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PRODUCTIVITY AND COSTS
 Third Quarter 2016, Revised

Nonfarm business sector labor productivity increased at a 3.1-percent annual rate during the third quarter of 2016, the U.S. Bureau of Labor Statistics reported today, as output increased 3.6 percent and hours worked increased 0.5 percent. (All quarterly percent changes in this release are seasonally adjusted annual rates.) The quarterly increase in nonfarm business sector labor productivity was the first increase after three consecutive declines in the measure. From the third quarter of 2015 to the third quarter of 2016, productivity was unchanged. (See chart 1 and table A.)

Labor productivity, or output per hour, is calculated by dividing an index of real output by an index of hours worked of all persons, including employees, proprietors, and unpaid family workers. Measures released today are based on more recent source data than were available for the preliminary report.

Chart 1. Labor productivity, nonfarm business, all persons, 2012Q1 – 2016Q3

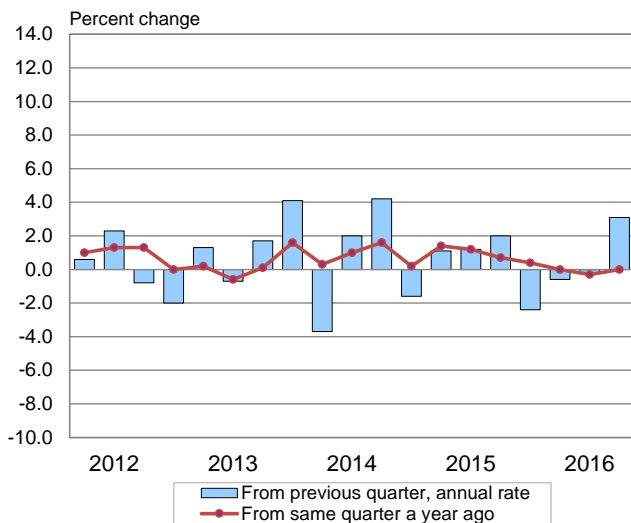
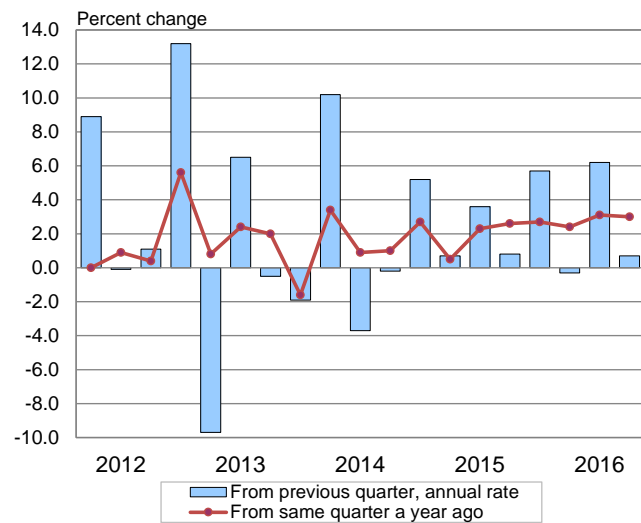


Chart 2. Unit labor costs, nonfarm business, all persons, 2012Q1 – 2016Q3



Unit labor costs in the nonfarm business sector increased 0.7 percent in the third quarter of 2016, reflecting a 3.8-percent increase in hourly compensation and a 3.1-percent increase in productivity. Unit labor costs increased 3.0 percent over the last four quarters. (See chart 2 and tables A 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 increased 0.4 percent in the third quarter of 2016, as output and hours worked increased 0.6 percent and 0.3 percent, respectively. Output per hour increased 3.0 percent in the durable goods manufacturing sector and decreased 3.0 percent in the nondurable goods sector. Over the last four quarters, manufacturing sector productivity was unchanged, as output and hours worked both declined 0.1 percent. (See tables A, 3, 4, and 5.) **Unit labor costs** in manufacturing increased 3.3 percent in the third quarter of 2016 and rose 3.6 percent from the same quarter a year ago. Hourly compensation increased 3.7 percent in the third quarter of 2016.

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 5.)

Preliminary third-quarter 2016 measures of productivity and costs were announced for the **nonfinancial corporate sector**. Productivity increased 7.1 percent in the third quarter of 2016—the largest gain since an 8.8-percent gain in the first quarter of 2010—as output increased 8.3 percent and hours worked increased 1.1 percent. Over the last four quarters, productivity increased 1.6 percent. Unit labor costs decreased 2.7 percent in the third quarter of 2016 and increased 0.9 percent over the last four quarters.

Revised measures

The measures released today are based on more recent source data than were available for the preliminary report. Table B presents previous and revised productivity and related measures for the business, nonfarm business, and manufacturing sectors, for the second and third quarters of 2016.

In the **third quarter of 2016**, nonfarm business labor productivity was not revised; output and hours were both revised up by 0.2 percentage points. Unit labor costs were revised up from a 0.3-percent increase to a 0.7-percent increase, due solely to an upward revision to hourly compensation growth from 3.4 percent to 3.8 percent. In the manufacturing sector, productivity increased 0.4 percent rather than increasing 1.0 percent as previously reported, due both to a downward revision to output and an upward revision to hours. Unit labor costs increased 3.3 percent, a larger increase than the preliminary estimate.

In the **second quarter of 2016**, nonfarm business labor productivity, output, and hours were unrevised. Unit labor costs increased 6.2 percent, rather than increasing 3.9 percent as previously reported, the result of a large upward revision to hourly compensation. In the manufacturing sector, labor productivity was not revised. Hourly compensation was revised up to an 8.0-percent increase from a previous estimate of 6.2 percent. As a result, unit labor costs were revised up, and increased 8.5 percent instead of 6.8 percent.

Second-quarter 2016 measures of productivity and costs were revised for the **nonfinancial corporate sector**. Productivity decreased 1.2 percent rather than decreasing 2.3 percent as reported on November 3, due to a 1.1-percentage point upward revision to output. (See table C.)

Complete annual and quarterly data series can be found on the Productivity and Costs home page: www.bls.gov/lpc/#data.

Upcoming change to table format

Tables A-C will be reformatted to better assist our readers beginning with the next scheduled release of *Productivity and Costs*, on February 2, 2017. All data currently shown in the tables will continue to be displayed.

Methodology change for hours worked

Beginning with the *Productivity and Costs* news release scheduled for March 8, 2017, a change in the methodology for estimating hours worked will be implemented. As a result, hours worked and related measures, including labor productivity, will be subject to revision for all sectors from 1989 forward.

The preliminary Productivity and Costs news release for fourth-quarter and annual averages 2016 is scheduled to be released on Thursday, February 2, 2017 at 8:30 a.m. (EST).

Table A. Revised third-quarter 2016 measures: percent change from previous quarter, at annual rate (Q to Q) and from same quarter a year ago (Y to Y)

Sector	Nonfarm Business		Business		Manufacturing		Durable Manufacturing		Nondurable Manufacturing	
	Q to Q	Y to Y	Q to Q	Y to Y	Q to Q	Y to Y	Q to Q	Y to Y	Q to Q	Y to Y
Labor Productivity	3.1	0.0	3.5	0.0	0.4	0.0	3.0	0.7	-3.0	-0.9
Output	3.6	1.7	3.9	1.8	0.6	-0.1	2.7	0.4	-1.9	-0.7
Hours worked	0.5	1.7	0.3	1.8	0.3	-0.1	-0.3	-0.3	1.1	0.2
Hourly compensation	3.8	3.0	4.1	2.9	3.7	3.7	4.2	4.1	2.8	2.8
Real hourly compensation	2.2	1.8	2.4	1.7	2.0	2.5	2.5	2.9	1.2	1.6
Unit labor costs	0.7	3.0	0.6	2.9	3.3	3.6	1.2	3.4	6.0	3.8

Table B. Revised and previous measures: third quarter and second quarter 2016

Sector	Nonfarm Business		Business		Manufacturing		Durable Manufacturing		Nondurable Manufacturing	
	Revised	Previous	Revised	Previous	Revised	Previous	Revised	Previous	Revised	Previous
Percent change, annual rate, third quarter 2016										
Labor Productivity	3.1	3.1	3.5	3.4	0.4	1.0	3.0	2.5	-3.0	-1.1
Output	3.6	3.4	3.9	3.5	0.6	1.1	2.7	1.9	-1.9	0.0
Hours worked	0.5	0.3	0.3	0.1	0.3	0.1	-0.3	-0.6	1.1	1.1
Hourly compensation	3.8	3.4	4.1	3.6	3.7	3.2	4.2	3.2	2.8	3.5
Real hourly compensation	2.2	1.7	2.4	1.9	2.0	1.6	2.5	1.5	1.2	1.8
Unit labor costs	0.7	0.3	0.6	0.2	3.3	2.2	1.2	0.7	6.0	4.6
Percent change, annual rate, second quarter 2016										
Labor Productivity	-0.2	-0.2	-0.4	-0.4	-0.5	-0.5	2.5	2.4	-4.6	-4.6
Output	1.6	1.6	1.6	1.6	-1.0	-1.1	0.6	0.5	-2.9	-2.9
Hours worked	1.7	1.7	2.0	2.0	-0.5	-0.5	-1.8	-1.8	1.8	1.8
Hourly compensation	6.1	3.7	5.6	3.3	8.0	6.2	10.1	5.4	4.4	8.0
Real hourly compensation	3.4	1.2	3.0	0.7	5.4	3.6	7.4	2.8	1.8	5.3
Unit labor costs	6.2	3.9	6.0	3.7	8.5	6.8	7.5	3.0	9.5	13.2

Table C. Nonfinancial corporations: preliminary third quarter and revised second quarter 2016

	Labor Productivity	Output	Hours worked	Hourly compensation	Real hourly compensation	Unit labor costs	Unit profits	Implicit price deflator
Percent change, annual rate, third quarter 2016								
Q to Q	7.1	8.3	1.1	4.3	2.6	-2.7	18.9	-0.7
Y to Y	1.6	3.2	1.7	2.4	1.3	0.9	-5.2	-0.5
Percent change, annual rate, second quarter 2016								
Q to Q Revised	-1.2	0.2	1.4	5.7	3.1	7.0	-17.2	1.8
Q to Q Previous	-2.3	-0.9	1.4	3.7	1.2	6.2	-16.3	1.8

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 at work using data from the National Compensation Survey (NCS) for 2001 forward and data from the BLS Hours at Work survey, conducted for this purpose, for earlier years. 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 correct 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 inputs. Business output accounted for about 76 percent of the value of GDP in 2015. Nonfarm business, which excludes farming, accounted for about 75 percent of GDP in 2015.

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 2015.

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 dprweb@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.

Year and quarter	Labor productivity	Output	Hours worked	Hourly compensation (1)	Real hourly compensation (2)	Unit labor costs	Unit nonlabor payments (3)	Implicit price deflator (4)

Percent change from previous quarter at annual rate (5)								
2016 III	3.5 r	3.9 r	0.3 r	4.1 r	2.4 r	0.6 r	1.2 r	0.8 r
II	-0.4	1.6	2.0	5.6 r	3.0 r	6.0 r	-3.0 r	2.1
I	-0.7	0.8	1.5	-1.1	-0.7	-0.4	1.4	0.4
2015 ANNUAL	0.8	3.1	2.3	2.8	2.7	2.0	-1.0	0.7
2015 IV	-2.5	0.8	3.4	2.9	2.1	5.5	-6.7	0.1
III	2.3	2.1	-0.2	2.9	1.6	0.6	1.3	0.9
II	1.5	3.0	1.6	5.1	2.6	3.6	0.0	2.1
I	0.7	2.3	1.6	1.6	4.6	0.9	-2.1	-0.4
2014 ANNUAL	0.6	3.0	2.3	2.6	1.0	2.0	1.0	1.6
2014 IV	-1.8	2.8	4.7	3.3	3.6	5.1	-6.5	-0.1
III	3.4	6.4	2.9	3.2	2.3	-0.2	3.3	1.3
II	1.8	5.0	3.1	-1.8	-3.8	-3.6	10.4	2.3
I	-3.6	-2.0	1.6	6.5	4.1	10.4	-8.9	1.5

Percent change from corresponding quarter of previous year								
2016 III	0.0 r	1.8 r	1.8	2.9 r	1.7 r	2.9 r	-1.9 r	0.9
II	-0.3	1.3	1.7	2.6 r	1.5 r	2.9 r	-1.8 r	0.9
I	0.1	1.7	1.6	2.5	1.4	2.3	-1.1	0.9
2015 ANNUAL	0.8	3.1	2.3	2.8	2.7	2.0	-1.0	0.7
2015 IV	0.5	2.1	1.6	3.1	2.7	2.6	-1.9	0.7
III	0.7	2.6	1.9	3.2	3.1	2.5	-1.8	0.6
II	0.9	3.6	2.7	3.3	3.3	2.3	-1.4	0.7
I	1.0	4.1	3.1	1.5	1.6	0.5	1.1	0.8
2014 ANNUAL	0.6	3.0	2.3	2.6	1.0	2.0	1.0	1.6
2014 IV	-0.1	3.0	3.1	2.7	1.5	2.8	-0.7	1.3
III	1.3	3.6	2.3	2.4	0.6	1.0	2.6	1.7
II	0.9	3.1	2.2	1.8	-0.3	0.9	3.1	1.8
I	0.4	2.1	1.7	3.7	2.2	3.3	-1.0	1.4

Indexes 2009=100								
2016 III	106.8 r	120.2 r	112.6 r	118.1 r	105.4 r	110.6 r	110.3 r	110.5 r
II	105.9	119.1	112.5	116.9 r	104.8 r	110.4 r	110.0 r	110.3
I	106.0	118.6	111.9	115.3	104.0	108.8	110.9	109.7
2015 ANNUAL	106.2	117.6	110.7	114.3	103.4	107.5	111.7	109.3
2015 IV	106.1	118.3	111.5	115.6	104.2	108.9	110.5	109.6
III	106.8	118.1	110.6	114.8	103.7	107.5	112.4	109.5
II	106.2	117.5	110.6	114.0	103.3	107.3	112.0	109.3
I	105.8	116.6	110.2	112.6	102.6	106.4	112.0	108.7
2014 ANNUAL	105.4	114.1	108.2	111.1	100.7	105.4	112.9	108.5
2014 IV	105.6	115.9	109.7	112.1	101.5	106.1	112.6	108.9
III	106.1	115.1	108.5	111.2	100.6	104.8	114.5	108.9
II	105.2	113.4	107.7	110.4	100.0	104.9	113.6	108.5
I	104.8	112.0	106.9	110.9	101.0	105.8	110.8	107.9

See footnotes following Table 6.
r=revised

December 6, 2016
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 compensation (1)	Real hourly compensation (2)	Unit labor costs	Unit nonlabor payments (3)	Implicit price deflator (4)

Percent change from previous quarter at annual rate (5)								
2016 III	3.1	3.6 r	0.5 r	3.8 r	2.2 r	0.7 r	1.5 r	1.1 r
II	-0.2	1.6	1.7	6.1 r	3.4 r	6.2 r	-2.8 r	2.3
I	-0.6	0.7	1.4	-0.9	-0.6	-0.3	2.1	0.7
2015 ANNUAL	0.9	3.1	2.1	2.9	2.8	2.0	-0.4	1.0
2015 IV	-2.4	0.8	3.3	3.1	2.3	5.7	-6.2	0.5
III	2.0	1.8	-0.2	2.9	1.5	0.8	1.1	1.0
II	1.2	3.1	1.9	4.8	2.2	3.6	-0.1	2.0
I	1.1	2.4	1.3	1.8	4.8	0.7	-0.1	0.4
2014 ANNUAL	0.8	3.0	2.2	2.8	1.1	2.0	1.3	1.7
2014 IV	-1.6	2.7	4.4	3.6	3.9	5.2	-6.3	0.1
III	4.2	6.5	2.3	3.9	3.0	-0.2	4.5	1.8
II	2.0	5.1	3.0	-1.7	-3.6	-3.7	9.8	1.9
I	-3.7	-1.8	2.0	6.2	3.8	10.2	-9.2	1.4

Percent change from corresponding quarter of previous year								
2016 III	0.0	1.7 r	1.7	3.0 r	1.8 r	3.0 r	-1.4 r	1.1 r
II	-0.3	1.2	1.5	2.7 r	1.6 r	3.1 r	-1.5 r	1.1
I	0.0	1.6	1.6	2.4	1.3	2.4	-0.8	1.0
2015 ANNUAL	0.9	3.1	2.1	2.9	2.8	2.0	-0.4	1.0
2015 IV	0.4	2.0	1.6	3.1	2.7	2.7	-1.4	0.9
III	0.7	2.5	1.8	3.2	3.1	2.6	-1.4	0.8
II	1.2	3.7	2.5	3.5	3.5	2.3	-0.6	1.0
I	1.4	4.2	2.7	1.9	2.0	0.5	1.8	1.0
2014 ANNUAL	0.8	3.0	2.2	2.8	1.1	2.0	1.3	1.7
2014 IV	0.2	3.1	2.9	2.9	1.7	2.7	-0.6	1.3
III	1.6	3.8	2.2	2.6	0.8	1.0	3.0	1.8
II	1.0	3.1	2.1	1.9	-0.1	0.9	3.4	2.0
I	0.3	2.0	1.7	3.8	2.3	3.4	-0.4	1.8

Indexes 2009=100								
2016 III	106.9 r	120.2 r	112.4 r	118.4 r	105.7 r	110.7 r	110.5 r	110.6 r
II	106.1	119.1	112.3	117.3 r	105.1 r	110.5 r	110.1 r	110.3
I	106.2	118.7	111.8	115.6	104.3	108.9	110.9	109.7
2015 ANNUAL	106.5	117.8	110.6	114.5	103.6	107.5	111.5	109.2
2015 IV	106.3	118.5	111.4	115.9	104.4	109.0	110.3	109.5
III	107.0	118.2	110.5	115.0	103.8	107.5	112.1	109.4
II	106.4	117.7	110.6	114.2	103.4	107.3	111.8	109.1
I	106.1	116.8	110.1	112.9	102.9	106.3	111.8	108.6
2014 ANNUAL	105.5	114.3	108.3	111.2	100.8	105.4	111.9	108.1
2014 IV	105.9	116.1	109.7	112.4	101.7	106.1	111.8	108.5
III	106.3	115.3	108.5	111.4	100.7	104.8	113.7	108.5
II	105.2	113.5	107.9	110.3	100.0	104.9	112.4	108.0
I	104.7	112.1	107.1	110.8	100.9	105.8	109.8	107.5

See footnotes following Table 6.
r=revised

December 6, 2016
Source: Bureau of Labor Statistics

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

Year and quarter	Labor productivity	Output	Hours worked	Hourly compensation (1)	Real hourly compensation (2)	Unit labor costs

Percent change from previous quarter at annual rate (5)						
2016 III	0.4 r	0.6 r	0.3 r	3.7 r	2.0 r	3.3 r
II	-0.5	-1.0 r	-0.5	8.0 r	5.4 r	8.5 r
I	1.4	0.6	-0.8	-4.8	-4.5	-6.1
2015 ANNUAL	0.3	1.2	0.8	2.5	2.4	2.2
2015 IV	-1.1	-0.5	0.6	8.2	7.4	9.5
III	3.7	1.9	-1.7	4.4	3.0	0.7
II	1.5	0.6	-0.9	5.4	2.9	3.8
I	-1.7	-1.4	0.3	-1.9	1.0	-0.2
2014 ANNUAL	0.1	1.7	1.6	2.8	1.1	2.7
2014 IV	-1.1	2.7	3.9	3.7	4.1	4.9
III	1.2	2.8	1.6	3.3	2.4	2.0
II	1.9	5.3	3.4	-2.6	-4.5	-4.4
I	0.9	-0.3	-1.2	10.4	8.0	9.5

Percent change from corresponding quarter of previous year						
2016 III	0.0 r	-0.1 r	-0.1	3.7 r	2.5 r	3.6 r
II	0.8	0.2	-0.6	3.8 r	2.7 r	3.0 r
I	1.3	0.6	-0.7	3.2	2.1	1.8
2015 ANNUAL	0.3	1.2	0.8	2.5	2.4	2.2
2015 IV	0.6	0.1	-0.4	4.0	3.5	3.4
III	0.6	1.0	0.4	2.9	2.7	2.3
II	0.0	1.2	1.2	2.6	2.6	2.6
I	0.1	2.4	2.3	0.6	0.7	0.5
2014 ANNUAL	0.1	1.7	1.6	2.8	1.1	2.7
2014 IV	0.7	2.6	1.9	3.6	2.4	2.9
III	0.5	2.4	1.9	2.4	0.6	1.8
II	-0.4	1.5	2.0	1.8	-0.3	2.2
I	-0.5	0.0	0.5	3.3	1.9	3.8

Indexes 2009=100						
2016 III	120.4 r	129.1 r	107.3 r	115.1 r	102.8 r	95.7 r
II	120.2 r	128.9 r	107.2	114.1 r	102.3 r	94.9 r
I	120.4	129.3	107.4	111.9	100.9	93.0
2015 ANNUAL	119.6	128.8	107.7	110.7	100.2	92.5
2015 IV	120.0	129.1	107.6	113.3	102.1	94.4
III	120.3	129.2	107.4	111.1	100.3	92.3
II	119.3	128.6	107.9	109.9	99.5	92.1
I	118.8	128.4	108.1	108.4	98.8	91.3
2014 ANNUAL	119.2	127.4	106.8	107.9	97.8	90.5
2014 IV	119.3	128.9	108.0	109.0	98.6	91.3
III	119.6	128.0	107.0	108.0	97.6	90.2
II	119.3	127.1	106.6	107.1	97.0	89.8
I	118.7	125.5	105.7	107.8	98.2	90.8

See footnotes following Table 6.
r=revised

December 6, 2016
Source: Bureau of Labor Statistics

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

Year and quarter	Labor productivity	Output	Hours worked	Hourly compensation (1)	Real hourly compensation (2)	Unit labor costs

Percent change from previous quarter at annual rate (5)						
2016 III	3.0 r	2.7 r	-0.3 r	4.2 r	2.5 r	1.2 r
II	2.5 r	0.6 r	-1.8	10.1 r	7.4 r	7.5 r
I	-0.4	-0.1	0.2	-6.4	-6.0	-6.0
2015 ANNUAL	0.0	0.5	0.5	3.0	2.8	2.9
2015 IV	-2.1	-1.4	0.7	9.4	8.5	11.8
III	5.1	2.3	-2.7	3.9	2.5	-1.1
II	2.2	0.5	-1.7	5.2	2.6	2.9
I	-4.0	-4.0	0.1	-0.4	2.5	3.8
2014 ANNUAL	0.7	2.8	2.1	2.4	0.7	1.7
2014 IV	-0.4	1.9	2.3	4.3	4.6	4.7
III	0.8	3.7	2.9	3.4	2.5	2.6
II	2.1	7.2	4.9	-2.7	-4.6	-4.7
I	1.5	0.4	-1.1	10.6	8.2	9.0

Percent change from corresponding quarter of previous year						
2016 III	0.7 r	0.4 r	-0.3 r	4.1 r	2.9 r	3.4 r
II	1.2	0.3	-0.9	4.0 r	2.9 r	2.8 r
I	1.2	0.3	-0.9	2.9	1.8	1.7
2015 ANNUAL	0.0	0.5	0.5	3.0	2.8	2.9
2015 IV	0.2	-0.7	-0.9	4.5	4.0	4.2
III	0.7	0.2	-0.5	3.2	3.1	2.5
II	-0.4	0.5	0.9	3.1	3.1	3.5
I	-0.4	2.1	2.5	1.1	1.2	1.5
2014 ANNUAL	0.7	2.8	2.1	2.4	0.7	1.7
2014 IV	1.0	3.3	2.2	3.8	2.6	2.8
III	1.0	3.9	2.9	1.7	-0.1	0.7
II	0.3	3.0	2.6	1.3	-0.8	0.9
I	0.3	1.0	0.7	2.7	1.3	2.4

Indexes 2009=100						
2016 III	123.0 r	135.0 r	109.7 r	114.6 r	102.3 r	93.1 r
II	122.1 r	134.1 r	109.8	113.4 r	101.7 r	92.9 r
I	121.4	133.9	110.3	110.7	99.9	91.2
2015 ANNUAL	121.1	133.8	110.6	109.8	99.4	90.7
2015 IV	121.5	133.9	110.2	112.6	101.4	92.6
III	122.2	134.4	110.0	110.1	99.4	90.1
II	120.7	133.6	110.8	109.0	98.8	90.4
I	120.0	133.5	111.2	107.6	98.1	89.7
2014 ANNUAL	121.0	133.1	110.0	106.7	96.7	88.1
2014 IV	121.2	134.8	111.2	107.8	97.5	88.9
III	121.3	134.2	110.6	106.6	96.4	87.9
II	121.1	132.9	109.8	105.8	95.8	87.3
I	120.5	130.7	108.5	106.5	97.0	88.4

See footnotes following Table 6.
r=revised

December 6, 2016
Source: Bureau of Labor Statistics

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

Year and quarter	Labor productivity	Output	Hours worked	Hourly compensation (1)	Real hourly compensation (2)	Unit labor costs

Percent change from previous quarter at annual rate (5)						
2016 III	-3.0 r	-1.9 r	1.1	2.8 r	1.2 r	6.0 r
II	-4.6	-2.9	1.8	4.4 r	1.8 r	9.5 r
I	4.0	1.4	-2.5	-1.9	-1.5	-5.7
2015 ANNUAL	0.5	1.9	1.5	1.7	1.6	1.3
2015 IV	0.1	0.6	0.5	6.1	5.2	6.0
III	1.5	1.4	-0.1	5.5	4.1	4.0
II	0.3	0.7	0.4	6.1	3.5	5.8
I	1.0	1.8	0.8	-4.7	-1.8	-5.6
2014 ANNUAL	0.0	0.6	0.6	3.4	1.8	3.5
2014 IV	-2.7	3.7	6.6	3.0	3.4	5.8
III	2.6	1.9	-0.7	2.9	2.0	0.3
II	2.5	3.3	0.8	-2.6	-4.5	-5.0
I	0.3	-1.0	-1.3	10.0	7.6	9.7

Percent change from corresponding quarter of previous year						
2016 III	-0.9 r	-0.7 r	0.2	2.8 r	1.6 r	3.8 r
II	0.2	0.1	-0.1	3.5 r	2.4 r	3.3 r
I	1.5	1.0	-0.4	3.9	2.8	2.4
2015 ANNUAL	0.5	1.9	1.5	1.7	1.6	1.3
2015 IV	0.7	1.1	0.4	3.2	2.7	2.4
III	0.0	1.9	1.9	2.4	2.3	2.4
II	0.3	2.0	1.7	1.8	1.7	1.5
I	0.8	2.7	1.8	-0.4	-0.3	-1.2
2014 ANNUAL	0.0	0.6	0.6	3.4	1.8	3.5
2014 IV	0.7	2.0	1.3	3.2	2.0	2.6
III	0.7	1.0	0.2	3.5	1.8	2.8
II	-0.7	0.2	0.8	2.6	0.5	3.3
I	-0.9	-0.7	0.2	4.4	2.9	5.3

Indexes 2009=100						
2016 III	112.2 r	116.0 r	103.4	115.6 r	103.2 r	103.0 r
II	113.0 r	116.6 r	103.2	114.8 r	102.9 r	101.5 r
I	114.4	117.5	102.7	113.5	102.4	99.3
2015 ANNUAL	113.0	116.6	103.2	111.7	101.1	98.8
2015 IV	113.2	117.0	103.3	114.1	102.8	100.7
III	113.2	116.8	103.2	112.4	101.5	99.3
II	112.8	116.4	103.2	110.9	100.5	98.3
I	112.7	116.2	103.1	109.3	99.6	96.9
2014 ANNUAL	112.5	114.4	101.7	109.7	99.5	97.6
2014 IV	112.4	115.7	102.9	110.6	100.1	98.3
III	113.2	114.7	101.3	109.7	99.2	96.9
II	112.5	114.1	101.5	109.0	98.7	96.9
I	111.8	113.2	101.3	109.7	99.9	98.1

See footnotes following Table 6.
r=revised

December 6, 2016
Source: Bureau of Labor Statistics

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

Year and quarter	Labor productivity	Output	Hours worked	Hourly compensation (1)	Real hourly compensation (2)	Unit labor costs	Unit nonlabor costs (6)	Total unit costs (7)	Unit profits (8)	Implicit price deflator (4)
Percent change from previous quarter at annual rate (5)										
2016 III	7.1	8.3	1.1	4.3	2.6	-2.7	-4.9	-3.4	18.9	-0.7
II	-1.2 r	0.2 r	1.4	5.7 r	3.1 r	7.0 r	1.0 r	5.0 r	-17.2 r	1.8
I	1.3	1.9	0.6	-1.9	-1.6	-3.2	-12.1	-6.1	30.7	-2.0
2015 ANNUAL	0.9	3.2	2.2	2.9	2.8	2.0	0.6	1.5	-6.6	0.3
2015 IV	-0.8	2.7	3.6	1.9	1.1	2.7	13.7	6.1	-37.1	-1.0
III	1.1	2.6	1.5	1.9	0.6	0.8	0.7	0.8	0.0	0.7
II	1.5	2.4	0.9	3.9	1.4	2.3	0.1	1.6	-17.0	-1.3
I	-1.2	0.2	1.4	5.8	8.9	7.0	1.2	5.1	-11.6	2.4
2014 ANNUAL	1.2	3.9	2.7	2.5	0.8	1.3	-0.4	0.7	1.5	0.8
2014 IV	1.5	4.9	3.4	1.7	2.0	0.2	-1.2	-0.3	-5.5	-1.1
III	4.2	7.0	2.7	2.1	1.3	-2.0	-2.1	-2.0	15.0	0.4
II	1.1	6.2	5.0	-2.6	-4.5	-3.7	-1.4	-3.0	37.2	2.0
I	1.0	2.7	1.6	9.3	6.9	8.1	0.3	5.5	-19.9	1.5
Percent change from corresponding quarter of previous year										
2016 III	1.6	3.2	1.7	2.4	1.3	0.9	-1.0	0.3	-5.2	-0.5
II	0.1 r	1.9 r	1.8	1.9 r	0.8 r	1.8 r	0.4 r	1.3	-9.2 r	-0.2
I	0.8	2.4	1.6	1.4	0.4	0.7	0.2	0.5	-9.1	-0.9
2015 ANNUAL	0.9	3.2	2.2	2.9	2.8	2.0	0.6	1.5	-6.6	0.3
2015 IV	0.2	2.0	1.8	3.4	2.9	3.2	3.8	3.4	-17.6	0.2
III	0.7	2.5	1.8	3.3	3.2	2.6	0.2	1.8	-8.7	0.2
II	1.5	3.6	2.1	3.3	3.3	1.8	-0.5	1.1	-5.5	0.1
I	1.4	4.6	3.1	1.7	1.8	0.3	-0.9	-0.1	7.2	0.9
2014 ANNUAL	1.2	3.9	2.7	2.5	0.8	1.3	-0.4	0.7	1.5	0.8
2014 IV	1.9	5.2	3.2	2.5	1.3	0.6	-1.1	0.0	4.5	0.7
III	1.8	4.8	2.9	2.3	0.6	0.5	-0.7	0.1	6.3	1.0
II	0.0	2.8	2.8	1.8	-0.3	1.7	0.5	1.3	2.1	1.4
I	0.9	2.9	1.9	3.4	1.9	2.4	-0.2	1.6	-7.0	0.3
Indexes 2009=100										
2016 III	111.9	128.5	114.8	117.1	104.5	104.6	96.4	101.9	135.1	105.4
II	110.0 r	126.0 r	114.5	115.9 r	103.9 r	105.4 r	97.6 r	102.8 r	129.4 r	105.5
I	110.3	125.9	114.1	114.3	103.1	103.6	97.3	101.5	135.7	105.1
2015 ANNUAL	109.9	124.1	112.9	113.9	103.1	103.7	98.1	101.8	140.2	105.8
2015 IV	110.0	125.3	114.0	114.9	103.5	104.4	100.5	103.1	126.9	105.6
III	110.2	124.5	113.0	114.3	103.2	103.7	97.4	101.6	142.5	105.9
II	109.9	123.7	112.5	113.8	103.1	103.5	97.2	101.4	142.5	105.7
I	109.5	122.9	112.3	112.7	102.7	102.9	97.2	101.0	149.3	106.1
2014 ANNUAL	108.9	120.3	110.5	110.7	100.3	101.6	97.5	100.2	150.1	105.5
2014 IV	109.8	122.9	111.9	111.1	100.6	101.2	96.9	99.8	153.9	105.4
III	109.4	121.4	111.0	110.7	100.1	101.1	97.2	99.8	156.1	105.7
II	108.3	119.4	110.2	110.1	99.8	101.6	97.7	100.3	150.8	105.6
I	108.0	117.6	108.9	110.8	100.9	102.6	98.1	101.1	139.3	105.1

See footnotes following Table 6.
r=revised

December 6, 2016
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 -1.6 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 2016.

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 1978-2015 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.