# NEWS RELEASE 

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## Productivity and Costs

Third Quarter 2017, Revised
Nonfarm business sector labor productivity increased 3.0 percent during the third quarter of 2017, the U.S. Bureau of Labor Statistics reported today, as output increased 4.1 percent and hours worked increased 1.1 percent. The productivity increase was the largest since the third quarter of 2014, when output per hour increased 4.4 percent. (All quarterly percent changes in this release are seasonally adjusted annual rates.) From the third quarter of 2016 to the third quarter of 2017, productivity increased 1.5 percent, reflecting a 3.0-percent increase in output and a 1.5 -percent increase in hours worked. (See chart 1 and tables A1 and 2.)

Labor productivity, or output per hour, is calculated by dividing an index of real output by an index of hours worked by all persons, including employees, proprietors, and unpaid family workers.


Unit labor costs in the nonfarm business sector declined 0.2 percent in the third quarter of 2017, as the 3.0-percent increase in productivity was greater than a 2.7-percent increase in hourly compensation. Unit labor costs decreased 0.7 percent over the last four quarters. (See chart 2 and tables A1 and 2.)

BLS calculates unit labor costs as the ratio of hourly compensation to labor productivity. Increases in hourly compensation tend to increase unit labor costs, and increases in output per hour tend to reduce them.

Manufacturing sector labor productivity fell 4.4 percent in the third quarter of 2017, as output decreased 1.1 percent and hours worked increased 3.5 percent. This was the largest quarterly decline in manufacturing sector productivity since the fourth quarter of 2008 ( -5.4 percent). Productivity decreased 4.7 percent in the durable goods manufacturing sector and 4.4 percent in the nondurable goods sector in the third quarter of 2017. Over the last four quarters, total manufacturing sector productivity increased 0.3 percent, as output increased 1.5 percent and hours worked increased 1.2 percent. Unit labor costs in manufacturing increased 4.8 percent in the third quarter of 2017 and rose 0.3 percent from the same quarter a year ago. (See tables A1 and 3.)

The concepts, sources, and methods used for the manufacturing output series differ from those used in the business and nonfarm business output series; these output measures are not directly comparable. See the Technical Notes for a more detailed explanation. (See page 6.)

Preliminary third-quarter 2017 measures of productivity and costs were announced for the nonfinancial corporate sector. Productivity was unchanged in the third quarter of 2017 and increased 0.2 percent over the last four quarters. Unit labor costs increased 2.5 percent in the third quarter of 2017 and increased 0.6 percent over the last four quarters. (See tables A2 and 6.)

## Revised measures

Measures released today are based on more recent source data than were available for the preliminary report. Regular updates of source data from the BLS, the Bureau of Economic Analysis (BEA), and the Board of Governors of the Federal Reserve System are reflected in data for the second and third quarters of 2017.

Table B1 presents revised and previous productivity and related measures for the nonfarm business, business, and manufacturing sectors for the third quarter of 2017. Revised quarterly and annual series for all sectors in recent years appear in tables 1-6. Historical annual indexes for the manufacturing sectors appear in appendix tables 1-3.

In the third quarter of 2017, nonfarm business labor productivity increased 3.0 percent-the same as the preliminary estimate; output and hours worked were both revised up by 0.3 percentage points. Unit labor costs were revised from a 0.5-percent increase to a 0.2 -percent decline for the third quarter of 2017. In the manufacturing sector, productivity decreased 4.4 percent rather than declining 5.0 percent as previously reported, as an upward revision to output was greater than an upward revision to hours worked. Unit labor costs increased 4.8 percent, a smaller increase than the preliminary estimate.

Table B2 shows previous and revised productivity and related measures for the nonfarm business, business, manufacturing and nonfinancial corporate sectors for the second quarter of 2017.

In the second quarter of 2017, nonfarm business labor productivity, output, and hours were unrevised. Unit labor costs decreased 1.2 percent, rather than increasing 0.3 percent as previously reported. In the manufacturing sector, productivity was revised up 0.2 percentage point to an increase of 3.6 percent, due to a slight upward revision to output. Unit labor costs decreased 1.2 percent instead of a decline of 1.0 percent.

Second-quarter 2017 measures of productivity and costs were revised for the nonfinancial corporate sector. Productivity increased 3.3 percent rather than 4.4 percent as reported on November 2. Unit labor costs decreased 3.0 percent rather than the preliminary estimate of a 2.3-percent decline.

There were historical revisions to manufacturing output and all related measures--including productivity--back to 1987 to reflect revised output indexes constructed by the BLS using an improved methodology for estimating the sectoral output of manufacturing industries. A new technique for benchmarking output estimates to the Economic Census was an important component of the revisions, and the period between Census years 2007 and 2012 saw the largest revisions. For more complete information see www.bls.gov/mfp/sectoraloutputrevisions.htm.
Revisions to labor productivity mirrored revisions to output; hours worked were not revised. (See chart 3.) A large upward revision to the change in the annual manufacturing productivity index from 2008 to 2009 was more than offset by downward revisions in adjacent years, and the average annual rate of growth from 2007 to 2012 was revised down from 2.9 percent to 1.2 percent. The average annual rate of manufacturing productivity growth during the current business cycle from 2007 to 2016 was revised down from 1.6 percent to 0.9 percent, and the long-term rate for the entire series from 1987 to 2016 is now 2.8 percent, compared to the previous estimate of 3.2 percent.

Chart 3. Labor productivity, revised and previous annual average percent changes, manufacturing, all persons, 1988-2016


Hourly compensation and all related measures for the manufacturing sectors also were revised, from 1987 to 2000, to incorporate source data on compensation published by the BEA November 2, 2017.
Full historical annual and quarterly measures can be found on the productivity and costs home page: www.bls.gov/lpc/\#data.

> The preliminary Productivity and Costs news release for fourth-quarter and annual averages 2017 is scheduled to be released on Thursday, February 1, 2018 at 8:30 a.m. (EST).

Calendar year 2018 release dates for Productivity and Costs news releases are now available at www.bls.gov/schedule/news_release/prod2.htm.

Table A1. Labor productivity growth and related measures - revised third-quarter 2017 (percent change from previous quarter at annual rate and from same quarter a year ago)

| Sector | Percent change from: | Labor productivity | Output | Hours worked | Hourly compensation | Real hourly compensation | Unit labor costs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nonfarm business | Previous quarter | 3.0 | 4.1 | 1.1 | 2.7 | 0.7 | -0.2 |
|  | A year ago | 1.5 | 3.0 | 1.5 | 0.8 | -1.1 | -0.7 |
| Business | Previous quarter | 3.6 | 4.1 | 0.5 | 3.3 | 1.3 | -0.3 |
|  | A year ago | 1.5 | 2.8 | 1.3 | 1.0 | -0.9 | -0.5 |
| Manufacturing | Previous quarter | -4.4 | -1.1 | 3.5 | 0.2 | -1.8 | 4.8 |
|  | A year ago | 0.3 | 1.5 | 1.2 | 0.6 | -1.3 | 0.3 |
| Durable manufacturing | Previous quarter | -4.7 | -1.7 | 3.1 | 0.1 | -1.9 | 5.0 |
|  | A year ago | 0.3 | 1.4 | 1.0 | 0.9 | -1.0 | 0.6 |
| Nondurable manufacturing | Previous quarter | -4.4 | -0.4 | 4.1 | 0.5 | -1.5 | 5.1 |
|  | A year ago | 0.2 | 1.6 | 1.4 | 0.1 | -1.8 | -0.1 |

Table A2. Labor productivity growth and related measures - preliminary third-quarter 2017
(percent change from previous quarter at annual rate and from same quarter a year ago)

| Sector | Percent change from: | Labor productivity | Output | Hours worked | Hourly compensation | Real hourly compensation | Unit labor costs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nonfinancial | Previous quarter | 0.0 | 1.3 | 1.2 | 2.5 | 0.5 | 2.5 |
| corporate | A year ago | 0.2 | 1.9 | 1.7 | 0.8 | -1.1 | 0.6 |

Table B1. Labor productivity growth and related measures - revised and previously published third-quarter 2017 (percent change from previous quarter at annual rate)

| Sector |  | Labor productivity | Output | Hours worked | Hourly compensation | Real hourly compensation | Unit labor costs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nonfarm business | Revised | 3.0 | 4.1 | 1.1 | 2.7 | 0.7 | -0.2 |
|  | Previously published | 3.0 | 3.8 | 0.8 | 3.5 | 1.5 | 0.5 |
| Business | Revised | 3.6 | 4.1 | 0.5 | 3.3 | 1.3 | -0.3 |
|  | Previously published | 3.6 | 3.8 | 0.1 | 4.1 | 2.0 | 0.4 |
| Manufacturing | Revised | -4.4 | -1.1 | 3.5 | 0.2 | -1.8 | 4.8 |
|  | Previously published | -5.0 | -2.1 | 3.1 | 0.9 | -1.1 | 6.2 |
| Durable manufacturing | Revised | -4.7 | -1.7 | 3.1 | 0.1 | -1.9 | 5.0 |
|  | Previously published | -5.7 | -3.4 | 2.5 | 0.5 | -1.4 | 6.7 |
| Nondurable manufacturing | Revised | -4.4 | -0.4 | 4.1 | 0.5 | -1.5 | 5.1 |
|  | Previously published | -4.6 | -0.7 | 4.1 | 1.6 | -0.4 | 6.5 |


| Sector |  | Labor productivity | Output | Hours worked | Hourly compensation | Real hourly compensation | Unit labor costs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nonfarm business | Revised | 1.5 | 3.9 | 2.4 | 0.3 | 0.6 | -1.2 |
|  | Previously published | 1.5 | 3.9 | 2.4 | 1.8 | 2.1 | 0.3 |
| Business | Revised | 1.4 | 3.7 | 2.3 | 0.3 | 0.7 | -1.0 |
|  | Previously published | 1.4 | 3.7 | 2.3 | 1.9 | 2.2 | 0.4 |
| Manufacturing | Revised | 3.6 | 2.9 | -0.6 | 2.3 | 2.6 | -1.2 |
|  | Previously published | 3.4 | 2.8 | -0.6 | 2.4 | 2.7 | -1.0 |
| Durable manufacturing | Revised | 5.3 | 2.6 | -2.6 | 5.6 | 5.9 | 0.2 |
|  | Previously published | 5.0 | 2.3 | -2.6 | 3.0 | 3.4 | -1.9 |
| Nondurable manufacturing | Revised | 0.4 | 3.3 | 2.9 | -3.3 | -3.0 | -3.6 |
|  | Previously published | 0.4 | 3.3 | 2.9 | 1.5 | 1.9 | 1.1 |
| Nonfinancial corporate | Revised | 3.3 | 6.4 | 3.0 | 0.2 | 0.5 | -3.0 |
|  | Previously published | 4.4 | 7.5 | 3.0 | 2.0 | 2.3 | -2.3 |

## TECHNICAL NOTES

## Labor Hours

Hours data for the labor productivity and cost measures include hours worked for all persons working in the sector-wage and salary workers, the self-employed and unpaid family workers. The primary source of hours and employment data is the BLS Current Employment Statistics (CES) program, which provides monthly survey data on the number of jobs held by wage and salary workers in nonfarm establishments, counting a person who is employed by two or more establishments at each place of employment. The CES also provides average weekly paid hours of production and nonsupervisory workers in these establishments. Weekly paid hours are adjusted to hours worked using data from the National Compensation Survey (NCS) for 1996 forward and data from the BLS Hours at Work survey, conducted for this purpose, prior to 1990. Between 1990 and 1995, weekly paid hours are adjusted to hours at work using a combination of NCS and Hours at Work survey data. The Office of Productivity and Technology estimates average weekly hours at work for nonproduction and supervisory workers using information from the Current Population Survey (CPS), the CES, and the NCS.

Data from the CPS are used to estimate hours worked for farm labor, nonfarm proprietors, and nonfarm unpaid family workers. Using CPS information on employment and hours worked at primary jobs and all other jobs, separately, the BLS productivity measures assign all hours worked to the appropriate industrial sector. Hours for government enterprises are derived from the CPS, the CES, and the National Income and Product Accounts (NIPA) prepared by the Bureau of Economic Analysis (BEA) of the Department of Commerce.

## Output

Business sector output is a chain-type, current-weighted index constructed after excluding from gross domestic product (GDP) the following outputs: general government, nonprofit institutions, and private households (including owner-occupied housing). Corresponding exclusions also are made in labor hours. Business output accounted for about 75 percent of the value of GDP in 2016. Nonfarm business, which excludes farming, also accounted for about 75 percent of GDP in 2016.

Annual indexes for manufacturing and its durable and nondurable goods components are constructed by deflating current-dollar industry value of production data from the U.S. Bureau of the Census with deflators from the BLS. These deflators are based on data from the BLS producer price program and other sources. The industry shipments are aggregated using annual weights, and intrasector transactions are removed. Quarterly manufacturing output measures are based on the indexes of industrial production prepared monthly by the Board of Governors of the Federal Reserve System, adjusted to be consistent with annual indexes of manufacturing sector output prepared by BLS.

Nonfinancial corporate output is a chain-type, current-weighted index calculated on the basis of the costs incurred and the incomes earned from production. The output measure excludes the following outputs from GDP: general government; nonprofit institutions; private households; unincorporated business; and those corporations classified as offices of bank holding companies, offices of other holding companies, or offices in the finance and insurance sector. Nonfinancial corporations accounted for about 50 percent of the value of GDP in 2016.

## Labor Productivity

The measure describes the relationship between real output and the labor time involved in its production. Measures of labor productivity growth show the changes from period to period in the amount of goods and services produced per hour worked. They reflect the joint effects of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and effort of the work force.

## Labor Compensation

The measure includes accrued wages and salaries, supplements, employer contributions to employee benefit plans, and taxes. Estimates of labor compensation by major sector, required for measures of hourly compensation and unit labor costs, are based primarily on employee compensation data from the NIPA, prepared by the BEA. The compensation of employees in general government, nonprofit institutions and private households are subtracted from compensation of employees in domestic industries to derive employee compensation for the business sector. The labor compensation of proprietors cannot be explicitly identified and must be estimated. This is done by assuming that proprietors have the same hourly compensation as employees in the same sector. The quarterly labor productivity and cost measures do not contain estimates of compensation for unpaid family workers.

## Unit Labor Costs

These measures describe the relationship between compensation per hour and labor productivity, or real output per hour, and can be used as an indicator of inflationary pressure on producers. Increases in hourly compensation increase unit labor costs; labor productivity increases offset compensation increases and lower unit labor costs.

## Presentation of the data

The quarterly data in this release are presented in three ways: as percent changes from the previous quarter presented at a compound annual rate, as percent changes from the corresponding quarter of the previous year, and as index number series where 2009=100. Annual data are presented both as index number series and percent changes from the previous year.

The index numbers and rates of change reported in the productivity and costs news release are rounded to one decimal place. All percent changes in this release and on the BLS web site are calculated using index numbers to three decimal places. A complete historical series of these index numbers are available at the BLS web site, www.bls.gov/data/home.htm, or by contacting the BLS Division of Major Sector Productivity (Telephone 202-691-5606 or email productivity@bls.gov).

For a more detailed explanation of methodology see "Technical Information About the Major Sector Productivity and Costs Methods" at www.bls.gov/lpc/lpcmethods.pdf.

Information in this release will be made available to sensory-impaired individuals upon request. Voice phone: 202-691-5606; Federal Relay Service number: 1-800-877-8339.

Table 1. Business sector: Labor productivity, hourly compensation, unit labor costs, and prices, seasonally adjusted.


Percent change from corresponding quarter of previous year

| 2017 | III | 1.5 | 2.8 | 1.3 | r | 1.0 | $r$ | -0.9 | $r$ | -0.5 | $r$ | 4.4 | $r$ | 1.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 1.3 | 2.6 | 1.3 |  | 0.9 | $r$ | -1.0 | $r$ | -0.4 | $r$ | 3.7 | $r$ | 1.4 |
|  | I | 1.1 | 2.4 | 1.2 |  | 1.9 |  | -0.7 |  | 0.8 |  | 3.0 |  | 1.7 |
| 2016 | ANNUAL | 0.0 | 1.6 | 1.6 |  | 1.0 |  | -0.2 |  | 1.0 |  | 1.0 |  | 1.0 |
| 2016 | IV | 1.0 | 2.1 | 1.1 |  | -0.1 |  | -1.9 |  | -1.2 |  | 5.1 |  | 1.5 |
|  | III | -0.1 | 1.6 | 1.8 |  | 1.9 |  | 0.7 |  | 2.0 |  | -0.6 |  | 0.9 |
|  | II | -0.4 | 1.2 | 1.6 |  | 1.5 |  | 0.4 |  | 1.9 |  | -0.4 |  | 0.9 |
|  | I | -0.2 | 1.4 | 1.5 |  | 1.3 |  | 0.2 |  | 1.5 |  | 0.0 |  | 0.8 |
| 2015 | ANNUAL | 1.2 | 3.5 | 2.3 |  | 2.9 |  | 2.8 |  | 1.7 |  | -0.8 |  | 0.6 |
| 2015 | IV | 0.7 | 2.3 | 1.6 |  | 3.1 |  | 2.6 |  | 2.4 |  | -1.9 |  | 0.5 |
|  | III | 0.9 | 2.8 | 1.9 |  | 3.2 |  | 3.0 |  | 2.3 |  | -1.6 |  | 0.6 |
|  | II | 1.4 | 4.1 | 2.7 |  | 3.5 |  | 3.5 |  | 2.1 |  | -1.1 |  | 0.7 |
|  | I | 1.6 | 4.8 | 3.1 |  | 1.9 |  | 1.9 |  | 0.3 |  | 1.5 |  | 0.8 |
|  |  |  |  |  | Ind | es 2009 | =1 |  |  |  |  |  |  |  |
| 2017 | III | 108.8 r | 124.2 r | 114.1 | $r$ | 117.9 | $r$ | 103.1 | $r$ | 108.3 | $r$ | 117.8 | $r$ | 112.3 |
|  | II | 107.9 | 123.0 | 114.0 |  | 116.9 | $r$ | 102.8 | $r$ | 108.4 | r | 116.4 |  | 111.7 |
|  | I | 107.5 | 121.8 | 113.3 |  | 116.8 |  | 102.7 |  | 108.7 |  | 115.6 |  | 111.6 |
| 2016 | ANNUAL | 106.9 | 120.3 | 112.5 |  | 115.7 |  | 103.4 |  | 108.2 |  | 113.4 |  | 110.4 |
| 2016 | IV | 107.7 | 121.4 | 112.7 |  | 115.6 |  | 102.4 |  | 107.3 |  | 116.5 |  | 111.2 |
|  | III | 107.2 | 120.8 | 112.7 |  | 116.7 |  | 104.1 |  | 108.9 |  | 112.9 |  | 110.5 |
|  | II | 106.5 | 119.8 | 112.5 |  | 115.9 |  | 103.9 |  | 108.8 |  | 112.2 |  | 110.2 |
|  | I | 106.3 | 119.0 | 112.0 |  | 114.6 |  | 103.3 |  | 107.8 |  | 112.2 |  | 109.7 |
| 2015 | ANNUAL | 106.9 | 118.4 | 110.7 |  | 114.5 |  | 103.7 |  | 107.1 |  | 112.3 |  | 109.3 |
| 2015 | IV | 106.6 | 118.9 | 111.5 |  | 115.8 |  | 104.4 |  | 108.6 |  | 110.8 |  | 109.5 |
|  | III | 107.3 | 118.8 | 110.7 |  | 114.6 |  | 103.4 |  | 106.7 |  | 113.5 |  | 109.6 |
|  | II | 106.9 | 118.4 | 110.7 |  | 114.2 |  | 103.5 |  | 106.9 |  | 112.6 |  | 109.3 |
|  | I | 106.5 | 117.4 | 110.3 |  | 113.1 |  | 103.1 |  | 106.3 |  | 112.2 |  | 108.7 |

See footnotes following Table 6.
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r=revised
Source: Bureau of Labor Statistics

Table 2. Nonfarm business sector: Labor productivity, hourly compensation, unit labor costs, and prices, seasonally adjusted.

| Year and quarter | Labor productivity | Output | Hours worked | Hourly <br> compen- <br> sation <br> (1) | Real <br> hourly <br> compen- <br> sation <br> (2) | Unit labor costs | Unit nonlabor payments (3) | Implicit <br> price deflator <br> (4) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent change from previous quarter at annual rate (5) |  |  |  |  |  |  |  |  |
| 2017 III | 3.0 | 4.1 r | 1.1 r | 2.7 r | 0.7 r | -0.2 | 5.2 r | 2.1 |
| II | 1.5 | 3.9 | 2.4 | 0.3 r | 0.6 r | -1.2 | 3.0 r | 0.6 |
| I | 0.1 | 1.8 | 1.6 | 4.9 | 1.7 | 4.8 | -3.9 | 0.9 |
| 2016 ANNUAL | -0.1 | 1.5 | 1.6 | 1.0 | -0.2 | 1.1 | 1.4 | 1.2 |
| 2016 IV | 1.3 | 2.2 | 1.0 | -4.5 | -7.3 | -5.7 | 13.9 | 2.3 |
| III | 2.5 | 3.3 | 0.8 | 2.5 | 0.7 | 0.1 | 3.1 | 1.3 |
| II | 0.8 | 2.5 | 1.7 | 4.8 | 2.4 | 3.9 | 0.0 | 2.2 |
| I | -1.2 | 0.2 | 1.4 | -3.8 | -3.9 | -2.7 | 5.8 | 0.9 |
| 2015 ANNUAL | 1.3 | 3.4 | 2.1 | 3.1 | 3.0 | 1.8 | -0.3 | 0.9 |
| 2015 IV | -2.6 | 0.3 | 2.9 | 4.5 | 4.1 | 7.2 | -8.8 | 0.1 |
| III | 1.3 | 1.3 | 0.0 | 1.1 | -0.4 | -0.2 | 3.0 | 1.2 |
| II | 1.3 | 3.3 | 2.0 | 3.6 | 1.2 | 2.3 | 1.5 | 1.9 |
| I | 2.7 | 4.0 | 1.2 | 3.3 | 6.0 | 0.6 | -0.9 | 0.0 |

Percent change from corresponding quarter of previous year

| 2017 | III | 1.5 |  | 3.0 | r | 1.5 | $r$ | 0.8 | $r$ | -1.1 | $r$ | -0.7 | $r$ | 4.4 | $r$ | 1.5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 1.3 |  | 2.8 |  | 1.4 |  | 0.8 | $r$ | -1.1 | $r$ | -0.6 | $r$ | 3.8 | $r$ | 1.3 |  |
|  | I | 1.2 |  | 2.5 |  | 1.3 |  | 1.9 |  | -0.7 |  | 0.7 |  | 3.1 |  | 1.7 |  |
| 2016 | ANNUAL | -0.1 |  | 1.5 |  | 1.6 |  | 1.0 |  | -0.2 |  | 1.1 |  | 1.4 |  | 1.2 |  |
| 2016 | IV | 0.8 |  | 2.1 |  | 1.2 |  | -0.3 |  | -2.1 |  | -1.2 |  | 5.6 |  | 1.7 |  |
|  | III | -0.1 |  | 1.6 |  | 1.7 |  | 1.9 |  | 0.8 |  | 2.1 |  | -0.1 |  | 1.1 |  |
|  | II | -0.4 |  | 1.1 |  | 1.5 |  | 1.6 |  | 0.5 |  | 2.0 |  | -0.2 |  | 1.1 |  |
|  | I | -0.3 |  | 1.3 |  | 1.6 |  | 1.3 |  | 0.2 |  | 1.6 |  | 0.2 |  | 1.0 |  |
| 2015 | ANNUAL | 1.3 |  | 3.4 |  | 2.1 |  | 3.1 |  | 3.0 |  | 1.8 |  | -0.3 |  | 0.9 |  |
| 2015 | IV | 0.7 |  | 2.2 |  | 1.5 |  | 3.1 |  | 2.7 |  | 2.4 |  | -1.4 |  | 0.8 |  |
|  | III | 0.8 |  | 2.7 |  | 1.9 |  | 3.3 |  | 3.1 |  | 2.4 |  | -1.3 |  | 0.8 |  |
|  | II | 1.6 |  | 4.1 |  | 2.5 |  | 3.8 |  | 3.8 |  | 2.2 |  | -0.5 |  | 1.0 |  |
|  | I | 1.9 |  | 4.7 |  | 2.8 |  | 2.3 |  | 2.3 |  | 0.4 |  | 2.0 |  | 1.1 |  |
|  |  |  |  |  |  |  | Ind | es 2009 | =1 |  |  |  |  |  |  |  |  |
| 2017 | III | 108.9 | r | 124.4 | r | 114.3 | $r$ | 118.0 | $r$ | 103.2 | $r$ | 108.4 | $r$ | 117.8 | $r$ | 112.3 | $r$ |
|  | II | 108.1 |  | 123.1 |  | 113.9 |  | 117.2 | $r$ | 103.0 | r | 108.4 | $r$ | 116.3 | $r$ | 111.7 |  |
|  | I | 107.7 |  | 122.0 |  | 113.3 |  | 117.1 |  | 102.9 |  | 108.7 |  | 115.5 |  | 111.5 |  |
| 2016 | ANNUAL | 107.0 |  | 120.2 |  | 112.4 |  | 116.0 |  | 103.7 |  | 108.4 |  | 113.4 |  | 110.5 |  |
| 2016 | IV | 107.6 |  | 121.4 |  | 112.8 |  | 115.7 |  | 102.4 |  | 107.5 |  | 116.6 |  | 111.3 |  |
|  | III | 107.3 |  | 120.8 |  | 112.5 |  | 117.0 |  | 104.4 |  | 109.1 |  | 112.9 |  | 110.7 |  |
|  | II | 106.6 |  | 119.8 |  | 112.3 |  | 116.3 |  | 104.2 |  | 109.1 |  | 112.0 |  | 110.3 |  |
|  | I | 106.4 |  | 119.0 |  | 111.9 |  | 114.9 |  | 103.6 |  | 108.0 |  | 112.0 |  | 109.7 |  |
| 2015 | ANNUAL | 107.1 |  | 118.5 |  | 110.7 |  | 114.8 |  | 103.9 |  | 107.2 |  | 111.8 |  | 109.1 |  |
| 2015 | IV | 106.7 |  | 119.0 |  | 111.5 |  | 116.1 |  | 104.6 |  | 108.7 |  | 110.4 |  | 109.5 |  |
|  | III | 107.4 |  | 118.9 |  | 110.7 |  | 114.8 |  | 103.6 |  | 106.9 |  | 113.0 |  | 109.4 |  |
|  | II | 107.1 |  | 118.5 |  | 110.7 |  | 114.5 |  | 103.7 |  | 106.9 |  | 112.2 |  | 109.1 |  |
|  | I | 106.7 |  | 117.6 |  | 110.1 |  | 113.5 |  | 103.4 |  | 106.3 |  | 111.8 |  | 108.6 |  |

See footnotes following Table 6.
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r=revised
Source: Bureau of Labor Statistics

Table 3. Manufacturing sector: Labor productivity, hourly compensation, and unit labor costs, seasonally adjusted.

|  |  |  |  |  | Real |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Labor |  |  | Hourly | hourly | Unit |
| and | produc- |  | Hours | compensa- | compensa- | labor |
| quarter | tivity | Output | worked | tion (1) | tion (2) | costs |

Percent change from previous quarter at annual rate (5)

| 2017 | III | -4.4 | $r$ | -1.1 | $r$ | 3.5 | $r$ | 0.2 | $r$ | -1.8 | $r$ | 4.8 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 3.6 | $r$ | 2.9 | $r$ | -0.6 |  | 2.3 | $r$ | 2.6 | $r$ | -1.2 | $r$ |
|  | I | 0.2 |  | 2.3 |  | 2.1 |  | 4.4 |  | 1.2 |  | 4.2 |  |
| 2016 | ANNUAL | 0.4 | $r$ | 0.4 | $r$ | 0.0 |  | 0.7 |  | -0.5 |  | 0.3 | $r$ |
| 2016 | IV | 2.0 |  | 1.8 |  | -0.2 |  | -4.2 |  | -7.1 |  | -6.1 |  |
|  | III | -0.5 |  | 0.2 |  | 0.7 |  | 2.6 |  | 0.8 |  | 3.1 |  |
|  | II | -0.8 |  | -0.9 |  | -0.1 |  | 7.1 |  | 4.7 |  | 8.0 |  |
|  | I | 1.3 |  | 1.0 |  | -0.3 |  | -10.1 |  | -10.2 |  | -11.3 |  |
| 2015 | ANNUAL | 0.2 | $r$ | 1.2 | r | 1.0 |  | 2.5 |  | 2.4 |  | 2.2 | $r$ |
| 2015 | IV | -1.2 | $r$ | -0.3 | $r$ | 1.0 |  | 9.1 |  | 8.7 |  | 10.5 | $r$ |
|  | III | 3.1 | $r$ | 1.9 | $r$ | -1.2 |  | 1.8 |  | 0.3 |  | -1.3 | $r$ |
|  | II | 0.7 | $r$ | 0.8 | $r$ | 0.0 |  | 3.5 |  | 1.1 |  | 2.7 | $r$ |
|  | I | -0.4 | $r$ | -0.8 | $r$ | -0.4 |  | 0.0 |  | 2.6 |  | 0.4 | $r$ |

Percent change from corresponding quarter of previous year

| 2017 | III | 0.3 | $r$ | 1.5 | $r$ | 1.2 | $r$ | 0.6 | $r$ | -1.3 | $r$ | 0.3 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 1.3 |  | 1.8 |  | 0.5 |  | 1.2 |  | -0.7 |  | -0.1 | $r$ |
|  | I | 0.2 |  | 0.8 |  | 0.6 |  | 2.4 |  | -0.2 |  | 2.2 |  |
| 2016 | ANNUAL | 0.4 | $r$ | 0.4 | $r$ | 0.0 |  | 0.7 |  | -0.5 |  | 0.3 | $r$ |
| 2016 | IV | 0.5 |  | 0.5 |  | 0.0 |  | -1.4 |  | -3.1 |  | -1.9 |  |
|  | III | -0.3 | $r$ | 0.0 | $r$ | 0.3 |  | 1.9 |  | 0.7 |  | 2.2 | $r$ |
|  | II | 0.6 | $r$ | 0.4 | $r$ | -0.2 |  | 1.7 |  | 0.6 |  | 1.1 | $r$ |
|  | I | 1.0 | $r$ | 0.8 | $r$ | -0.1 |  | 0.8 |  | -0.3 |  | -0.1 | $r$ |
| 2015 | ANNUAL | 0.2 | $r$ | 1.2 | $r$ | 1.0 |  | 2.5 |  | 2.4 |  | 2.2 | $r$ |
| 2015 | IV | 0.6 | $r$ | 0.4 | $r$ | -0.2 |  | 3.5 |  | 3.1 |  | 3.0 | $r$ |
|  | III | 0.5 | $r$ | 1.1 | $r$ | 0.6 |  | 2.6 |  | 2.4 |  | 2.0 | $r$ |
|  | II | -0.1 | $r$ | 1.2 | $r$ | 1.3 |  | 2.7 |  | 2.7 |  | 2.8 | $r$ |
|  | I | -0.1 | $r$ | 2.2 | $r$ | 2.2 |  | 1.0 |  | 1.1 |  | 1.1 |  |

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| 2017 | III | 107.7 | $r$ | 117.7 | $r$ | 109.2 | $r$ | 113.4 | $r$ | 99.2 | $r$ | 105.2 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 109.0 | $r$ | 118.0 | $r$ | 108.3 |  | 113.3 | $r$ | 99.6 | $r$ | 104.0 | $r$ |
|  | I | 108.0 | $r$ | 117.2 | $r$ | 108.5 |  | 112.7 |  | 99.0 |  | 104.3 | $r$ |
| 2016 | ANNUAL | 107.7 | r | 116.1 | $r$ | 107.8 |  | 111.5 |  | 99.7 |  | 103.5 | $r$ |
| 2016 | IV | 108.0 | $r$ | 116.5 | $r$ | 107.9 |  | 111.4 |  | 98.7 |  | 103.2 | $r$ |
|  | III | 107.4 | $r$ | 116.0 | $r$ | 107.9 |  | 112.6 |  | 100.5 |  | 104.9 | $r$ |
|  | II | 107.6 | $r$ | 115.9 | $r$ | 107.8 |  | 111.9 |  | 100.3 |  | 104.1 | $r$ |
|  | I | 107.8 | $r$ | 116.2 | $r$ | 107.8 |  | 110.0 |  | 99.2 |  | 102.1 | $r$ |
| 2015 | ANNUAL | 107.2 | $r$ | 115.6 | $r$ | 107.8 |  | 110.7 |  | 100.2 |  | 103.2 | $r$ |
| 2015 | IV | 107.5 | $r$ | 115.9 | $r$ | 107.9 |  | 113.0 |  | 101.9 |  | 105.2 | $r$ |
|  | III | 107.8 | $r$ | 116.0 | $r$ | 107.6 |  | 110.6 |  | 99.8 |  | 102.6 | $r$ |
|  | II | 107.0 | $r$ | 115.4 | $r$ | 107.9 |  | 110.1 |  | 99.7 |  | 102.9 | $r$ |
|  | I | 106.8 | $r$ | 115.2 | $r$ | 107.9 |  | 109.1 |  | 99.4 |  | 102.2 | $r$ |
| See footnotes following Table 6. r=revised |  |  |  |  |  |  |  | Source: Bureau of Labor Statistics |  |  |  |  |  |

Table 4. Durable manufacturing sector: Labor productivity, hourly compensation, and unit labor costs, seasonally adjusted.

|  |  |  | Real |
| :--- | :--- | :--- | :--- |
| Year | Labor | Hourly | hourly |
| and | produc- | Hours | compensa- |

Percent change from previous quarter at annual rate (5)

| 2017 | III | -4.7 | $r$ | -1.7 | $r$ | 3.1 |  | 0.1 |  | -1.9 | $r$ | 5.0 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 5.3 | $r$ | 2.6 | $r$ | -2.6 |  | 5.6 | $r$ | 5.9 | $r$ | 0.2 | $r$ |
|  | I | -1.0 |  | 2.6 |  | 3.6 |  | 2.5 |  | -0.6 |  | 3.6 |  |
| 2016 | ANNUAL | 0.5 | $r$ | 0.2 | $r$ | -0.3 |  | 1.0 |  | -0.3 |  | 0.5 | $r$ |
| 2016 | IV | 1.8 |  | 2.0 |  | 0.2 |  | -4.3 |  | -7.1 |  | -6.0 |  |
|  | III | 0.7 |  | 1.0 |  | 0.3 |  | 2.5 |  | 0.7 |  | 1.7 |  |
|  | II | 1.9 |  | 0.2 |  | -1.6 |  | 9.5 |  | 7.0 |  | 7.5 |  |
|  | I | -0.6 |  | 0.1 |  | 0.7 |  | -11.4 |  | -11.5 |  | -10.9 |  |
| 2015 | ANNUAL | 0.2 | $r$ | 0.8 | $r$ | 0.6 |  | 3.0 |  | 2.9 |  | 2.8 | $r$ |
| 2015 | IV | -2.5 | $r$ | -1.9 | $r$ | 0.7 |  | 10.8 |  | 10.4 |  | 13.7 | $r$ |
|  | III | 3.9 | $r$ | 1.8 | $r$ | -2.0 |  | 1.4 |  | -0.2 |  | -2.4 | $r$ |
|  | II | 1.1 | $r$ | 0.6 | $r$ | -0.5 |  | 2.8 |  | 0.5 |  | 1.7 | $r$ |
|  | I | -1.4 | $r$ | -2.5 | $r$ | -1.1 |  | 2.0 |  | 4.6 |  | 3.4 | $r$ |

Percent change from corresponding quarter of previous year

| 2017 | III | 0.3 | $r$ | 1.4 | $r$ | 1.0 | $r$ | 0.9 | $r$ | -1.0 | $r$ | 0.6 r |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 1.7 | $r$ | 2.0 |  | 0.3 |  | 1.5 | $r$ | -0.4 | $r$ | -0.2 r |
|  | I | 0.8 |  | 1.4 |  | 0.6 |  | 2.4 |  | -0.1 |  | 1.6 |
| 2016 | ANNUAL | 0.5 | $r$ | 0.2 | $r$ | -0.3 |  | 1.0 |  | -0.3 |  | 0.5 r |
| 2016 | IV | 1.0 |  | 0.8 |  | -0.1 |  | -1.2 |  | -3.0 |  | -2.2 |
|  | III | -0.1 | $r$ | -0.2 | $r$ | 0.0 |  | 2.4 |  | 1.3 |  | 2.6 r |
|  | II | 0.6 | $r$ | 0.0 | $r$ | -0.6 |  | 2.2 |  | 1.1 |  | 1.5 r |
|  | I | 0.4 | $r$ | 0.1 | $r$ | -0.3 |  | 0.6 |  | -0.5 |  | 0.1 r |
| 2015 | ANNUAL | 0.2 | $r$ | 0.8 | $r$ | 0.6 |  | 3.0 |  | 2.9 |  | 2.8 r |
| 2015 | IV | 0.2 | $r$ | -0.5 | $r$ | -0.7 |  | 4.2 |  | 3.7 |  | 3.9 r |
|  | III | 0.9 | $r$ | 0.5 | $r$ | -0.3 |  | 3.0 |  | 2.9 |  | 2.1 r |
|  | II | -0.1 | $r$ | 0.8 | $r$ | 0.9 |  | 3.3 |  | 3.3 |  | 3.4 r |
|  | I | -0.1 | $r$ | 2.3 | $r$ | 2.4 |  | 1.6 |  | 1.7 |  | 1.8 r |

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| 2017 | III | 112.7 | $r$ | 125.6 | $r$ | 111.5 | $r$ | 113.2 | $r$ | 99.0 | $r$ | 100.4 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 114.0 | $r$ | 126.2 | $r$ | 110.6 |  | 113.2 | $r$ | 99.5 | $r$ | 99.2 | $r$ |
|  | I | 112.6 | $r$ | 125.4 | $r$ | 111.4 |  | 111.6 |  | 98.1 |  | 99.2 | $r$ |
| 2016 | ANNUAL | 112.2 | $r$ | 123.9 | $r$ | 110.4 |  | 110.9 |  | 99.1 |  | 98.8 | $r$ |
| 2016 | IV | 112.9 | $r$ | 124.6 | $r$ | 110.4 |  | 111.0 |  | 98.3 |  | 98.3 | $r$ |
|  | III | 112.3 | $r$ | 123.9 | $r$ | 110.3 |  | 112.2 |  | 100.1 |  | 99.8 | $r$ |
|  | II | 112.2 | $r$ | 123.6 | $r$ | 110.2 |  | 111.5 |  | 99.9 |  | 99.4 | $r$ |
|  | I | 111.6 | $r$ | 123.6 | $r$ | 110.7 |  | 109.0 |  | 98.2 |  | 97.6 | $r$ |
| 2015 | ANNUAL | 111.7 | $r$ | 123.7 | $r$ | 110.7 |  | 109.8 |  | 99.4 |  | 98.3 | $r$ |
| 2015 | IV | 111.8 | $r$ | 123.5 | $r$ | 110.5 |  | 112.3 |  | 101.3 |  | 100.5 | $r$ |
|  | III | 112.5 | $r$ | 124.1 | $r$ | 110.3 |  | 109.5 |  | 98.8 |  | 97.3 | $r$ |
|  | II | 111.4 | $r$ | 123.6 | $r$ | 110.9 |  | 109.1 |  | 98.9 |  | 97.9 | $r$ |
|  | I | 111.1 | $r$ | 123.4 | $r$ | 111.0 |  | 108.4 |  | 98.7 |  | 97.5 | $r$ |

See footnotes following Table 6.

Table 5. Nondurable manufacturing sector: Labor productivity, hourly compensation, and unit labor costs, seasonally adjusted.

|  |  |  | Real |  |
| :--- | :--- | :--- | :--- | :--- |
| Year | Labor |  | Hourly | hourly |
| and | produc- | (ivity | Output | worked |

Percent change from previous quarter at annual rate (5)

| 2017 | III | -4.4 | $r$ | -0.4 | $r$ | 4.1 | 0.5 | $r$ | -1.5 | $r$ | 5.1 | $r$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 0.4 |  | 3.3 |  | 2.9 | -3.3 | $r$ | -3.0 | $r$ | -3.6 | $r$ |
|  | I | 2.5 |  | 2.0 |  | -0.5 | 8.0 |  | 4.7 |  | 5.3 |  |
| 2016 | ANNUAL | 0.2 |  | 0.7 | $r$ | 0.5 | 0.4 |  | -0.9 |  | 0.1 | $r$ |
| 2016 | IV | 2.3 |  | 1.5 |  | -0.8 | -4.3 |  | -7.2 |  | -6.5 |  |
|  | III | -2.2 |  | -0.8 |  | 1.5 | 2.8 |  | 1.0 |  | 5.2 |  |
|  | II | -4.5 |  | -2.2 |  | 2.5 | 3.0 |  | 0.7 |  | 7.9 |  |
|  | I | 4.0 |  | 2.1 |  | -1.8 | -7.7 |  | -7.8 |  | -11.3 |  |
| 2015 | ANNUAL | 0.2 | $r$ | 1.9 | $r$ | 1.7 | 1.5 |  | 1.4 |  | 1.3 | $r$ |
| 2015 | IV | 0.1 | $r$ | 1.6 | $r$ | 1.4 | 6.1 |  | 5.7 |  | 5.9 | $r$ |
|  | III | 1.8 | $r$ | 2.0 | $r$ | 0.2 | 2.8 |  | 1.2 |  | 1.0 | $r$ |
|  | II | 0.1 | $r$ | 1.0 | $r$ | 1.0 | 4.8 |  | 2.4 |  | 4.7 | $r$ |
|  | I | 0.6 | $r$ | 1.3 | $r$ | 0.7 | -3.5 |  | -1.0 |  | -4.1 | $r$ |

Percent change from corresponding quarter of previous year

| 2017 | III | 0.2 | r | 1.6 | $r$ | 1.4 | 0.1 | $r$ | -1.8 | $r$ | -0.1 r |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 0.7 |  | 1.5 |  | 0.8 | 0.7 | $r$ | -1.2 | $r$ | 0.0 r |
|  | I | -0.5 |  | 0.1 |  | 0.7 | 2.3 |  | -0.3 |  | 2.8 |
| 2016 | ANNUAL | 0.2 |  | 0.7 | $r$ | 0.5 | 0.4 |  | -0.9 |  | 0.1 r |
| 2016 | IV | -0.2 |  | 0.2 |  | 0.3 | -1.7 |  | -3.4 |  | -1.5 |
|  | III | -0.7 |  | 0.2 | $r$ | 0.9 | 0.9 |  | -0.2 |  | 1.6 |
|  | II | 0.3 | $r$ | 0.9 | $r$ | 0.6 | 0.9 |  | -0.2 |  | 0.6 r |
|  | I | 1.5 | $r$ | 1.7 | $r$ | 0.2 | 1.3 |  | 0.2 |  | -0.2 r |
| 2015 | ANNUAL | 0.2 | $r$ | 1.9 | $r$ | 1.7 | 1.5 |  | 1.4 |  | 1.3 r |
| 2015 | IV | 0.7 | $r$ | 1.5 | $r$ | 0.8 | 2.5 |  | 2.0 |  | 1.8 r |
|  | III | -0.3 | $r$ | 1.9 | $r$ | 2.2 | 1.9 |  | 1.8 |  | 2.2 r |
|  | II | -0.1 | $r$ | 1.8 | $r$ | 1.9 | 1.7 |  | 1.7 |  | 1.8 r |
|  | I | 0.4 | $r$ | 2.3 | $r$ | 1.9 | -0.2 |  | -0.1 |  | -0.6 r |


| Indexes 2009=100 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | III | 105.1 |  | 111.0 | $r$ | 105.6 | 113.1 | $r$ | 99.0 | $r$ | 107.6 | $r$ |
|  | II | 106.3 | $r$ | 111.1 | $r$ | 104.6 | 113.0 | $r$ | 99.4 | $r$ | 106.3 | $r$ |
|  | I | 106.2 | $r$ | 110.2 | $r$ | 103.8 | 113.9 |  | 100.1 |  | 107.3 | $r$ |
| 2016 | ANNUAL | 105.7 | $r$ | 109.6 | $r$ | 103.7 | 112.1 |  | 100.2 |  | 106.1 | $r$ |
| 2016 | IV | 105.5 | $r$ | 109.7 | $r$ | 103.9 | 111.8 |  | 99.0 |  | 105.9 | $r$ |
|  | III | 104.9 | $r$ | 109.2 | $r$ | 104.1 | 113.0 |  | 100.8 |  | 107.7 | $r$ |
|  | II | 105.5 | $r$ | 109.5 | $r$ | 103.8 | 112.2 |  | 100.6 |  | 106.4 | $r$ |
|  | I | 106.7 | $r$ | 110.1 | $r$ | 103.1 | 111.4 |  | 100.4 |  | 104.4 | $r$ |
| 2015 | ANNUAL | 105.4 | $r$ | 108.8 | r | 103.2 | 111.7 |  | 101.1 |  | 106.0 | $r$ |
| 2015 | IV | 105.7 | $r$ | 109.5 | $r$ | 103.6 | 113.6 |  | 102.5 |  | 107.5 | $r$ |
|  | III | 105.6 | $r$ | 109.1 | $r$ | 103.2 | 112.0 |  | 101.1 |  | 106.0 | $r$ |
|  | II | 105.2 |  | 108.5 | $r$ | 103.2 | 111.2 |  | 100.8 |  | 105.7 | $r$ |
|  | I | 105.2 | $r$ | 108.2 | $r$ | 102.9 | 109.9 |  | 100.2 |  | 104.5 | $r$ |
| $\begin{aligned} & \text { See f } \\ & r=r e v \end{aligned}$ | footnote vised | llowing |  |  |  |  | Sou | r | eau of | D | $\begin{array}{r} 6,201 \\ \text { atistic } \end{array}$ |  |

Table 6. Nonfinancial corporate sector: Labor productivity, hourly compensation, unit labor costs, unit profits, and prices, seasonally adjusted.


Percent change from previous quarter at annual rate (5)

| 2017 | III | 0.0 |  | 1.3 |  | 1.2 | 2.5 |  | 0.5 |  | 2.5 |  | 3.0 |  | 2.6 |  | 2.7 |  | 2.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 3.3 | $r$ | 6.4 | $r$ | 3.0 | 0.2 | $r$ | 0.5 | $r$ | -3.0 | $r$ | -1.8 | $r$ | -2.6 | $r$ | 13.7 | $r$ | -0.6 |
|  | I | 2.0 |  | 4.1 |  | 2.0 | 4.3 |  | 1.1 |  | 2.3 |  | -1.0 |  | 1.2 |  | -2.7 |  | 0.7 |
| 2016 | ANNUAL | -0.1 |  | 1.4 |  | 1.5 | 1.1 |  | -0.2 |  | 1.2 |  | -0.5 |  | 0.7 |  | -5.3 |  | -0.2 |
| 2016 | IV | -4.5 |  | -3.9 |  | 0.6 | -3.6 |  | -6.5 |  | 0.9 |  | 9.2 |  | 3.5 |  | -2.8 |  | 2.7 |
|  | III | 5.9 |  | 7.4 |  | 1.5 | 1.9 |  | 0.1 |  | -3.7 |  | -4.5 |  | -4.0 |  | 7.3 |  | -2.6 |
|  | II | -2.0 |  | -0.6 |  | 1.4 | 3.7 |  | 1.4 |  | 5.9 |  | 1.7 |  | 4.5 |  | -28.8 |  | -0.8 |
|  | I | 0.5 |  | 1.1 |  | 0.6 | -1.8 |  | -1.9 |  | -2.3 |  | -13.0 |  | -5.9 |  | 47.7 |  | 0.0 |
| 2015 | ANNUAL | 1.4 |  | 3.6 |  | 2.2 | 3.0 |  | 2.9 |  | 1.6 |  | 0.4 |  | 1.2 |  | -5.1 |  | 0.3 |
| 2015 | IV | -1.4 |  | 1.5 |  | 3.0 | 3.4 |  | 3.0 |  | 4.9 |  | 13.8 |  | 7.7 |  | -41.5 |  | -0.9 |
|  | III | 0.7 |  | 2.5 |  | 1.8 | 0.5 |  | -1.0 |  | -0.2 |  | -0.1 |  | -0.2 |  | 5.3 |  | 0.6 |
|  | II | -2.0 |  | -0.9 |  | 1.1 | 2.7 |  | 0.4 |  | 4.8 |  | 4.0 |  | 4.5 |  | -1.3 |  | 3.7 |
|  | I | 3.3 |  | 4.6 |  | 1.3 | 7.1 |  | 9.9 |  | 3.7 |  | -2.2 |  | 1.8 |  | -23.7 |  | -2.5 |

Percent change from corresponding quarter of previous year

| 2017 | III | 0.2 |  | 1.9 |  | 1.7 | 0.8 |  | -1.1 |  | 0.6 |  | 2.3 |  | 1.1 | 2.5 |  | 1.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | II | 1.6 | $r$ | 3.4 | $r$ | 1.8 | 0.7 | $r$ | -1.2 | $r$ | -0.9 | $r$ | 0.4 | $r$ | -0.5 | 3.7 | $r$ | 0.0 |
|  | I | 0.3 |  | 1.7 |  | 1.4 | 1.5 |  | -1.0 |  | 1.3 |  | 1.2 |  | 1.3 | -7.8 |  | 0.0 |
| 2016 | ANNUAL | -0.1 |  | 1.4 |  | 1.5 | 1.1 |  | -0.2 |  | 1.2 |  | -0.5 |  | 0.7 | -5.3 |  | -0.2 |
| 2016 | IV | -0.1 |  | 0.9 |  | 1.0 | 0.0 |  | -1.8 |  | 0.1 |  | -2.0 |  | -0.6 | 2.3 |  | -0.2 |
|  | III | 0.7 |  | 2.3 |  | 1.6 | 1.8 |  | 0.6 |  | 1.1 |  | -1.0 |  | 0.4 | -9.9 |  | -1.1 |
|  | II | -0.6 |  | 1.1 |  | 1.7 | 1.4 |  | 0.3 |  | 2.0 |  | 0.1 |  | 1.4 | -10.3 |  | -0.3 |
|  | I | -0.6 |  | 1.1 |  | 1.6 | 1.2 |  | 0.1 |  | 1.7 |  | 0.7 |  | 1.4 | -2.6 |  | 0.8 |
| 2015 | ANNUAL | 1.4 |  | 3.6 |  | 2.2 | 3.0 |  | 2.9 |  | 1.6 |  | 0.4 |  | 1.2 | -5.1 |  | 0.3 |
| 2015 | IV | 0.1 |  | 1.9 |  | 1.8 | 3.4 |  | 3.0 |  | 3.3 |  | 3.7 |  | 3.4 | -17.5 |  | 0.2 |
|  | III | 1.0 |  | 2.8 |  | 1.8 | 3.3 |  | 3.1 |  | 2.3 |  | 0.1 |  | 1.6 | -6.1 |  | 0.4 |
|  | II | 1.8 |  | 3.9 |  | 2.1 | 3.5 |  | 3.5 |  | 1.6 |  | -0.4 |  | 1.0 | -2.1 |  | 0.5 |
|  | I | 2.7 |  | 6.0 |  | 3.2 | 1.9 |  | 2.0 |  | -0.8 |  | -1.8 |  | -1.1 | 7.6 |  | 0.1 |
|  |  |  |  |  |  |  | Inde | xe | 2009=1 | 100 |  |  |  |  |  |  |  |  |
| 2017 | III | 108.9 |  | 127.2 |  | 116.9 | 117.1 |  | 102.5 |  | 107.6 |  | 101.2 |  | 105.4 | 140.0 |  | 109.0 |
|  | II | 108.9 | $r$ | 126.8 | $r$ | 116.5 | 116.4 | $r$ | 102.4 | $r$ | 106.9 | $r$ | 100.4 | $r$ | 104.8 | 139.0 | $r$ | 108.3 |
|  | I | 108.0 |  | 124.9 |  | 115.7 | 116.3 |  | 102.2 |  | 107.7 |  | 100.9 |  | 105.4 | 134.6 |  | 108.5 |
| 2016 | ANNUAL | 107.7 |  | 123.5 |  | 114.6 | 115.4 |  | 103.1 |  | 107.1 |  | 99.9 |  | 104.7 | 138.0 |  | 108.2 |
| 2016 | IV | 107.4 |  | 123.6 |  | 115.1 | 115.1 |  | 101.9 |  | 107.1 |  | 101.1 |  | 105.1 | 135.5 |  | 108.3 |
|  | III | 108.7 |  | 124.9 |  | 114.9 | 116.2 |  | 103.7 |  | 106.9 |  | 98.9 |  | 104.2 | 136.5 |  | 107.6 |
|  | II | 107.1 |  | 122.6 |  | 114.5 | 115.6 |  | 103.6 |  | 107.9 |  | 100.1 |  | 105.3 | 134.1 |  | 108.3 |
|  | I | 107.7 |  | 122.8 |  | 114.1 | 114.6 |  | 103.3 |  | 106.4 |  | 99.7 |  | 104.1 | 146.0 |  | 108.5 |
| 2015 | ANNUAL | 107.9 |  | 121.8 |  | 112.9 | 114.1 |  | 103.3 |  | 105.8 |  | 100.5 |  | 104.0 | 145.8 |  | 108.4 |
| 2015 | IV | 107.5 |  | 122.5 |  | 113.9 | 115.1 |  | 103.8 |  | 107.0 |  | 103.2 |  | 105.7 | 132.4 |  | 108.5 |
|  | III | 107.9 |  | 122.0 |  | 113.1 | 114.1 |  | 103.0 |  | 105.7 |  | 99.9 |  | 103.8 | 151.4 |  | 108.8 |
|  | II | 107.8 |  | 121.3 |  | 112.6 | 114.0 |  | 103.3 |  | 105.8 |  | 99.9 |  | 103.8 | 149.5 |  | 108.6 |
|  | I | 108.3 |  | 121.6 |  | 112.2 | 113.2 |  | 103.2 |  | 104.6 |  | 98.9 |  | 102.7 | 150.0 |  | 107.6 |

See footnotes following Table 6.
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Source: Bureau of Labor Statistics

SOURCES: Output data are from the Bureau of Economic Analysis and the Census Bureau of the U.S. Department of Commerce; the Bureau of Labor Statistics, U.S. Department of Labor; and the Federal Reserve Board. Hours and compensation data are from the Bureau of Labor Statistics and the Bureau of Economic Analysis.

RELIABILITY: Productivity and cost measures are regularly revised as more complete information becomes available. The measures are first published within 40 days of the close of the reference period; revisions appear 30 days later, and second revisions after an additional 60 days. In the business sector, the third publication (second revision) of a quarterly index of output per hour of all persons has differed from the initial value by between -1.5 and 1.4 index points approximately 95 percent of the time. This interval is based on the performance of this measure between the fourth quarter of 1995 and the second quarter of 2017.

## Table Footnotes

(1) Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Except for nonfinancial corporations, where there are no self-employed, data also include an estimate of wages, salaries, and supplemental payments for the self-employed.
(2) The change for recent quarters is based on the Consumer Price Index for all urban consumers (CPI-U). The trend from 1978-2016 is based on the Consumer Price Index research series (CPI-U-RS).
(3) Unit nonlabor payments include profits, consumption of fixed capital, taxes on production and imports less subsidies, net interest and miscellaneous payments, business current transfer payments, rental income of persons, and the current surplus of government enterprises.
(4) Current dollar output divided by the output index.
(5) Quarterly changes: Percent change compounded at annual rate is calculated using index numbers to three decimal places. Indexes published in the news release are rounded to one decimal place for convenience. Annual changes: Percent change is calculated using annual indexes to three decimal places.
(6) Unit nonlabor costs include consumption of fixed capital, taxes on production and imports less subsidies, net interest and miscellaneous payments, and business current transfer payments.
(7) Total unit costs are the sum of unit labor and nonlabor costs.
(8) Unit profits include corporate profits before tax with inventory valuation and capital consumption adjustments.

Appendix table 1.
Manufacturing sector: Labor productivity, hourly compensation, and unit labor costs.

| Year | Labor productivity |  | Output |  | Hours worked | Hourly compensation (1) | Real <br> hourly <br> compensa- <br> tion (2) | Unit labor costs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Indexes 2009=100 |  |  |  |  |  |  |  |  |
| 2016 | 107.7 | $r$ | 116.1 | $r$ | 107.8 | 111.5 | 99.7 | 103.5 |
| 2015 | 107.2 | $r$ | 115.6 | $r$ | 107.8 | 110.7 | 100.2 | 103.2 |
| 2014 | 107.0 | $r$ | 114.2 | $r$ | 106.8 | 108.0 | 97.9 | 101.0 r |
| 2013 | 107.0 | $r$ | 112.5 | $r$ | 105.2 | 105.1 | 96.8 | 98.2 |
| 2012 | 106.0 |  | 110.5 | $r$ | 104.3 | 104.9 | 98.0 | 99.0 |
| 2011 | 106.8 r | $r$ | 108.9 | $r$ | 101.9 | 103.1 | 98.4 | 96.5 |
| 2010 | 106.1 r | $r$ | 106.1 | $r$ | 100.0 | 101.3 | 99.6 | 95.5 |
| 2009 | 100.0 |  | 100.0 |  | 100.0 | 100.0 | 100.0 | 100.0 |
| 2008 | 99.0 | $r$ | 113.6 | $r$ | 114.7 | 96.8 | 96.5 | 97.8 r |
| 2007 | 99.7 | $r$ | 119.3 | $r$ | 119.6 | 94.1 | 97.4 | 94.4 |
| 2006 | 95.2 | $r$ | 115.9 | $r$ | 121.7 | 90.5 | 96.4 | 95.1 |
| 2005 | 94.5 | $r$ | 114.0 | $r$ | 120.7 | 88.4 | 97.2 | 93.6 |
| 2004 | 89.8 | $r$ | 109.7 | $r$ | 122.1 | 85.2 | 96.8 | 94.9 |
| 2003 | 87.4 | $r$ | 107.3 | $r$ | 122.8 | 82.2 | 95.9 | 94.1 |
| 2002 | 82.3 | $r$ | 106.2 | $r$ | 129.2 | 78.0 | 93.0 | 94.8 |
| 2001 | 76.1 |  | 105.8 | $r$ | 139.1 | 75.5 | 91.5 | 99.2 |
| 2000 | 74.2 | $r$ | 110.3 | $r$ | 148.7 | 73.3 | 91.4 | 98.9 |
| 1999 | 71.8 | $r$ | 107.6 | $r$ | 149.9 | 68.9 r | 88.8 r | 96.0 |
| 1998 | 67.8 | $r$ | 103.3 | $r$ | 152.3 | 65.1 r | 85.7 r | 96.0 r |
| 1997 | 65.0 | $r$ | 98.6 | $r$ | 151.8 | 61.8 r | 82.4 r | 95.1 |
| 1996 | 62.0 | $r$ | 92.3 | $r$ | 148.7 | 60.7 | 82.7 r | 97.9 |
| 1995 | 59.5 | $r$ | 88.5 | $r$ | 148.9 | 59.1 r | 82.7 r | 99.4 r |
| 1994 | 57.5 r | $r$ | 85.1 | $r$ | 147.9 | 57.6 r | 82.5 r | 100.2 r |
| 1993 | 56.0 | $r$ | 80.8 | $r$ | 144.2 | 56.7 | 83.0 r | 101.3 r |
| 1992 | 54.7 | $r$ | 78.0 | $r$ | 142.6 | 56.0 r | 83.9 r | 102.3 |
| 1991 | 51.7 | $r$ | 74.4 | $r$ | 143.8 | 53.1 r | 81.6 r | 102.6 r |
| 1990 | 50.7 | $r$ | 75.7 | $r$ | 149.4 | 50.6 r | 80.6 r | 99.9 r |
| 1989 | 49.0 | $r$ | 75.4 | $r$ | 154.0 | 48.1 r | 80.3 r | 98.1 r |
| 1988 | 48.8 |  | 74.6 | $r$ | 153.0 | 46.5 r | 81.2 r | 95.4 r |
| 1987 | 48.3 r |  | 71.7 | $r$ | 148.5 | 44.7 r | 80.9 r | 92.6 r |

See footnotes following Table 6.
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Appendix table 2.
Durable manufacturing sector: Labor productivity, hourly compensation, and unit labor costs.

| Year | Labor produc tivity |  | Output |  | Hours worked | Hourly compensation (1) | Real <br> hourly <br> compensa- <br> tion (2) | Unit labor costs |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Indexes 2009=100 |  |  |  |  |  |  |  |  |  |
| 2016 | 112.2 r | $r$ | 123.9 | $r$ | 110.4 | 110.9 | 99.1 | 98.8 | $r$ |
| 2015 | 111.7 r | $r$ | 123.7 | $r$ | 110.7 | 109.8 | 99.4 | 98.3 | $r$ |
| 2014 | 111.5 r | $r$ | 122.7 | $r$ | 110.1 | 106.6 | 96.6 | 95.6 | $r$ |
| 2013 | 110.8 r | $r$ | 119.4 | $r$ | 107.8 | 104.2 | 95.9 | 94.0 | $r$ |
| 2012 | 109.8 r |  | 116.9 | $r$ | 106.5 | 104.8 | 98.0 | 95.5 | $r$ |
| 2011 | 109.7 r |  | 113.4 | $r$ | 103.4 | 103.4 | 98.6 | 94.3 | $r$ |
| 2010 | 108.5 r | $r$ | 108.2 | r | 99.8 | 101.4 | 99.7 | 93.4 | $r$ |
| 2009 | 100.0 |  | 100.0 |  | 100.0 | 100.0 | 100.0 | 100.0 |  |
| 2008 | 103.2 r | $r$ | 121.8 | $r$ | 118.0 | 96.3 | 96.0 | 93.3 | $r$ |
| 2007 | 104.5 r | $r$ | 129.0 | $r$ | 123.4 | 94.0 | 97.2 | 89.9 | $r$ |
| 2006 | 98.7 r | $r$ | 124.2 | $r$ | 125.8 | 90.3 | 96.1 | 91.5 | $r$ |
| 2005 | 97.0 r | $r$ | 120.7 | $r$ | 124.4 | 87.7 | 96.3 | 90.4 | $r$ |
| 2004 | 92.1 r | $r$ | 114.8 | $r$ | 124.6 | 84.9 | 96.4 | 92.1 | $r$ |
| 2003 | 90.6 r | $r$ | 112.4 | $r$ | 124.0 | 81.8 | 95.4 | 90.2 | $r$ |
| 2002 | 84.5 r | $r$ | 110.7 | $r$ | 131.0 | 77.8 | 92.8 | 92.0 | $r$ |
| 2001 | 78.4 r |  | 111.9 | $r$ | 142.7 | 75.3 | 91.2 | 96.0 | $r$ |
| 2000 | 77.0 r |  | 118.2 | r | 153.5 | 73.8 | 92.0 | 95.8 | $r$ |
| 1999 | 74.2 r | $r$ | 114.0 | $r$ | 153.6 | 69.0 r | 89.0 r | 93.0 | $r$ |
| 1998 | 69.1 r |  | 107.4 | $r$ | 155.5 | 65.2 r | 85.8 r | 94.3 | $r$ |
| 1997 | 64.9 r | $r$ | 100.0 | $r$ | 154.1 | 61.6 r | 82.2 r | 95.0 | $r$ |
| 1996 | 61.1 r | $r$ | 91.4 | $r$ | 149.6 | 60.9 r | 83.0 r | 99.6 | $r$ |
| 1995 | 57.7 r | $r$ | 85.5 | r | 148.2 | 59.4 r | 83.2 r | 103.1 | $r$ |
| 1994 | 54.8 r | $r$ | 79.9 | r | 145.8 | 58.0 r | 83.1 r | 105.8 | $r$ |
| 1993 | 52.7 r | $r$ | 74.2 | $r$ | 140.8 | 57.2 r | 83.7 r | 108.6 | $r$ |
| 1992 | 50.8 r | $r$ | 70.8 | $r$ | 139.3 | 56.4 r | 84.6 r | 111.0 | $r$ |
| 1991 | 47.3 r | $r$ | 67.0 | $r$ | 141.6 | 53.2 r | 81.8 r | 112.5 | $r$ |
| 1990 | 46.4 r |  | 69.4 | r | 149.5 | 50.6 r | 80.7 r | 109.1 | $r$ |
| 1989 | 45.2 r | $r$ | 70.0 | $r$ | 154.9 | 48.3 r | 80.8 r | 107.0 | $r$ |
| 1988 | 44.9 r |  | 69.3 | $r$ | 154.5 | 46.9 r | 81.8 r | 104.5 | $r$ |
| 1987 | 44.2 r |  | 65.7 | r | 148.7 | 45.3 r | 81.8 r | 102.5 | $r$ |
| See footnotes following Table 6. $r=r e v i s e d$ |  |  |  |  |  | December 6, 2017 <br> au of Labor Statistics |  |  |  |

Appendix table 3.
Nondurable manufacturing sector: Labor productivity, hourly compensation, and unit labor costs.


