .3 | -.6 | .8 | .2 | .0 | .2 | -.4 | .0 | .3 | .5 | .3 | 3.9 | 2.6 | .2 | 2.4 | 2.9 |
| 2013 | -.1 | .6 | .3 | -.1 | .0 | .2 | -.6 | .8 | .5 | -.1 | .3 | .3 | 3.0 | 1.5 | .9 | 3.2 | 2.0 |
| 2014 | -.5 | 1.0 | .9 | .2 | .3 | .4 | .0 | -.1 | .3 | .1 | .8 | -.2 | 3.2 | 6.0 | 1.7 | 2.7 | 3.1 |
| 2015 | -.7 | -.2 | -.3 | -.4 | -.4 | -.3 | .5 | .0 | -.3 | -.2 | -.6 | -.5 | -3.3 | -4.0 | .4 | -3.7 | -.7 |
| 2016 | .5 | -.2 | -.7 | .3 | -.1 | .4 | .1 | -.1 | -.2 | .2 | -.2 | .8 | -1.3 | -.7 | .8 | .7 | -1.2 |
| 2017 | -.3 | .2 | .2 | 1.1 | .1 | .2 | .4 | -.9 | | | | | 1.5 | 5.7 | | | |
| **IP** (*2012=100*) | | | | | | | | | | | | | | | | | |
| 2015 | 105.6 | 105.4 | 105.1 | 104.7 | 104.3 | 104.0 | 104.5 | 104.5 | 104.2 | 104.0 | 103.4 | 102.9 | 105.4 | 104.3 | 104.4 | 103.4 | 104.4 |
| 2016 | 103.5 | 103.3 | 102.5 | 102.9 | 102.8 | 103.1 | 103.2 | 103.1 | 103.0 | 103.2 | 102.9 | 103.8 | 103.1 | 102.9 | 103.1 | 103.3 | 103.1 |
| 2017 | 103.5 | 103.7 | 103.9 | 105.0 | 105.1 | 105.3 | 105.7 | 104.7 | | | | | 103.7 | 105.1 | | | |
| **Capacity** (*percent of 2012 output*) | | | | | | | | | | | | | | | | | |
| 2015 | 135.2 | 135.4 | 135.6 | 135.7 | 135.9 | 136.0 | 136.1 | 136.1 | 136.1 | 136.1 | 136.1 | 136.1 | 135.4 | 135.9 | 136.1 | 136.1 | 135.9 |
| 2016 | 136.1 | 136.0 | 136.0 | 136.0 | 136.0 | 136.0 | 136.0 | 136.1 | 136.2 | 136.3 | 136.4 | 136.5 | 136.0 | 136.0 | 136.1 | 136.4 | 136.1 |
| 2017 | 136.6 | 136.8 | 136.9 | 137.0 | 137.2 | 137.3 | 137.5 | 137.6 | | | | | 136.8 | 137.2 | | | |
| **Utilization** (*percent*) | | | | | | | | | | | | | | | | | |
| 1995 | 84.9 | 84.5 | 84.3 | 84.0 | 83.9 | 83.9 | 83.3 | 84.0 | 84.0 | 83.6 | 83.4 | 83.4 | 84.5 | 83.9 | 83.8 | 83.5 | 83.9 |
| 1996 | 82.5 | 83.4 | 82.9 | 83.3 | 83.5 | 83.8 | 83.3 | 83.4 | 83.6 | 83.1 | 83.5 | 83.6 | 82.9 | 83.6 | 83.4 | 83.4 | 83.3 |
| 1997 | 83.3 | 83.9 | 84.0 | 83.6 | 83.7 | 83.6 | 83.8 | 84.2 | 84.4 | 84.6 | 84.8 | 84.5 | 83.7 | 83.7 | 84.1 | 84.6 | 84.0 |
| 1998 | 84.4 | 83.9 | 83.5 | 83.2 | 83.2 | 82.2 | 81.4 | 82.7 | 82.1 | 82.3 | 81.9 | 81.8 | 83.9 | 82.9 | 82.1 | 82.0 | 82.7 |
| 1999 | 81.8 | 81.9 | 81.7 | 81.6 | 81.8 | 81.4 | 81.6 | 81.7 | 81.0 | 81.8 | 81.9 | 82.2 | 81.8 | 81.6 | 81.4 | 82.0 | 81.7 |
| 2000 | 82.0 | 81.9 | 82.0 | 82.3 | 82.2 | 82.0 | 81.6 | 81.1 | 81.1 | 80.6 | 80.4 | 79.9 | 81.9 | 82.1 | 81.3 | 80.3 | 81.4 |
| 2001 | 79.1 | 78.4 | 78.0 | 77.6 | 76.8 | 76.2 | 75.5 | 75.2 | 74.8 | 74.3 | 73.8 | 73.7 | 78.5 | 76.9 | 75.2 | 73.9 | 76.1 |
| 2002 | 74.0 | 73.9 | 74.4 | 74.6 | 74.9 | 75.6 | 75.4 | 75.4 | 75.5 | 75.3 | 75.6 | 75.3 | 74.1 | 75.0 | 75.4 | 75.4 | 75.0 |
| 2003 | 75.8 | 76.0 | 75.9 | 75.3 | 75.4 | 75.5 | 75.8 | 75.7 | 76.2 | 76.3 | 76.9 | 76.9 | 75.9 | 75.4 | 75.9 | 76.7 | 76.0 |
| 2004 | 77.1 | 77.5 | 77.2 | 77.5 | 78.2 | 77.5 | 78.1 | 78.2 | 78.2 | 79.0 | 79.1 | 79.6 | 77.3 | 77.7 | 78.2 | 79.2 | 78.1 |
| 2005 | 79.9 | 80.4 | 80.2 | 80.2 | 80.2 | 80.4 | 80.1 | 80.1 | 78.5 | 79.4 | 80.1 | 80.5 | 80.1 | 80.3 | 79.6 | 80.0 | 80.0 |
| 2006 | 80.5 | 80.4 | 80.4 | 80.7 | 80.4 | 80.6 | 80.4 | 80.6 | 80.3 | 80.1 | 79.8 | 80.5 | 80.4 | 80.6 | 80.4 | 80.1 | 80.4 |
| 2007 | 79.9 | 80.6 | 80.5 | 81.0 | 80.8 | 80.7 | 80.6 | 80.7 | 80.9 | 80.5 | 80.9 | 81.0 | 80.3 | 80.8 | 80.7 | 80.8 | 80.7 |
| 2008 | 80.8 | 80.6 | 80.4 | 79.9 | 79.5 | 79.4 | 79.0 | 77.8 | 74.4 | 75.0 | 74.1 | 71.8 | 80.6 | 79.6 | 77.1 | 73.6 | 77.7 |
| 2009 | 70.0 | 69.5 | 68.4 | 67.7 | 67.0 | 66.7 | 67.4 | 68.2 | 68.8 | 69.1 | 69.5 | 69.8 | 69.3 | 67.1 | 68.1 | 69.5 | 68.5 |
| 2010 | 70.8 | 71.2 | 71.8 | 72.3 | 73.5 | 73.8 | 74.3 | 74.7 | 75.0 | 74.9 | 75.0 | 75.7 | 71.2 | 73.2 | 74.6 | 75.2 | 73.6 |
| 2011 | 75.7 | 75.4 | 76.1 | 75.8 | 75.9 | 76.1 | 76.3 | 76.7 | 76.5 | 77.0 | 76.8 | 77.0 | 75.7 | 75.9 | 76.5 | 76.9 | 76.3 |
| 2012 | 77.4 | 77.5 | 76.9 | 77.4 | 77.4 | 77.3 | 77.3 | 76.9 | 76.8 | 76.9 | 77.1 | 77.2 | 77.3 | 77.4 | 77.0 | 77.1 | 77.2 |
| 2013 | 77.0 | 77.3 | 77.5 | 77.3 | 77.2 | 77.2 | 76.7 | 77.3 | 77.6 | 77.4 | 77.6 | 77.8 | 77.3 | 77.2 | 77.2 | 77.6 | 77.3 |
| 2014 | 77.3 | 78.0 | 78.6 | 78.7 | 78.8 | 79.0 | 78.9 | 78.7 | 78.8 | 78.7 | 79.2 | 78.8 | 78.0 | 78.9 | 78.8 | 78.9 | 78.6 |
| 2015 | 78.1 | 77.9 | 77.5 | 77.1 | 76.8 | 76.5 | 76.8 | 76.8 | 76.5 | 76.4 | 76.0 | 75.6 | 77.8 | 76.8 | 76.7 | 76.0 | 76.8 |
| 2016 | 76.1 | 75.9 | 75.4 | 75.6 | 75.6 | 75.8 | 75.9 | 75.8 | 75.6 | 75.7 | 75.5 | 76.0 | 75.8 | 75.7 | 75.8 | 75.8 | 75.7 |
| 2017 | 75.7 | 75.8 | 75.9 | 76.6 | 76.6 | 76.7 | 76.9 | 76.1 | | | | | 75.8 | 76.6 | | | |

1. Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

**Table 12**
**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION:** Manufacturing[1]
Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IP** (*percent change*)[2] | | | | | | | | | | | | | | | | | |
| 1995 | .2 | -.3 | .2 | -.1 | .1 | .5 | -.7 | 1.1 | .9 | -.1 | .1 | .4 | 4.4 | .8 | 3.0 | 4.4 | 5.1 |
| 1996 | -.8 | 1.6 | -.2 | 1.1 | .8 | 1.0 | .2 | .6 | .8 | -.2 | .9 | .9 | 2.0 | 10.0 | 7.5 | 6.0 | 4.9 |
| 1997 | .1 | 1.4 | 1.1 | -.2 | .8 | .7 | .7 | 1.3 | .9 | .9 | 1.1 | .4 | 9.3 | 7.2 | 10.5 | 11.4 | 8.4 |
| 1998 | .8 | .1 | -.1 | .5 | .5 | -.8 | -.4 | 2.4 | -.2 | 1.0 | .2 | .6 | 6.0 | 2.1 | 3.3 | 8.1 | 6.6 |
| 1999 | .3 | .8 | .0 | .4 | .9 | -.3 | .5 | .6 | -.4 | 1.5 | .6 | .7 | 5.2 | 4.6 | 3.3 | 8.6 | 5.1 |
| 2000 | .1 | .2 | .6 | .7 | -.1 | .2 | .1 | -.7 | .4 | -.3 | -.3 | -.6 | 4.4 | 4.9 | -.4 | -2.4 | 4.1 |
| 2001 | -.6 | -.6 | -.3 | -.2 | -.7 | -.7 | -.5 | -.5 | -.2 | -.6 | -.3 | .3 | -6.0 | -5.2 | -6.0 | -4.0 | -3.7 |
| 2002 | .5 | .0 | .8 | .2 | .5 | 1.1 | -.4 | .2 | .1 | -.4 | .4 | -.5 | 3.6 | 5.9 | 3.1 | -.4 | .4 |
| 2003 | .5 | .1 | .1 | -.8 | .1 | .5 | .2 | -.4 | .8 | .1 | 1.0 | -.2 | 1.7 | -1.9 | 2.2 | 4.6 | 1.3 |
| 2004 | -.1 | .7 | -.1 | .4 | .8 | -.7 | .9 | .5 | .0 | 1.0 | -.1 | .7 | 2.4 | 3.4 | 4.0 | 5.4 | 3.1 |
| 2005 | .7 | .8 | -.5 | .3 | .4 | .2 | -.4 | .4 | -1.0 | 1.5 | .8 | .2 | 6.4 | 2.3 | -.8 | 6.3 | 4.0 |
| 2006 | .8 | -.3 | -.1 | .5 | -.5 | .3 | -.3 | .6 | .1 | -.4 | .1 | 1.5 | 3.8 | .8 | .8 | 1.7 | 2.5 |
| 2007 | -.5 | .4 | .8 | .7 | -.1 | .3 | .1 | -.3 | .4 | -.4 | .5 | .1 | 4.2 | 5.9 | .7 | .5 | 2.7 |
| 2008 | -.4 | -.6 | -.3 | -1.1 | -.5 | -.6 | -1.2 | -1.1 | -3.4 | -.6 | -2.3 | -3.5 | -2.8 | -7.8 | -13.5 | -21.4 | -4.8 |
| 2009 | -3.0 | -.2 | -1.9 | -.8 | -1.1 | -.4 | 1.4 | 1.2 | .8 | .2 | 1.0 | -.2 | -24.3 | -11.5 | 7.4 | 6.9 | -13.8 |
| 2010 | 1.1 | -.1 | 1.2 | .9 | 1.4 | -.1 | .6 | .2 | .1 | .1 | .0 | .4 | 6.7 | 10.8 | 4.9 | 1.6 | 5.8 |
| 2011 | .2 | .1 | .6 | -.6 | .1 | .1 | .5 | .4 | .3 | .6 | -.4 | .6 | 2.9 | -.4 | 3.9 | 3.6 | 2.9 |
| 2012 | .9 | .4 | -.5 | .6 | -.4 | .2 | -.1 | -.2 | .0 | -.2 | .8 | .7 | 5.3 | .8 | -1.0 | 1.8 | 2.6 |
| 2013 | -.3 | .5 | -.2 | -.4 | .2 | .2 | -1.1 | 1.0 | .1 | .1 | .0 | .0 | 2.8 | -.6 | -.6 | 2.0 | .9 |
| 2014 | -1.0 | 1.1 | .8 | .0 | .2 | .3 | .2 | -.4 | .0 | .0 | .9 | -.4 | -.4 | 4.4 | 1.1 | 1.2 | 1.2 |
| 2015 | -.4 | -.5 | .3 | .1 | -.1 | -.3 | .6 | -.1 | -.3 | .2 | -.1 | -.3 | -2.2 | -.2 | 1.0 | -.9 | .1 |
| 2016 | .6 | -.2 | -.2 | .0 | -.2 | .2 | .1 | -.4 | .2 | .2 | .2 | .2 | .7 | -1.1 | -.1 | 1.6 | .0 |
| 2017 | .4 | .3 | -.7 | 1.2 | -.5 | .2 | .0 | -.3 | | | | | 2.3 | 2.5 | | | |
| **IP** (*2012=100*) | | | | | | | | | | | | | | | | | |
| 2015 | 102.4 | 101.9 | 102.2 | 102.2 | 102.2 | 101.9 | 102.5 | 102.4 | 102.1 | 102.3 | 102.2 | 101.9 | 102.1 | 102.1 | 102.3 | 102.1 | 102.2 |
| 2016 | 102.5 | 102.3 | 102.1 | 102.1 | 101.9 | 102.1 | 102.1 | 101.8 | 102.0 | 102.2 | 102.4 | 102.6 | 102.3 | 102.0 | 102.0 | 102.4 | 102.2 |
| 2017 | 103.0 | 103.3 | 102.6 | 103.9 | 103.4 | 103.5 | 103.6 | 103.3 | | | | | 103.0 | 103.6 | | | |
| **Capacity** (*percent of 2012 output*) | | | | | | | | | | | | | | | | | |
| 2015 | 135.3 | 135.2 | 135.2 | 135.2 | 135.2 | 135.2 | 135.2 | 135.3 | 135.3 | 135.4 | 135.4 | 135.5 | 135.2 | 135.2 | 135.3 | 135.4 | 135.3 |
| 2016 | 135.6 | 135.6 | 135.7 | 135.8 | 135.9 | 136.0 | 136.1 | 136.2 | 136.2 | 136.3 | 136.4 | 136.5 | 135.6 | 135.9 | 136.2 | 136.4 | 136.0 |
| 2017 | 136.6 | 136.6 | 136.7 | 136.8 | 136.9 | 136.9 | 137.0 | 137.1 | | | | | 136.6 | 136.9 | | | |
| **Utilization** (*percent*) | | | | | | | | | | | | | | | | | |
| 1995 | 84.4 | 83.9 | 83.8 | 83.3 | 83.1 | 83.2 | 82.3 | 82.8 | 83.2 | 82.7 | 82.4 | 82.3 | 84.0 | 83.2 | 82.8 | 82.5 | 83.1 |
| 1996 | 81.2 | 82.1 | 81.5 | 82.0 | 82.2 | 82.6 | 82.3 | 82.3 | 82.5 | 82.0 | 82.2 | 82.5 | 81.6 | 82.2 | 82.4 | 82.2 | 82.1 |
| 1997 | 82.1 | 82.8 | 83.2 | 82.5 | 82.7 | 82.7 | 82.7 | 83.2 | 83.4 | 83.5 | 83.8 | 83.5 | 82.7 | 82.6 | 83.1 | 83.6 | 83.0 |
| 1998 | 83.5 | 83.0 | 82.3 | 82.1 | 81.9 | 80.7 | 79.9 | 81.4 | 80.7 | 81.0 | 80.7 | 80.8 | 82.9 | 81.6 | 80.7 | 80.8 | 81.5 |
| 1999 | 80.6 | 80.9 | 80.4 | 80.4 | 80.7 | 80.1 | 80.1 | 80.3 | 79.6 | 80.5 | 80.7 | 80.9 | 80.6 | 80.4 | 80.0 | 80.7 | 80.4 |
| 2000 | 80.6 | 80.4 | 80.6 | 80.9 | 80.4 | 80.3 | 80.1 | 79.2 | 79.2 | 78.7 | 78.2 | 77.5 | 80.5 | 80.5 | 79.5 | 78.1 | 79.7 |
| 2001 | 76.8 | 76.0 | 75.6 | 75.2 | 74.4 | 73.7 | 73.2 | 72.7 | 72.4 | 71.9 | 71.6 | 71.7 | 76.1 | 74.4 | 72.8 | 71.7 | 73.8 |
| 2002 | 72.0 | 71.9 | 72.4 | 72.5 | 72.9 | 73.7 | 73.4 | 73.6 | 73.7 | 73.4 | 73.7 | 73.3 | 72.1 | 73.1 | 73.6 | 73.5 | 73.1 |
| 2003 | 73.7 | 73.8 | 73.9 | 73.3 | 73.4 | 73.7 | 73.9 | 73.6 | 74.2 | 74.3 | 75.1 | 75.0 | 73.8 | 73.5 | 73.9 | 74.8 | 74.0 |
| 2004 | 74.9 | 75.5 | 75.4 | 75.8 | 76.4 | 75.8 | 76.5 | 76.9 | 76.8 | 77.5 | 77.4 | 77.8 | 75.3 | 76.0 | 76.7 | 77.6 | 76.4 |
| 2005 | 78.3 | 78.8 | 78.3 | 78.4 | 78.5 | 78.5 | 78.0 | 78.1 | 77.2 | 78.2 | 78.7 | 78.7 | 78.5 | 78.5 | 77.8 | 78.5 | 78.3 |
| 2006 | 79.2 | 78.8 | 78.7 | 79.0 | 78.5 | 78.6 | 78.3 | 78.6 | 78.5 | 78.1 | 78.0 | 79.0 | 78.9 | 78.7 | 78.5 | 78.4 | 78.6 |
| 2007 | 78.4 | 78.5 | 79.0 | 79.4 | 79.1 | 79.2 | 79.0 | 78.6 | 78.8 | 78.4 | 78.7 | 78.7 | 78.6 | 79.2 | 78.8 | 78.6 | 78.8 |
| 2008 | 78.4 | 77.9 | 77.7 | 76.9 | 76.6 | 76.2 | 75.4 | 74.7 | 72.2 | 71.9 | 70.3 | 68.0 | 78.0 | 76.5 | 74.1 | 70.1 | 74.7 |
| 2009 | 66.1 | 66.1 | 64.9 | 64.5 | 63.9 | 63.7 | 64.7 | 65.6 | 66.2 | 66.4 | 67.2 | 67.1 | 65.7 | 64.0 | 65.5 | 66.9 | 65.5 |
| 2010 | 68.0 | 68.1 | 69.0 | 69.7 | 70.8 | 70.9 | 71.5 | 71.7 | 71.9 | 72.1 | 72.3 | 72.6 | 68.3 | 70.5 | 71.7 | 72.3 | 70.7 |
| 2011 | 72.9 | 73.0 | 73.5 | 73.1 | 73.2 | 73.3 | 73.7 | 73.9 | 74.1 | 74.5 | 74.2 | 74.6 | 73.1 | 73.2 | 73.9 | 74.4 | 73.7 |
| 2012 | 75.2 | 75.4 | 74.9 | 75.3 | 74.9 | 74.9 | 74.7 | 74.5 | 74.4 | 74.2 | 74.6 | 75.1 | 75.2 | 75.0 | 74.6 | 74.6 | 74.8 |
| 2013 | 74.8 | 75.1 | 74.9 | 74.5 | 74.7 | 74.8 | 73.9 | 74.6 | 74.7 | 74.8 | 74.7 | 74.7 | 74.9 | 74.6 | 74.4 | 74.7 | 74.7 |
| 2014 | 73.9 | 74.7 | 75.3 | 75.2 | 75.4 | 75.6 | 75.8 | 75.6 | 75.6 | 75.6 | 76.2 | 76.0 | 74.6 | 75.4 | 75.6 | 75.9 | 75.4 |
| 2015 | 75.7 | 75.3 | 75.6 | 75.6 | 75.6 | 75.3 | 75.8 | 75.7 | 75.5 | 75.6 | 75.5 | 75.2 | 75.5 | 75.5 | 75.7 | 75.4 | 75.5 |
| 2016 | 75.6 | 75.4 | 75.2 | 75.1 | 75.0 | 75.1 | 75.1 | 74.7 | 74.9 | 75.0 | 75.1 | 75.2 | 75.4 | 75.1 | 74.9 | 75.1 | 75.1 |
| 2017 | 75.4 | 75.6 | 75.1 | 75.9 | 75.5 | 75.6 | 75.6 | 75.3 | | | | | 75.4 | 75.7 | | | |

1. Refer to note on cover page.
2. Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

**Table 13**
**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION:** Total Industry Excluding Selected High-Technology Industries[1]
Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IP** (*percent change*)[2] | | | | | | | | | | | | | | | | | |
| 1995 | .1 | -.2 | -.1 | -.2 | .1 | .2 | -.5 | 1.0 | .1 | -.4 | .1 | .1 | 2.8 | -1.2 | 1.3 | .4 | 2.4 |
| 1996 | -1.0 | 1.3 | -.3 | .8 | .5 | .6 | -.5 | .4 | .5 | -.4 | .8 | .5 | -.6 | 6.6 | 2.0 | 3.1 | 1.7 |
| 1997 | -.1 | .9 | .4 | -.3 | .3 | .2 | .5 | .8 | .6 | .7 | .6 | .1 | 5.1 | 2.3 | 6.4 | 7.6 | 4.2 |
| 1998 | .3 | .0 | .0 | .1 | .6 | -.9 | -.7 | 1.9 | -.5 | .5 | -.3 | .1 | 2.2 | .7 | -.3 | 2.4 | 3.1 |
| 1999 | .1 | .2 | -.1 | -.1 | .5 | -.5 | .3 | .4 | -.5 | 1.2 | .2 | .6 | .6 | .3 | .9 | 5.6 | 1.1 |
| 2000 | -.3 | .0 | .1 | .5 | -.1 | -.1 | -.5 | -.5 | .3 | -.4 | -.2 | -.5 | .6 | 1.7 | -3.2 | -2.6 | 1.0 |
| 2001 | -.7 | -.6 | -.3 | -.1 | -.6 | -.5 | -.4 | -.1 | -.4 | -.5 | -.5 | -.1 | -5.8 | -4.2 | -4.5 | -4.4 | -3.9 |
| 2002 | .7 | -.1 | .8 | .4 | .5 | .9 | -.3 | -.1 | .1 | -.4 | .5 | -.6 | 2.5 | 6.2 | 2.0 | -.7 | .2 |
| 2003 | .5 | .2 | -.3 | -.9 | -.1 | .0 | .2 | -.3 | .5 | .0 | .8 | -.1 | 1.2 | -4.5 | .6 | 2.8 | .2 |
| 2004 | .1 | .6 | -.6 | .5 | .8 | -.9 | .8 | .0 | .0 | .9 | .2 | .7 | 1.8 | 2.2 | 2.0 | 5.2 | 1.8 |
| 2005 | .3 | .6 | -.2 | .0 | .1 | .4 | -.4 | .1 | -2.1 | 1.2 | 1.0 | .6 | 4.8 | 1.3 | -3.0 | 2.7 | 2.6 |
| 2006 | .1 | .0 | .2 | .4 | -.2 | .3 | -.1 | .3 | -.3 | -.1 | -.1 | 1.1 | 3.3 | 1.8 | .5 | .3 | 1.4 |
| 2007 | -.6 | 1.0 | .0 | .6 | .1 | .1 | -.1 | .1 | .2 | -.7 | .3 | -.1 | 3.0 | 4.0 | .9 | -1.0 | 1.8 |
| 2008 | -.4 | -.5 | -.4 | -.8 | -.6 | -.2 | -.5 | -1.5 | -4.4 | 1.2 | -1.0 | -2.8 | -2.8 | -6.5 | -12.3 | -14.7 | -4.3 |
| 2009 | -2.4 | -.7 | -1.7 | -1.0 | -1.1 | -.4 | 1.1 | 1.1 | .7 | .3 | .4 | .3 | -20.4 | -12.3 | 5.6 | 6.0 | -11.5 |
| 2010 | 1.1 | .2 | .6 | .4 | 1.5 | .2 | .4 | .4 | .3 | -.3 | .0 | .8 | 7.0 | 8.0 | 5.8 | 1.1 | 5.0 |
| 2011 | -.2 | -.5 | 1.0 | -.4 | .2 | .2 | .4 | .5 | -.1 | .8 | -.2 | .5 | 1.5 | 1.3 | 4.0 | 3.9 | 2.8 |
| 2012 | .6 | .3 | -.6 | .8 | .2 | .0 | .2 | -.4 | -.1 | .2 | .5 | .3 | 3.6 | 2.2 | .1 | 2.0 | 2.7 |
| 2013 | -.1 | .6 | .3 | -.1 | .0 | .2 | -.6 | .8 | .5 | -.1 | .3 | .3 | 3.0 | 1.1 | .5 | 3.0 | 1.7 |
| 2014 | -.5 | 1.0 | .9 | .2 | .2 | .4 | .0 | -.1 | .3 | .1 | .8 | -.2 | 3.0 | 5.7 | 1.5 | 2.7 | 2.9 |
| 2015 | -.7 | -.2 | -.3 | -.4 | -.4 | -.3 | .5 | .0 | -.3 | -.2 | -.6 | -.5 | -3.3 | -4.1 | .4 | -3.8 | -.8 |
| 2016 | .5 | -.2 | -.7 | .3 | -.1 | .4 | .1 | -.1 | -.2 | .1 | -.2 | .8 | -1.5 | -.8 | .6 | .4 | -1.4 |
| 2017 | -.3 | .3 | .2 | 1.0 | .1 | .2 | .4 | -.9 | | | | | 1.7 | 5.6 | | | |
| **IP** (*2012=100*) | | | | | | | | | | | | | | | | | |
| 2015 | 105.1 | 104.9 | 104.5 | 104.1 | 103.7 | 103.4 | 104.0 | 104.0 | 103.7 | 103.4 | 102.8 | 102.3 | 104.8 | 103.8 | 103.9 | 102.9 | 103.8 |
| 2016 | 102.9 | 102.7 | 101.9 | 102.2 | 102.1 | 102.5 | 102.6 | 102.5 | 102.3 | 102.4 | 102.2 | 103.0 | 102.5 | 102.3 | 102.4 | 102.5 | 102.4 |
| 2017 | 102.7 | 103.0 | 103.2 | 104.3 | 104.3 | 104.6 | 105.0 | 104.0 | | | | | 103.0 | 104.4 | | | |
| **Capacity** (*percent of 2012 output*) | | | | | | | | | | | | | | | | | |
| 2015 | 134.2 | 134.4 | 134.6 | 134.8 | 134.9 | 135.0 | 135.1 | 135.1 | 135.2 | 135.1 | 135.1 | 135.1 | 134.4 | 134.9 | 135.1 | 135.1 | 134.9 |
| 2016 | 135.0 | 135.0 | 135.0 | 134.9 | 134.9 | 134.9 | 134.9 | 135.0 | 135.0 | 135.1 | 135.2 | 135.3 | 135.0 | 134.9 | 135.0 | 135.2 | 135.0 |
| 2017 | 135.4 | 135.5 | 135.7 | 135.8 | 135.9 | 136.1 | 136.2 | 136.3 | | | | | 135.5 | 135.9 | | | |
| **Utilization** (*percent*) | | | | | | | | | | | | | | | | | |
| 1995 | 84.9 | 84.5 | 84.3 | 83.9 | 83.8 | 83.8 | 83.2 | 83.9 | 83.8 | 83.3 | 83.3 | 83.2 | 84.5 | 83.8 | 83.6 | 83.3 | 83.8 |
| 1996 | 82.2 | 83.2 | 82.8 | 83.3 | 83.6 | 84.0 | 83.4 | 83.5 | 83.8 | 83.3 | 83.7 | 83.9 | 82.7 | 83.6 | 83.6 | 83.6 | 83.4 |
| 1997 | 83.6 | 84.1 | 84.2 | 83.7 | 83.7 | 83.6 | 83.8 | 84.1 | 84.3 | 84.6 | 84.8 | 84.6 | 84.0 | 83.7 | 84.1 | 84.7 | 84.1 |
| 1998 | 84.5 | 84.2 | 83.8 | 83.7 | 83.8 | 82.7 | 81.9 | 83.1 | 82.4 | 82.6 | 82.1 | 82.0 | 84.2 | 83.4 | 82.5 | 82.2 | 83.1 |
| 1999 | 81.8 | 81.8 | 81.5 | 81.2 | 81.5 | 80.9 | 81.0 | 81.2 | 80.6 | 81.5 | 81.6 | 81.9 | 81.7 | 81.2 | 80.9 | 81.6 | 81.4 |
| 2000 | 81.5 | 81.4 | 81.4 | 81.7 | 81.5 | 81.3 | 80.9 | 80.4 | 80.5 | 80.1 | 79.9 | 79.4 | 81.4 | 81.5 | 80.6 | 79.8 | 80.8 |
| 2001 | 78.8 | 78.3 | 78.0 | 77.8 | 77.2 | 76.8 | 76.4 | 76.2 | 75.8 | 75.4 | 74.9 | 74.8 | 78.4 | 77.3 | 76.1 | 75.0 | 76.7 |
| 2002 | 75.2 | 75.1 | 75.6 | 75.9 | 76.2 | 76.9 | 76.7 | 76.6 | 76.7 | 76.5 | 76.9 | 76.5 | 75.3 | 76.3 | 76.7 | 76.6 | 76.2 |
| 2003 | 77.0 | 77.2 | 77.0 | 76.3 | 76.3 | 76.3 | 76.5 | 76.4 | 76.8 | 76.8 | 77.4 | 77.4 | 77.0 | 76.3 | 76.6 | 77.2 | 76.8 |
| 2004 | 77.5 | 78.0 | 77.6 | 77.9 | 78.6 | 78.0 | 78.6 | 78.7 | 78.7 | 79.4 | 79.6 | 80.1 | 77.7 | 78.2 | 78.6 | 79.7 | 78.5 |
| 2005 | 80.4 | 80.8 | 80.6 | 80.6 | 80.7 | 80.9 | 80.5 | 80.5 | 78.7 | 79.6 | 80.3 | 80.7 | 80.6 | 80.7 | 79.9 | 80.2 | 80.4 |
| 2006 | 80.6 | 80.5 | 80.5 | 80.7 | 80.4 | 80.5 | 80.4 | 80.4 | 80.1 | 79.9 | 79.7 | 80.4 | 80.5 | 80.6 | 80.3 | 80.0 | 80.3 |
| 2007 | 79.9 | 80.6 | 80.5 | 80.9 | 80.9 | 81.0 | 80.9 | 81.1 | 81.3 | 80.8 | 81.2 | 81.2 | 80.3 | 80.9 | 81.1 | 81.1 | 80.8 |
| 2008 | 81.0 | 80.6 | 80.4 | 79.8 | 79.3 | 79.2 | 78.8 | 77.5 | 74.0 | 74.8 | 74.0 | 71.8 | 80.7 | 79.4 | 76.8 | 73.5 | 77.6 |
| 2009 | 70.0 | 69.4 | 68.2 | 67.5 | 66.7 | 66.4 | 67.2 | 68.0 | 68.6 | 68.9 | 69.3 | 69.7 | 69.2 | 66.9 | 68.0 | 69.3 | 68.3 |
| 2010 | 70.6 | 70.9 | 71.5 | 72.0 | 73.2 | 73.5 | 74.0 | 74.5 | 74.8 | 74.7 | 74.8 | 75.5 | 71.0 | 72.9 | 74.4 | 75.0 | 73.3 |
| 2011 | 75.4 | 75.1 | 76.0 | 75.7 | 75.9 | 76.0 | 76.4 | 76.7 | 76.6 | 77.1 | 76.9 | 77.2 | 75.5 | 75.9 | 76.6 | 77.1 | 76.3 |
| 2012 | 77.6 | 77.7 | 77.1 | 77.6 | 77.6 | 77.5 | 77.5 | 77.1 | 77.0 | 77.0 | 77.3 | 77.4 | 77.5 | 77.6 | 77.2 | 77.3 | 77.4 |
| 2013 | 77.2 | 77.6 | 77.7 | 77.6 | 77.5 | 77.5 | 77.0 | 77.5 | 77.8 | 77.7 | 77.9 | 78.0 | 77.5 | 77.5 | 77.4 | 77.9 | 77.6 |
| 2014 | 77.6 | 78.3 | 78.9 | 79.0 | 79.1 | 79.2 | 79.1 | 78.9 | 79.0 | 78.9 | 79.3 | 79.0 | 78.3 | 79.1 | 79.0 | 79.1 | 78.9 |
| 2015 | 78.3 | 78.1 | 77.7 | 77.3 | 76.9 | 76.6 | 77.0 | 76.9 | 76.7 | 76.5 | 76.1 | 75.7 | 78.0 | 76.9 | 76.9 | 76.1 | 77.0 |
| 2016 | 76.2 | 76.0 | 75.5 | 75.8 | 75.7 | 76.0 | 76.0 | 75.9 | 75.7 | 75.8 | 75.6 | 76.1 | 75.9 | 75.8 | 75.9 | 75.8 | 75.9 |
| 2017 | 75.8 | 76.0 | 76.1 | 76.8 | 76.8 | 76.8 | 77.1 | 76.3 | | | | | 76.0 | 76.8 | | | |

1. Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.
2. Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

**Table 14**
**HISTORICAL STATISTICS FOR INDUSTRIAL PRODUCTION, CAPACITY, AND UTILIZATION:** Manufacturing[1] Excluding Selected High-Technology Industries[2]
Seasonally adjusted

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Q1 | Q2 | Q3 | Q4 | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **IP** (*percent change*)[3] | | | | | | | | | | | | | | | | | |
| 1995 | .1 | -.4 | -.1 | -.4 | -.1 | .3 | -.8 | .8 | .5 | -.4 | -.1 | .0 | 2.7 | -2.3 | .2 | .7 | 2.5 |
| 1996 | -1.2 | 1.3 | -.5 | 1.0 | .6 | .8 | -.1 | .3 | .6 | -.5 | .7 | .7 | -2.0 | 7.4 | 4.0 | 2.9 | 1.5 |
| 1997 | -.2 | 1.1 | .8 | -.6 | .4 | .4 | .4 | 1.0 | .6 | .7 | .8 | .1 | 6.2 | 2.9 | 6.8 | 8.2 | 4.9 |
| 1998 | .6 | .0 | -.3 | .2 | .4 | -1.2 | -.8 | 2.3 | -.6 | .7 | -.1 | .2 | 3.4 | -.2 | -.5 | 4.1 | 3.5 |
| 1999 | -.1 | .5 | -.4 | .0 | .7 | -.7 | .0 | .6 | -.5 | 1.4 | .4 | .4 | .7 | .3 | .0 | 6.7 | 1.3 |
| 2000 | -.3 | -.2 | .3 | .4 | -.6 | .0 | -.2 | -1.0 | .3 | -.4 | -.5 | -.8 | .3 | .9 | -3.8 | -4.6 | .7 |
| 2001 | -.6 | -.6 | -.3 | -.1 | -.7 | -.5 | -.2 | -.5 | -.2 | -.7 | -.2 | .2 | -6.8 | -4.4 | -4.6 | -4.2 | -4.7 |
| 2002 | .6 | -.2 | .8 | .2 | .6 | 1.1 | -.4 | .1 | .1 | -.4 | .4 | -.6 | 3.2 | 5.6 | 2.5 | -1.0 | .4 |
| 2003 | .4 | -.1 | .0 | -1.0 | -.1 | .3 | .0 | -.6 | .7 | -.1 | 1.0 | -.3 | .5 | -3.9 | -.1 | 3.1 | .0 |
| 2004 | -.2 | .7 | -.2 | .4 | .8 | -.8 | .9 | .4 | -.1 | 1.0 | -.1 | .6 | 1.3 | 3.3 | 3.8 | 4.8 | 2.0 |
| 2005 | .6 | .7 | -.6 | .2 | .3 | .1 | -.5 | .2 | -1.2 | 1.4 | .8 | .1 | 5.2 | 1.4 | -2.2 | 5.0 | 3.1 |
| 2006 | .8 | -.4 | -.1 | .5 | -.6 | .2 | -.4 | .5 | -.1 | -.4 | .0 | 1.5 | 3.1 | .0 | -.4 | .8 | 1.5 |
| 2007 | -.6 | .3 | .6 | .5 | .0 | .5 | .0 | -.4 | .3 | -.7 | .3 | .0 | 3.3 | 4.7 | .7 | -1.7 | 1.8 |
| 2008 | -.5 | -.8 | -.5 | -1.2 | -.6 | -.6 | -1.1 | -1.2 | -3.5 | -.4 | -2.1 | -3.3 | -4.5 | -9.3 | -13.8 | -20.3 | -5.9 |
| 2009 | -3.1 | -.2 | -2.0 | -.9 | -1.2 | -.4 | 1.4 | 1.2 | .8 | .1 | .9 | -.3 | -24.2 | -12.5 | 7.4 | 6.4 | -13.9 |
| 2010 | 1.0 | -.3 | 1.1 | .8 | 1.5 | -.1 | .6 | .2 | .0 | .1 | -.1 | .2 | 5.2 | 10.1 | 4.7 | .9 | 5.1 |
| 2011 | .1 | .1 | .6 | -.6 | .1 | .0 | .6 | .3 | .3 | .7 | -.4 | .6 | 2.2 | -.6 | 3.7 | 3.7 | 2.5 |
| 2012 | .9 | .3 | -.6 | .6 | -.5 | .2 | -.2 | -.1 | -.1 | -.3 | .8 | .7 | 5.0 | .1 | -1.3 | 1.3 | 2.3 |
| 2013 | -.3 | .5 | -.2 | -.5 | .2 | .2 | -1.2 | 1.0 | .1 | .1 | -.1 | -.1 | 2.8 | -1.1 | -1.2 | 1.7 | .5 |
| 2014 | -1.1 | 1.1 | .7 | -.1 | .1 | .3 | .2 | -.4 | .0 | .0 | .9 | -.4 | -.8 | 3.9 | .8 | 1.2 | .8 |
| 2015 | -.4 | -.5 | .3 | .1 | -.1 | -.3 | .7 | -.1 | -.3 | .1 | -.1 | -.3 | -2.2 | -.3 | 1.1 | -.9 | .0 |
| 2016 | .5 | -.2 | -.2 | .0 | -.2 | .2 | .0 | -.4 | .2 | .1 | .2 | .2 | .5 | -1.3 | -.3 | 1.2 | -.1 |
| 2017 | .4 | .4 | -.7 | 1.2 | -.5 | .2 | .1 | -.3 | | | | | 2.5 | 2.4 | | | |
| **IP** (*2012=100*) | | | | | | | | | | | | | | | | | |
| 2015 | 101.5 | 101.0 | 101.3 | 101.4 | 101.3 | 101.0 | 101.7 | 101.6 | 101.3 | 101.4 | 101.4 | 101.0 | 101.3 | 101.2 | 101.5 | 101.3 | 101.3 |
| 2016 | 101.6 | 101.4 | 101.2 | 101.1 | 100.9 | 101.1 | 101.2 | 100.8 | 101.0 | 101.1 | 101.3 | 101.5 | 101.4 | 101.1 | 101.0 | 101.3 | 101.2 |
| 2017 | 101.9 | 102.3 | 101.6 | 102.8 | 102.3 | 102.5 | 102.5 | 102.2 | | | | | 101.9 | 102.5 | | | |
| **Capacity** (*percent of 2012 output*) | | | | | | | | | | | | | | | | | |
| 2015 | 133.9 | 133.8 | 133.8 | 133.8 | 133.8 | 133.8 | 133.8 | 133.9 | 133.9 | 133.9 | 134.0 | 134.1 | 133.8 | 133.8 | 133.9 | 134.0 | 133.9 |
| 2016 | 134.1 | 134.2 | 134.3 | 134.3 | 134.4 | 134.5 | 134.5 | 134.6 | 134.7 | 134.7 | 134.8 | 134.8 | 134.2 | 134.4 | 134.6 | 134.8 | 134.5 |
| 2017 | 134.9 | 134.9 | 135.0 | 135.0 | 135.1 | 135.1 | 135.2 | 135.2 | | | | | 134.9 | 135.1 | | | |
| **Utilization** (*percent*) | | | | | | | | | | | | | | | | | |
| 1995 | 84.4 | 83.9 | 83.7 | 83.2 | 82.9 | 83.0 | 82.1 | 82.6 | 82.9 | 82.4 | 82.1 | 82.0 | 84.0 | 83.0 | 82.5 | 82.2 | 82.9 |
| 1996 | 80.8 | 81.7 | 81.2 | 81.9 | 82.1 | 82.6 | 82.3 | 82.3 | 82.6 | 82.0 | 82.4 | 82.7 | 81.2 | 82.2 | 82.4 | 82.4 | 82.1 |
| 1997 | 82.3 | 82.9 | 83.3 | 82.5 | 82.6 | 82.6 | 82.6 | 83.0 | 83.2 | 83.4 | 83.7 | 83.4 | 82.8 | 82.5 | 82.9 | 83.5 | 82.9 |
| 1998 | 83.6 | 83.2 | 82.6 | 82.5 | 82.5 | 81.2 | 80.3 | 81.8 | 81.0 | 81.3 | 80.9 | 80.8 | 83.1 | 82.1 | 81.0 | 81.0 | 81.8 |
| 1999 | 80.5 | 80.6 | 80.1 | 79.9 | 80.2 | 79.5 | 79.3 | 79.6 | 79.0 | 80.0 | 80.1 | 80.3 | 80.4 | 79.8 | 79.3 | 80.1 | 79.9 |
| 2000 | 79.9 | 79.6 | 79.8 | 80.0 | 79.4 | 79.3 | 79.1 | 78.2 | 78.3 | 77.9 | 77.4 | 76.7 | 79.8 | 79.6 | 78.5 | 77.3 | 78.8 |
| 2001 | 76.2 | 75.7 | 75.4 | 75.2 | 74.7 | 74.2 | 74.0 | 73.6 | 73.4 | 72.9 | 72.7 | 72.8 | 75.7 | 74.7 | 73.7 | 72.8 | 74.2 |
| 2002 | 73.2 | 73.1 | 73.7 | 73.8 | 74.2 | 75.1 | 74.8 | 74.9 | 75.0 | 74.7 | 75.0 | 74.6 | 73.3 | 74.4 | 74.9 | 74.8 | 74.3 |
| 2003 | 75.0 | 75.0 | 75.0 | 74.3 | 74.3 | 74.5 | 74.6 | 74.2 | 74.8 | 74.8 | 75.5 | 75.4 | 75.0 | 74.4 | 74.5 | 75.2 | 74.8 |
| 2004 | 75.3 | 75.9 | 75.8 | 76.1 | 76.8 | 76.2 | 77.0 | 77.3 | 77.2 | 78.0 | 77.9 | 78.3 | 75.6 | 76.4 | 77.2 | 78.0 | 76.8 |
| 2005 | 78.7 | 79.2 | 78.7 | 78.8 | 78.9 | 78.9 | 78.4 | 78.5 | 77.4 | 78.4 | 78.9 | 78.8 | 78.9 | 78.9 | 78.1 | 78.7 | 78.6 |
| 2006 | 79.3 | 78.8 | 78.6 | 78.9 | 78.3 | 78.4 | 78.0 | 78.3 | 78.2 | 77.8 | 77.7 | 78.8 | 78.9 | 78.6 | 78.2 | 78.1 | 78.4 |
| 2007 | 78.2 | 78.4 | 78.8 | 79.1 | 79.1 | 79.4 | 79.4 | 79.0 | 79.2 | 78.7 | 78.8 | 78.8 | 78.5 | 79.2 | 79.2 | 78.8 | 78.9 |
| 2008 | 78.4 | 77.8 | 77.5 | 76.6 | 76.1 | 75.7 | 74.9 | 74.1 | 71.6 | 71.4 | 70.0 | 67.8 | 77.9 | 76.1 | 73.5 | 69.7 | 74.3 |
| 2009 | 65.8 | 65.8 | 64.6 | 64.1 | 63.4 | 63.3 | 64.3 | 65.2 | 65.9 | 66.1 | 66.9 | 66.8 | 65.4 | 63.6 | 65.1 | 66.6 | 65.2 |
| 2010 | 67.6 | 67.6 | 68.5 | 69.2 | 70.4 | 70.5 | 71.0 | 71.3 | 71.5 | 71.7 | 71.8 | 72.2 | 67.9 | 70.0 | 71.3 | 71.9 | 70.3 |
| 2011 | 72.4 | 72.6 | 73.2 | 72.8 | 73.0 | 73.1 | 73.6 | 73.8 | 74.1 | 74.6 | 74.3 | 74.7 | 72.7 | 73.0 | 73.8 | 74.5 | 73.5 |
| 2012 | 75.4 | 75.6 | 75.1 | 75.4 | 75.0 | 75.1 | 74.9 | 74.7 | 74.6 | 74.3 | 74.8 | 75.3 | 75.3 | 75.2 | 74.7 | 74.8 | 75.0 |
| 2013 | 75.0 | 75.4 | 75.2 | 74.8 | 74.9 | 75.0 | 74.2 | 74.9 | 75.0 | 75.0 | 75.0 | 74.9 | 75.2 | 74.9 | 74.7 | 75.0 | 74.9 |
| 2014 | 74.1 | 74.9 | 75.5 | 75.4 | 75.6 | 75.8 | 76.0 | 75.7 | 75.7 | 75.7 | 76.4 | 76.1 | 74.9 | 75.6 | 75.8 | 76.1 | 75.6 |
| 2015 | 75.8 | 75.5 | 75.7 | 75.8 | 75.7 | 75.5 | 76.0 | 75.9 | 75.6 | 75.7 | 75.6 | 75.4 | 75.7 | 75.6 | 75.8 | 75.6 | 75.7 |
| 2016 | 75.7 | 75.6 | 75.4 | 75.3 | 75.1 | 75.2 | 75.2 | 74.9 | 75.0 | 75.1 | 75.2 | 75.3 | 75.6 | 75.2 | 75.0 | 75.2 | 75.2 |
| 2017 | 75.6 | 75.8 | 75.3 | 76.1 | 75.7 | 75.8 | 75.9 | 75.6 | | | | | 75.5 | 75.9 | | | |

1. Refer to note on cover page.
2. Selected high-technology industries are computers, communications equipment, and semiconductors and related electronic components.
3. Quarterly changes are at annual rates. Annual changes are calculated from annual averages.

## Table 15
## INDUSTRIAL PRODUCTION: RELIABILITY ESTIMATES

Seasonally adjusted

| Item | Annualized change | | 2012=100 | | | | | | Percent change | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | | 2017 | | | | | | 2017 | | | | | |
| | Q1 | Q2 | Mar. | Apr. | May | June | July | Aug. | Mar. | Apr. | May | June | July | Aug. |
| **Total index** | | | | | | | | | | | | | | |
| 85th percentile | 1.54 | 6.11 | 103.92 | 105.08 | 105.19 | 105.48 | 106.04 | 105.14 | .20 | 1.12 | .15 | .37 | .68 | -.58 |
| Current estimate | 1.54 | 5.66 | 103.92 | 105.02 | 105.08 | 105.28 | 105.69 | 104.74 | .20 | 1.06 | .06 | .19 | .39 | -.90 |
| 15th percentile | 1.54 | 5.25 | 103.92 | 104.96 | 104.97 | 105.10 | 105.45 | 104.35 | .20 | 1.00 | -.04 | .08 | .16 | -1.21 |
| **Manufacturing (SIC)** | | | | | | | | | | | | | | |
| 85th percentile | 2.26 | 2.94 | 102.61 | 103.93 | 103.49 | 103.72 | 103.86 | 103.72 | -.68 | 1.29 | -.38 | .27 | .21 | .00 |
| Current estimate | 2.26 | 2.46 | 102.61 | 103.87 | 103.37 | 103.54 | 103.57 | 103.28 | -.68 | 1.23 | -.48 | .16 | .03 | -.28 |
| 15th percentile | 2.26 | 2.08 | 102.61 | 103.81 | 103.25 | 103.35 | 103.32 | 102.87 | -.68 | 1.17 | -.59 | .04 | -.12 | -.58 |
| **Mining** | | | | | | | | | | | | | | |
| 85th percentile | 14.29 | 12.82 | 106.56 | 107.63 | 108.81 | 110.31 | 112.38 | 111.67 | -.42 | 1.01 | 1.21 | 1.67 | 2.21 | .17 |
| Current estimate | 14.29 | 11.57 | 106.56 | 107.47 | 108.47 | 109.72 | 111.19 | 110.35 | -.42 | .85 | .93 | 1.15 | 1.34 | -.75 |
| 15th percentile | 14.29 | 10.21 | 106.56 | 107.36 | 108.14 | 109.10 | 110.08 | 108.95 | -.42 | .75 | .60 | .71 | .73 | -1.66 |
| **Electric and gas utilities** | | | | | | | | | | | | | | |
| 85th percentile | -17.37 | 24.03 | 101.45 | 101.60 | 104.42 | 104.01 | 106.69 | 100.96 | 8.15 | .15 | 2.80 | .02 | 3.26 | -3.69 |
| Current estimate | -17.37 | 22.89 | 101.45 | 101.58 | 104.37 | 103.37 | 104.92 | 99.20 | 8.15 | .13 | 2.74 | -.96 | 1.50 | -5.46 |
| 15th percentile | -17.37 | 21.88 | 101.45 | 101.57 | 104.28 | 103.01 | 103.76 | 98.19 | 8.15 | .11 | 2.62 | -1.22 | .14 | -7.12 |

The reliability measures show the likely range of values for the IP indexes after their fifth and final monthly revision. The 15th (85th) percentile estimate is equal to the current estimate plus an amount such that the equivalent measure revised by a lower (higher) amount for only 15 percent of the months since 2008. More information is available at https://www.federalreserve.gov/releases/g17/g17_technical_qa.htm

## Explanatory Note

The **Industrial Production and Capacity Utilization** statistical release, which is published around the middle of the month, reports measures of output, capacity, and capacity utilization in manufacturing, mining, and the electric and gas utilities industries. More detailed descriptions of industrial production and capacity utilization are available on the Board's website at **www.federalreserve.gov/releases/G17**. In addition, files containing data shown in the release, more detailed series that were published in the G.17 prior to December 2000, and historical data are available from the Data Download Program on the Board's website. Instructions for searching for and downloading specific series are provided as well.

## Industrial Production

**Coverage.** The industrial production (IP) index measures the real output of the manufacturing, mining, and electric and gas utilities industries; the reference period for the index is 2012. Manufacturing consists of those industries included in the North American Industry Classification System, or NAICS, definition of manufacturing *plus* those industries— logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. For the period since 1997, the total IP index has been constructed from 299 individual series based on the 2012 NAICS codes. These individual series are classified in two ways: (1) market groups, and (2) industry groups. Market groups consist of products and materials. Total products are the aggregate of final products, such as consumer goods and equipment, and nonindustrial supplies (which are inputs to nonindustrial sectors). Materials are inputs in the manufacture of products. Major industry groups include three-digit NAICS industries and aggregates of these industries—for example, durable and nondurable manufacturing, mining, and utilities. A complete description of the market and industry structures, including details regarding series classification, relative importance weights, and data sources, is available on the Board's website at **www.federalreserve.gov/releases/G17/About.htm**.

**Source Data.** On a monthly basis, the individual indexes of industrial production are constructed from two main types of source data: (1) output measured in physical units and (2) data on inputs to the production process, from which output is inferred. Data on physical products, such as tons of steel or barrels of oil, are typically obtained from private trade associations and from government agencies; data of this type are used to estimate monthly IP wherever possible and appropriate. Production indexes for a few industries are derived by dividing estimated nominal output (calculated using unit production and unit values or sales) by a corresponding Fisher price index; the most notable of these fall within the high-technology grouping and include semiconductors. When suitable data on physical product are not available, estimates of output are based on production-worker hours by industry. Data on hours worked by production workers are collected in the monthly establishment survey conducted by the Bureau of Labor Statistics. The factors used to convert inputs into estimates of production are based on historical relationships between the inputs and the comprehensive annual data used to benchmark the IP indexes; these factors also may be influenced by technological or cyclical developments. The annual data used in benchmarking the individual IP indexes are constructed from a variety of source data, such as the quinquennial *Censuses of Manufactures and Mineral Industries* and the *Annual Survey of Manufactures*, prepared by the Bureau of the Census; the *Minerals Yearbook*, prepared by the U.S. Geological Survey of the Department of the Interior; and publications of the Department of Energy.

**Aggregation Methodology and Weights.** The aggregation method for the IP index is a version of the Fisher-ideal index formula. (For a detailed discussion of the aggregation method, see the *Federal Reserve Bulletin* February 1997 and March 2001.) In the IP index, series that measure the output of an individual industry are combined using weights derived from their proportion in the total value-added output of all industries. The IP index, which extends back to 1919, is built as a chain-type index since 1972. The current formula for the growth in monthly IP (or any of the sub-aggregates) since 1972 is the geometric mean of the change in output ($I$), and, as can be seen below, is computed using the unit value added estimate for the current month ($p_m$) and the estimate for previous month:

$$\frac{I_m^A}{I_{m-1}^A} = \sqrt{\frac{\sum I_m p_{m-1}}{\sum I_{m-1} p_{m-1}} \times \frac{\sum I_m p_m}{\sum I_{m-1} p_m}}$$

The IP proportions (typically shown in the first column of the relevant tables in the monthly G.17 release) are estimates of the industries' relative contributions to overall growth in the following year. For example, the relative importance weight of the motor vehicles and parts industry is about 6 percent. If output in this industry increased 10 percent in a month, then this gain would boost growth in total IP by $6/10$ percentage point (0.06 x 10% = 0.6%). To assist users with calculations, the Federal Reserve's website provides supplemental monthly statistics that represent the exact proportionate contribution of a monthly change in a component index to the monthly change in the total index (**www.federalreserve.gov/releases/G17/ipdisk/ipweightssa.txt**).

**Timing.** The first estimate of output for a month is published around the 15th of the following month. The estimate is preliminary (denoted by the superscript "p" in tables) and subject to revision in each of the subsequent five months as new source data become available. (Revised estimates are denoted by the superscript "r" in tables.) For the first estimate of output for a given month, about 72 percent of the source data (in value-added terms) are available; the fraction of available source data increases to 85 percent in the second month that the estimate is published, 95 percent in the third month, 96 percent in the fourth month, 97 percent in the fifth month, and 97 percent in the sixth month. Data availability by data type in early 2017 is summarized in the table below:

**Availability of Monthly IP Data in Publication Window**
(Percent of value added in 2016; the numbers may not sum because of rounding.)

| | Month of estimate | | | | | |
|---|---|---|---|---|---|---|
| Type of data | 1st | 2nd | 3rd | 4th | 5th | 6th |
| Physical product | 27 | 39 | 49 | 50 | 51 | 52 |
| Production-worker hours | 46 | 46 | 46 | 46 | 46 | 46 |
| IP data received | 72 | 85 | 95 | 96 | 97 | 97 |
| IP data estimated | 28 | 15 | 5 | 4 | 3 | 3 |

The physical product group includes series based on either monthly or quarterly data. As can be seen in the first row of the table, in the first month, a physical product indicator is available for about one-half of the series (in terms of value added) that ultimately are based on physical product data (27 percent out of a total of 52 percent). Of the 27 percent, about four-fifths (22 percent of total IP) include series that are derived from weekly physical product data and for which actual monthly data may lag up to several months. On average, quarterly product data are received for the fourth estimate of industrial production. Specifically, quarterly data are available for the third estimate of the last month of a quarter, the fourth estimate of the second month of a quarter, and the fifth estimate of the first month of a quarter.

**Seasonal Adjustment.** Individual series are seasonally adjusted using Census X-12 ARIMA. For series based on production-worker hours, the current seasonal factors were estimated with data through January 2017; for other series, the factors were estimated with data through at least December 2016. Series are pre-adjusted for the effects of holidays or the business cycle when appropriate. For the data since 1972, all seasonally adjusted aggregate indexes are calculated by aggregating the seasonally adjusted indexes of the individual series. Additional documentation and X-12 specifications can be found on the Board's website at **www.federalreserve.gov/releases/G17/About.htm**.

**Reliability.** The average revision to the *level* of the total IP index, without regard to sign, between the first and the fourth estimates was

0.27 percent during the 1987–2015 period. The average revision to the *percent change* in total IP, without regard to sign, from the first to the fourth estimates was 0.21 percentage point during the 1987–2015 period. In most cases (about 85 percent), the direction of the change in output indicated by the first estimate for a given month is the same as that shown by the fourth estimate.

**Rounding.** The published percent changes are calculated from unrounded indexes, and may not be the same as percent changes calculated from the rounded indexes shown in the release.

### Capacity Utilization

**Overview.** The Federal Reserve Board constructs estimates of capacity and capacity utilization for industries in manufacturing, mining, and electric and gas utilities. For a given industry, the capacity utilization rate is equal to an output index (seasonally adjusted) divided by a capacity index. The Federal Reserve Board's capacity indexes attempt to capture the concept of *sustainable maximum output*—the greatest level of output a plant can maintain within the framework of a realistic work schedule, after factoring in normal downtime and assuming sufficient availability of inputs to operate the capital in place.

**Coverage.** Capacity indexes are constructed for 89 detailed industries (71 in manufacturing, 16 in mining, and 2 in utilities), which mostly correspond to industries at the three- and four-digit North American Industry Classification System, or NAICS, level. Estimates of capacity and utilization are available for a variety of groups, including durable and nondurable manufacturing, total manufacturing, mining, utilities, and total industry. Manufacturing consists of those industries included in the NAICS definition of manufacturing *plus* those industries—logging and newspaper, periodical, book, and directory publishing—that have traditionally been considered to be manufacturing and included in the industrial sector. Also, special aggregates are available, such as high-technology industries and manufacturing excluding high-technology industries.

**Source Data.** The monthly rates of capacity utilization are designed to be consistent with both the monthly data on production and the periodically available data on capacity and utilization. Because there is no direct monthly information on overall industrial capacity or utilization rates, the Federal Reserve first estimates annual capacity indexes from the source data. Capacity data reported in physical units from government sources (primarily from the U.S. Geological Survey and the Department of Energy's Energy Information Administration) and trade sources are available for portions of several industries in manufacturing (for example, paper, industrial chemicals, petroleum refining, motor vehicles), as well as for electric utilities and mining; these industries represent about 25 percent of total industrial capacity. When physical product data are unavailable for manufacturing industries, capacity indexes are based on responses to the Bureau of the Census's *Quarterly Survey of Plant Capacity* (QSPC); these industries account for about 65 percent of total industry capacity. In the absence of utilization data for a few mining and petroleum series, capacity is based on trends through peaks in production (roughly 10 percent of total industry capacity). A detailed description of the methodology used to construct the capacity indexes is available on the Board's website (**www.federalreserve.gov/releases/G17/Meth/MethCap.htm**).

**Aggregation Methodology.** Monthly capacity aggregates are calculated in three steps: (1) utilization aggregates are calculated on an annual basis through the most recent full year as capacity-weighted aggregates of individual utilization rates; (2) the annual aggregate capacity is derived from the corresponding production and utilization aggregates; (3) the monthly capacity aggregate is obtained by interpolating with a Fisher index of its constituent monthly capacity series. Utilization rates for the individual series and aggregates are calculated by dividing the pertinent monthly production index by the related capacity index.

**Consistency.** A major aim is that the Federal Reserve utilization rates be consistent over time so that, for example, a rate of 85 percent means about the same degree of tightness that it meant in the past. A major task for the Federal Reserve in developing reasonable and consistent time series of capacity and utilization is dealing with inconsistencies between the movements of the industrial production index and the survey-based utilization rates. The McGraw-Hill/DRI Survey, now discontinued, was the primary source of manufacturing utilization rates for many years. This survey of large companies reported, on average, higher utilization rates than those reported by establishments covered by the annual *Survey of Plant Capacity* (the primary source of factory operating rates through 2006, after which it was discontinued) for the fourteen years they overlapped. Adjustments have been made to keep the industry utilization rates currently reported by the Federal Reserve (now based on the QSPC) roughly in line with rates formerly reported by McGraw-Hill. As a consequence, the rates reported by the Federal Reserve tend to be higher than the rates reported in the Census utilization surveys.

**Perspective.** Over the 1972–2016 period, the average total industry utilization rate was 79.9 percent; for manufacturing, the average factory operating rate was 78.4 percent. 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 total industry and total manufacturing, utilization rates have exceeded 90 percent only in wartime. The highs and lows in capacity utilization are specific to each series and do not all occur in the same month.

### References and Release Dates

**References.** The release for the annual revision that was published on March 31, 2017, is available on the Board's website (**www.federalreserve.gov/releases/g17/revisions/Current/DefaultRev.htm**). A summary of the annual revision that incorporated back to 1972 production and capacity indexes reclassified according to the North American Industry Classification System is available in an article in the *Federal Reserve Bulletin*, vol. 89 (April 2003), pp. 151–176. A description of the aggregation methods for industrial production and capacity utilization is included in an article in the *Federal Reserve Bulletin*, vol. 83 (February 1997), pp. 67–92. The Federal Reserve methodology for constructing industry-level measures of capital is detailed in "Capital Stock Estimates for Manufacturing Industries: Methods and Data" by Mike Mohr and Charles Gilbert (1996), which can be obtained at **www.federalreserve.gov/releases/g17/CapitalStockDocLatest.pdf.**

*Industrial Production—1986 Edition* contains a more detailed description of the other methods used to compile the industrial production index, plus a history of its development, a glossary of terms, and a bibliography. The major revisions to the IP indexes and capacity utilization since 1990 have been described in the *Federal Reserve Bulletin* (April 1990, June 1990, June 1993, March 1994, January 1995, January 1996, February 1997, February 1998, January 1999, March 2000, March 2001, March 2002, April 2003, Winter 2004, Winter 2005, March 2006, May 2007, August 2008, August 2009) or in online staff studies (www.federalreserve.gov/releases/g17/articles/rev2010/industrial10.pdf, www.federalreserve.gov/releases/g17/articles/rev2012/industrial12.pdf, www.federalreserve.gov/releases/g17/articles/rev2013/industrial13.pdf).

**Release Schedule**

The G.17 is published at 9:15 a.m. on:

**2017:** January 18, February 15, March 17, April 18, May 16, June 15, July 14, August 17, September 15, October 17, November 16, and December 15.

**2018:** January 17, February 15, March 16, April 17, May 16, June 15, July 17, August 15, September 14, October 16, November 16, and December 14.

This release schedule is available on the Board's website at **http://www.federalreserve.gov/releases/g17**.