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PRODUCTIVITY AND COSTS

First Quarter 2018, Revised

Nonfarm business sector labor productivity increased 0.4 percent during the first quarter of 2018, the U.S. Bureau of Labor Statistics reported today, as output increased 2.7 percent and hours worked increased 2.3 percent. (All quarterly percent changes in this release are seasonally adjusted annual rates.) From the first quarter of 2017 to the first quarter of 2018, productivity increased 1.3 percent, reflecting a 3.6-percent increase in output and a 2.3-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.

Chart 1. Labor productivity, nonfarm business, 2014Q1 - 2018Q1

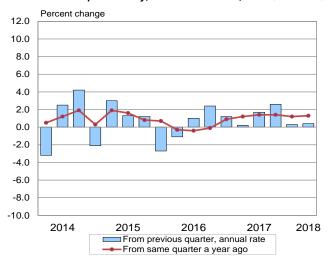
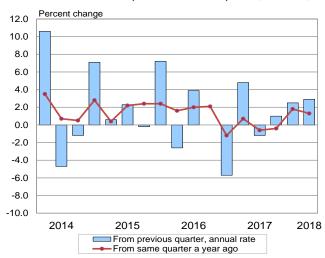


Chart 2. Unit labor costs, nonfarm business, 2014Q1 - 2018Q1



Unit labor costs in the nonfarm business sector increased 2.9 percent in the first quarter of 2018, reflecting a 3.3-percent increase in hourly compensation and a 0.4-percent increase in productivity. Unit labor costs increased 1.3 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 decreased 1.2 percent in the first quarter of 2018, as output increased 1.7 percent and hours worked increased 2.9 percent. Productivity declined 0.8 percent in the durable manufacturing sector, as output rose 3.3 percent and hours worked increased 4.2 percent. In the

non-durable goods manufacturing sector, a 0.9-percent decrease in productivity reflected no change in output and a 0.9-percent increase in hours worked. Over the last four quarters, total manufacturing sector productivity increased 0.3 percent, as output increased 2.0 percent and hours worked increased 1.7 percent. **Unit labor costs** in manufacturing increased 5.2 percent in the first quarter of 2018 and rose 2.5 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 first-quarter 2018 measures were announced today for the **nonfinancial corporate sector.** Productivity increased 1.9 percent in the first quarter of 2018 and increased 1.7 percent over the last four quarters. Unit profits of nonfinancial corporations fell at a 9.5 percent annual rate in the first quarter of 2018 and increased 1.7 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. Table B1 presents previous and revised productivity and related measures for the business, nonfarm business, and manufacturing sectors for the first quarter of 2018.

In the **first quarter of 2018**, nonfarm business productivity rose 0.4 percent, rather than 0.7 percent as reported May 3, the combined effect of a 0.1-percentage point downward revision to output and a 0.2-percentage point upward revision to hours worked. Unit labor costs were revised up--due primarily to the downward revision to productivity--and increased 2.9 percent. In the manufacturing sector, productivity was revised down from an increase of 0.5 percent to a decrease of 1.2 percent, due almost entirely to a 1.6-percentage point downward revision to output. Hourly compensation was revised up 0.7 percentage point. As a result of the downward revision to productivity and the upward revision to hourly compensation, unit labor costs increased 5.2 percent rather than 2.7 percent as previously reported.

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

In the **fourth quarter of 2017**, labor productivity in the nonfarm business sector increased at the same 0.3-percent rate reported May 3. Hourly compensation was revised up, and increased 2.9 percent. As a result, unit labor costs increased 2.5 percent in the fourth quarter of 2017, rather than increasing 2.1 percent. Total manufacturing sector productivity increased 4.3 percent in the fourth quarter of 2017, a smaller increase than previously reported. Hourly compensation was revised up 2.3 percentage points; and when combined with the small downward revision to productivity this led to an upward revision to unit labor costs, which rose 0.2 percent rather than decreasing 2.2 percent.

Manufacturing output and all related measures—including labor productivity—were revised back as far as 2008 to incorporate revised BLS measures of sectoral output in manufacturing industries published May 16, 2018 in *Multifactor Productivity Trends In Manufacturing - 2016*. The period most affected was from 2014 to 2016, with the average annual rate of productivity growth over this period revised down from -0.1 percent to -0.6 percent. The average annual rate of manufacturing productivity growth from 2007 to 2017 was unrevised at 0.7 percent, well below the long-term rate from 1987 to 2017 of 2.7 percent. (See tables 3, 4, and 5, and appendix tables 1, 2, and 3.) For more complete information see www.bls.gov/mfp/sectoraloutputrevisions.htm.

In the nonfinancial corporate sector, productivity rose 1.2 percent in the fourth quarter of 2017 rather than increasing 0.8 percent as previously reported, due solely to an upward revision to output. Annual

average productivity in the nonfinancial corporate sector increased 1.0 percent in 2017, the same as the preliminary estimate. Unit profits rose 2.2 percent in the fourth quarter of 2017, rather than the 2.6 percent increase reported May 3. (See table 6.)

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

The preliminary Productivity and Costs news release for second-quarter 2018 is scheduled to be released on Wednesday, August 15, 2018 at 8:30 a.m. (EDT)

Table A1. Labor productivity growth and related measures - revised first-quarter 2018 (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	s Previous quarter	0.4	2.7	2.3	3.3	-0.2	2.9
	A year ago	1.3	3.6	2.3	2.6	0.3	1.3
Business	Previous quarter	0.7	2.6	1.8	3.9	0.4	3.1
	A year ago	1.3	3.5	2.2	2.7	0.4	1.4
Manufacturing	Previous quarter	-1.2	1.7	2.9	3.9	0.4	5.2
	A year ago	0.3	2.0	1.7	2.9	0.6	2.5
Durable	Previous quarter	-0.8	3.3	4.2	5.8	2.2	6.7
manufacturing	A year ago	8.0	2.0	1.2	4.5	2.2	3.6
Nondurable	Previous quarter	-0.9	0.0	0.9	0.0	-3.4	0.9
manufacturing	A year ago	-0.5	2.0	2.5	-0.1	-2.3	0.4

Table A2. Labor productivity growth and related measures - preliminary first-quarter 2018 (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	1.9	4.2	2.2	3.8	0.3	1.8
corporate	A year ago	1.7	4.1	2.3	2.6	0.4	0.9

Table B1. Labor productivity growth and related measures - revised and previously published first-quarter 2018 (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	0.4	2.7	2.3	3.3	-0.2	2.9
	Previously published	0.7	2.8	2.1	3.4	-0.1	2.7
Business	Revised	0.7	2.6	1.8	3.9	0.4	3.1
	Previously published	1.1	2.8	1.6	3.9	0.4	2.8
Manufacturing	Revised	-1.2	1.7	2.9	3.9	0.4	5.2
	Previously published	0.5	3.3	2.8	3.2	-0.3	2.7
Durable	Revised	-0.8	3.3	4.2	5.8	2.2	6.7
manufacturing	Previously published	1.3	5.5	4.2	4.2	0.7	2.9
Nondurable	Revised	-0.9	0.0	0.9	0.0	-3.4	0.9
manufacturing	Previously published	0.6	1.1	0.5	1.0	-2.4	0.4

Table B2. Labor productivity growth and related measures - revised and previously published fourth-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	0.3	3.7	3.3	2.9	-0.4	2.5
	Previously published	0.3	3.7	3.3	2.4	-0.8	2.1
Business	Revised	-0.4	3.6	4.1	2.1	-1.2	2.6
	Previously published	-0.4	3.6	4.1	1.7	-1.6	2.1
Manufacturing	Revised	4.3	5.4	1.1	4.5	1.1	0.2
	Previously published	4.5	5.6	1.1	2.2	-1.1	-2.2
Durable	Revised	4.7	5.1	0.4	7.0	3.5	2.2
manufacturing	Previously published	5.1	5.5	0.4	2.3	-1.0	-2.6
Nondurable	Revised	3.5	5.8	2.2	0.0	-3.2	-3.4
manufacturing	Previously published	3.5	5.8	2.2	2.3	-1.0	-1.1
Nonfinancial	Revised	1.2	3.9	2.7	2.6	-0.7	1.4
corporate	Previously published	0.8	3.5	2.7	2.0	-1.3	1.2

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 76 percent of the value of GDP in 2017. Nonfarm business, which excludes farming, accounted for about 75 percent of GDP in 2017.

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 Index 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 49 percent of the value of GDP in 2017.

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: 202-691-5200; Federal Relay Service number: 1-800-877-8339.

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

and quarter	Labor produc- tivity	Output		(1)	Real hourly compen- sation (2)	costs	(3)	-
		Percent chan						
2018 I	0.7 r	2.6 r	1.8 r	3.9	0.4	3.1 r	-0.5 r	1.5 r
2017 ANNUAL	1.2	2.7	1.5	1.7	-0.4	0.5	3.0	1.6
2017 IV III II I	-0.4 3.2 1.6 -0.7	3.6 3.9 3.7 1.4	4.1 0.7 2.1 2.0	2.1 r 4.2 0.6 4.4		2.6 r 0.9 -1.0 5.1	3.2 2.8	2.4 1.9 0.6 1.5
2016 ANNUAL	0.1	1.6	1.5	1.1	-0.2	1.0	1.0	1.0
2016 IV III II	1.9 2.6 0.8 -1.0	2.2 3.3 2.6 0.4	0.7 1.8 1.4	2.8 4.5 -3.7	-6.3 0.9 1.7 -3.6	0.1 3.7 -2.8	2.5 0.0 5.1	2.2 1.1 2.1 0.5
	Per	rcent change	from corre	sponding qu	arter of pre	evious year		
2018 I	1.3 r	3.5	2.2 r	2.7 r	0.4 r	1.4 r	1.9 r	1.6
2017 ANNUAL	1.2	2.7	1.5	1.7	-0.4	0.5	3.0	1.6
2017 IV III II	1.5 1.4 1.1		1.3 1.3 1.2	2.8 r 1.3 0.9 1.9	-0.7 -0.9	1.9 r -0.2 -0.4 0.8	3.9 3.7	1.6 1.6 1.4 1.7
2016 ANNUAL	0.1	1.6	1.5	1.1			1.0	1.0
2016 IV III II I	1.1 -0.1 -0.4 -0.2	2.1 1.6 1.2 1.4	1.0 1.8 1.6 1.6	-0.1 1.9 1.4 1.3	-1.9 0.7 0.3 0.2	-1.2 2.0 1.9 1.5	5.1 -0.6 -0.4 0.0	1.5 0.9 0.9 0.8
			Inde	xes 2009=10	0			
2018 I	108.9 r	126.1 r	115.8 r	120.0 r	102.9 r	110.2 r	117.8 r	113.4 r
2017 ANNUAL	108.2	123.6	114.1	117.7 r	102.8 r	108.8 r	116.8 r	112.1
2017 IV III II I	108.7 108.8 107.9 107.5	125.3 124.1 123.0 121.8	115.2 114.1 113.9 113.3	118.8 r 118.2 117.0 116.8	102.8 r 103.1 102.6 102.5	109.3 r 108.6 108.4 108.7	117.9 r 117.3 116.4 115.6	112.9 112.3 111.7 111.6
2016 ANNUAL	106.9	120.3	112.5	115.7	103.2	108.2	113.4	110.4
III	107.7 107.2 106.5 106.3	119.0	112.7	115.6 116.7 115.9 114.6	103.8	108.9	112.9	111.2 110.5 110.2 109.7

See footnotes following Table 6. June 6, 2018 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 produc- tivity	Output		(1)	compen- sation (2)	costs	Unit nonlabor payments (3)	deflator (4)
					er at annua			
2018 I	0.4 r	2.7 r	2.3 r	3.3 r	-0.2 r	2.9 r	-0.4 r	1.5 r
2017 ANNUAL	1.3	2.9	1.6	1.7	-0.5	0.4 r	3.0	1.5
2017 IV III II I	0.3 2.6 1.7 0.2	3.7 4.0 3.9 1.8	3.3 1.3 2.2 1.5	2.9 r 3.6 0.5 5.0	-0.4 r 1.5 0.4 2.0	2.5 r 1.0 -1.2 4.8	2.3 r 3.5 3.0 -3.9	2.4 2.0 0.6 0.9
2016 ANNUAL	0.0	1.5	1.5	1.1	-0.2	1.1	1.4	1.2
2016 IV III II I	1.2 2.4 1.0 -1.1	2.2 3.3 2.5 0.2	0.9 1.5 1.3		-7.1 0.6 2.1 -3.6	0.0 3.9 -2.6	13.9 3.1 0.0 5.8	2.3 1.3 2.2 0.9
					arter of pro			
2018 I	1.3	3.6	2.3 r	2.6 r	0.3 r	1.3 r	2.1 r	1.6 r
2017 ANNUAL	1.3	2.9	1.6	1.7	-0.5	0.4 r	3.0	1.5
2017 IV III II I	1.2 1.4 1.4	3.3 3.0 2.8 2.5	2.1 1.5 1.4 1.2	3.0 r 1.1 0.8 1.9	-0.9	1.8 r -0.4 -0.6 0.7	1.2 r 3.9 3.8 3.1	1.5 1.5 1.3 1.7
2016 ANNUAL	0.0	1.5	1.5	1.1	-0.2	1.1	1.4	1.2
2016 IV III II I	0.9 -0.1 -0.4 -0.3	2.1 1.6 1.1 1.3	1.2 1.7 1.5 1.6	-0.3 1.9 1.6 1.3	-2.1 0.8 0.5 0.2	-1.2 2.1 2.0 1.6	5.6 -0.1 -0.2 0.2	1.7 1.1 1.1 1.0
			Inde	exes 2009=10	0			
2018 I	109.1 r	126.3 r	115.8 r	120.1 r	103.1 r	110.2 r	117.8 r	113.4 r
2017 ANNUAL	108.4	123.7	114.1	118.0 r	103.0 r	108.8 r	116.8 r	112.1
2017 IV III II	108.9 108.8 108.1 107.7	125.5 124.3 123.1 122.0	115.2 114.2 113.9 113.3	119.1 r 118.3 117.3 117.1	102.9	109.4 r 108.7 108.4 108.7	118.0 r 117.3 116.3 115.5	113.0 112.3 111.7 111.5
2016 ANNUAL	107.0	120.2	112.4	116.0	103.5	108.4	113.4	110.5
III	106.7 106.4	119.0	111.0	115.7 117.0 116.3 114.9	103.4	107.5 109.1 109.1 108.0	116.6 112.9 112.0 112.0	111.3 110.7 110.3 109.7

See footnotes following Table 6. June 6, 2018 r=revised Source: Bureau of Labor Statistics

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

Year and quar		Labor produc- tivity	Output		Hourly compensa- tion (1)		Unit labor costs
		Per	cent change from		er at annual rate		
2018	I	-1.2 r	1.7 r	2.9 r	3.9 r	0.4 r	5.2 r
2017	ANNUAL	0.7 r	1.8 r	1.0	1.7 r	-0.4 r	1.0 r
2017	IV	4.3 r	5.4 r	1.1	4.5 r	1.1 r	0.2 r
	III	-5.0	-1.9	3.3	0.7	-1.4	6.0
	II	3.5	2.9	-0.6	2.3	2.3	-1.1
	I	-0.4	2.2	2.5	4.0	1.0	4.4
2016	ANNUAL	0.3 r	0.4 r	0.0	0.7	-0.5	0.4 r
2016	IV	2.6 r	2.4 r	-0.3	-4.2	-6.7	-6.6 r
	III	0.6 r	1.7 r		2.2	0.3	1.5 r
	II	-0.9 r	-1.1 r	-0.2	7.3	4.4	8.2 r
	I	2.5 r	1.8 r		-9.8	-9.8	-12.0 r
					arter of previous		
2018	I	0.3 r	2.0 r	1.7 r	2.9 r	0.6 r	2.5 r
2017	ANNUAL	0.7 r	1.8 r	1.0	1.7 r	-0.4 r	1.0 r
2017	IV	0.6	2.1 r	1.5	2.9 r	0.7 r	2.3 r
	III	0.2 r	1.4 r	1.2	0.7	-1.3	0.5 r
	II	1.6 r	2.3 r	0.7	1.0	-0.8	-0.5 r
	I	0.5 r	1.3 r	0.8	2.2	-0.3	1.7 r
2016	ANNUAL	0.3 r	0.4 r	0.0	0.7	-0.5	0.4 r
2016	IV	1.2 r	1.2 r	0.0	-1.3	-3.1	-2.5 r
	III	-0.2 r	0.3 r	0.4	1.8	0.6	1.9 r
	II	0.2 r	0.0 r	-0.2	1.7	0.6	1.5 r
	I	0.1 r	-0.1 r	-0.1	0.8	-0.3	0.7
				Indexes 2009=10	0		
2018	I	106.5 r	117.6 r	110.4 r	115.7 r	99.3 r	108.7 r
2017	ANNUAL	106.4 r	116.0 r	109.0	113.4 r	99.0 r	106.6 r
2017	IV	106.8 r	117.1 r	109.6	114.6 r	99.2 r	107.3 r
	III	105.7 r	115.5 r	109.3	113.4	98.9	107.3 r
	ΙΙ	107.0 r			113.2	99.3	105.7 r
	I	106.1 r	115.3 r	108.6	112.5	98.7	106.0 r
2016	ANNUAL	105.7 r	114.0 r	107.9	111.5	99.5	105.5 r
2016	IV	106.2 r	114.6 r 114.0 r	107.9	111.4	98.5	104.9 r
	III	105.5 r	114.0 r	108.0	112.6	100.2	106.7 r
	II	105.4 r	113.5 r	107.7	112.0	100.1	106.3 r
	I	105.6 r	113.8 r		110.0	99.0	104.2 r

See footnotes following Table 6. r=revised

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

Year and quarte	er	Laboı produ tivit		utput	Hours worked	Hourl compe tion	_	
						arter at annua	 l rate (5)	
2018 1	I	-0.8	r	3.3 r	4.2	5.8	r 2.2	r 6.7 m
2017 <i>I</i>	ANNUAL	1.1	r	1.7 r	0.6	2.2	r 0.1	r 1.1 m
2017 1	IV	4.7	r	5.1 r	0.4	7.0	r 3.5	r 2.2 1
]	III	-4.8		-2.3	2.6	-0.1	-2.2	
]	II	4.7		2.1	-2.4	5.4	5.3	0.7
]	I	-0.9		2.8	3.7	2.5		
2016 A	ANNUAL	-0.8	r	-1.2 r	-0.4	1.1	-0.2	2.0 1
2016 1	T 7.7	3.1	~	2.5 r	-0.6	-3.5	-6.1	-6.4 1
	III	1.9		2.2 r				
	II			-1.9 r				
	I	-1.2		-1.9 r				
2018 1	I	0.8	r	2.0 r	1.2	4.5	r 2.2	r 3.6 m
2017 A	ANNUAL	1.1	r	1.7 r	0.6	2.2	r 0.1	r 1.1 1
2017 1	T 7 7	0.8	~	1.9 r	1.0	3.7	r 1.5	r 2.8 1
	III	0.5		1.2		1.0		
	ΙΙ	2.2		2.4 r		1.6		
]	I	0.9	r	1.4 r	0.5	2.6	0.0	1.7 1
2016 A	ANNUAL	-0.8	r	-1.2 r	-0.4	1.1	-0.2	2.0
2016	IV	0.8	r	0.4 r	-0.4	-0.9	-2.7	-1.8 1
]	III	-1.3		-1.4 r		2.5	1.3	3.9 1
]	II	-1.4		-2.0 r		2.3		
]	I	-1.5	r	-1.9 r	-0.4	0.7		
					Indexes 2009	=100		
2018]	I	110.8	r 1	24.5 r	112.3	r 117.0	r 100.4	r 105.6 m
2017 F	ANNUAL	110.5	r 1	.22.5 r	110.9	113.6	r 99.1	r 102.8 m
2017]	IV	111.0	r 1	23.5 r	111.2	115.4	r 99.8	r 103.9 m
]	III	109.8		21.9 r		113.4		103.3
]	II	111.1		22.6 r	110.4	113.5	99.5	
	I	109.9		22.0 r				
2016 A	ANNUAL	109.3	r 1	20.4 r	110.2	111.1	99.1	101.7
2016 1	T 7.7	110 1	₂ 1	21 2	110.0	111.3	98.4	101.1
	1 V T T T	100.1	_ 1	20 4	110.0	111.3		
	III	109.3 108.8	T 1	20.4 r	110.2 110.1	112.3		
	L	108.9	r 1	.∠∪.3 r	110.5	109.1	98.2	100.2 1
	notrotes fo							June 6 2018

r=revised

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

Year and quar		Labor produc- tivity	Output		Hourly compensa- tion (1)		Unit labor costs
		Percent	t change from p		at annual rate		
2018	I	-0.9 r	0.0 r	0.9 r	0.0 r	-3.4 r	0.9 r
2017	ANNUAL	-0.2 r	1.6 r	1.8	0.8 r	-1.3 r	1.0 r
2017	IV	3.5	5.8	2.2	0.0 r	-3.2 r	-3.4 r
	III	-5.5	-1.4	4.3	2.5	0.4	8.5
	ΙΙ	1.1	3.7	2.5	-2.9	-3.0	-4.0
	I	0.9	1.5	0.6	6.8	3.7	5.9 r
2016	ANNUAL	0.7 r	1.4 r	0.7	0.1	-1.2	-0.6 r
2016	IV	1.7 r	1.9 r	0.2	-5.2	-7.8	-6.8 r
	III	-1.9 r	0.5 r	2.4	1.8	0.0	3.8 r
	II	-3.2 r	-1.2 r	2.0	3.5	0.8	6.9 r
	I	5.7 r	3.7 r	-1.9	-7.6	-7.6	-12.6 r
					ter of previous		
2018	I	-0.5 r	2.0 r	2.5 r	-0.1 r	-2.3 r	0.4 r
2017	ANNUAL	-0.2 r	1.6 r	1.8	0.8 r	-1.3 r	1.0 r
2017	IV	-0.1	2.4	2.4	1.5 r	-0.6 r	1.6 r
	III	-0.5 r	1.4 r	1.9	0.2	-1.8	0.7
	II	0.4 r	1.9 r	1.4	0.0	-1.9	-0.4 r
	I	-0.6 r	0.6 r	1.3	1.6	-0.9	2.3 r
2016	ANNUAL	0.7 r	1.4 r	0.7	0.1	-1.2	-0.6 r
2016	IV	0.5 r	1.2 r	0.7	-2.0	-3.7	-2.5 r
	III	0.0 r	1.2 r	1.2	0.5	-0.6	0.6 r
	ΙΙ	0.9 r	1.5 r	0.7	0.8	-0.3	-0.1 r
	I	1.4 r	1.8 r	0.4	1.1	0.0	-0.2 r
			In	dexes 2009=100			
2018	I	104.1 r	111.7 r	107.3 r	112.8 r	96.8 r	108.3 r
2017	ANNUAL	104.4 r	110.5 r	105.9	112.7 r	98.4 r	108.0 r
2017	IV	104.4 r	111.7 r	107.1	112.8 r	97.6 r	108.1 r
	III	103.5 r	110.2 r	106.5	112.8	98.4	109.0 r
	ΙΙ	105.0 r	110.6 r	105.4	112.1	98.3	106.8 r
	I	104.7 r	109.6 r	104.7	112.9	99.1	107.9 r
2016	ANNUAL	104.6 r	108.8 r	104.1	111.7	99.7	106.9 r
2016	IV	104.4 r	109.2 r	104.5	111.1	98.2	106.4 r
	III	104.4 r 104.0 r	108.7 r	104.5	112.6	100.2	108.3 r
	II	104.5 r	108.5 r	103.9	112.1	100.2	107.3 r
	I	105.3 r			111.1	100.2	105.5 r

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

Year and quarter	Labor produc- tivity	Output	Hours worked	Hourly compen- sation (1)	sation (2)	labor costs	Unit nonlabor costs (6)	costs (7)	Unit profits (8)	Implicit price deflator (4)
		Percent		from previo						
2018 I	1.9	4.2	2.2	3.8	0.3	1.8	2.3	2.0	-9.5	0.4
2017 ANNUA	L 1.0	2.8	1.7	1.6 r	-0.6	0.5	0.7	0.6	0.3	0.5
2017 IV III II	1.2 r 0.3 3.6 2.2	3.9 r 1.7 6.4 4.1	2.7 1.5 2.7 1.8	2.6 r 3.6 0.5 4.5	-0.7 r 1.4 0.4 1.5	1.4 r 3.3 -3.0 2.3	-1.6 r 1.8 -1.8 -1.0	0.4 2.8 -2.6 1.2	2.2 r 1.6 13.7 -2.7	0.7 2.7 -0.6 0.7
2016 ANNUA		1.4	1.5	1.1	-0.2	1.2	-0.5	0.7	-5.3	-0.2
2016 IV III II I	-4.6 5.8 -1.9 0.7	-3.9 7.4 -0.6 1.1	0.7 1.5 1.3 0.4	-3.7 1.9 3.9 -1.6	-6.3 0.0 1.1 -1.6	0.9 -3.7 5.9 -2.3	1.7 -13.0	3.5 -4.0 4.5 -5.9	-2.8 7.3 -28.8 47.7	2.7 -2.6 -0.8 0.0
		Percent o	change fr	om correspo	nding quar	ter of pr	revious yea	ar		
2018 I	1.7	4.1	2.3	2.6	0.4	0.9	0.2	0.6	1.7	0.8
2017 ANNUA	L 1.0	2.8	1.7	1.6 r	-0.6	0.5	0.7	0.6	0.3	0.5
2017 IV III II I	1.8 r 0.3 1.7 0.3	4.0 r 2.0 3.4 1.7	2.2 1.7 1.7 1.3	2.8 r 1.2 0.7 1.6	0.7 r -0.8 -1.1 -1.0	1.0 r 0.8 -0.9 1.3	-0.7 r 2.0 0.4 1.2	0.4 1.2 -0.5 1.3	3.5 r 2.3 3.7 -7.8	0.9 1.3 0.0 0.0
2016 ANNUA	L -0.1	1.4	1.5	1.1	-0.2	1.2	-0.5	0.7	-5.3	-0.2
2016 IV III II I	-0.1 0.7 -0.6 -0.6	0.9 2.3 1.1 1.1	1.0 1.6 1.7 1.7	0.1 1.8 1.4 1.2	-1.7 0.6 0.3 0.1	0.1 1.1 2.0 1.7	-2.0 -1.0 0.1 0.7	-0.6 0.4 1.4 1.4	2.3 -9.9 -10.3 -2.6	-0.2 -1.1 -0.3 0.8
				Indexes	2009=100					
2018 I	109.9	129.9	118.2	119.4	102.5	108.7	101.0	106.1	136.9	109.3
2017 ANNUA	L 108.9 r	126.9 r	116.6	117.2 r	102.3 r	107.7 r	100.7 r	105.3 r	138.4 r	108.8
2017 IV III II I	109.4 r 109.1 109.0 108.0	128.6 r 127.4 126.8 124.9	117.6 116.8 116.4 115.6	118.3 r 117.6 116.5 116.4	102.4 r 102.6 102.2 102.1	107.8 106.9	100.5 r 100.9 100.4 100.9	105.6 r 105.5 104.8 105.4	140.3 r 139.6 139.0 134.6	109.2 109.1 108.3 108.5
2016 ANNUA	L 107.7	123.5	114.6	115.4	102.9	107.1	99.9	104.7	138.0	108.2
2016 IV III II I	108.7 107.2 107.7	124.9 122.6	114.9 114.4 114.1	116.2 115.7 114.6	103.1	106.9 107.9 106.4		104.1	134.1 146.0	

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r=revised

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 fourth 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 1978-2017 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: Revised labor productivity, hourly compensation, and unit labor costs, seasonally adjusted.

Year and quar		Labor produc-	Output	Hours	Hourly compensa- tion (1)	Real hourly compensa-	Unit labor costs
2015	7 7 7 7 7 7			_	er at annual rate		4.1
	ANNUAL	-1.5 r	-0.6 r	1.0	2.5	2.3	4.1 r
2015	IV	-2.8 r 2.0 r	-1.3 r 0.6 r	1.5 -1.3	8.5 1.9	8.3 0.3	11.6 r 0.0 r
	II	-1.2 r	-1.3 r	-0.1	3.6	0.8	4.9 r
	I	-2.8 r	-3.6 r	-0.8	0.4	3.0	3.3 r
2014	ANNUAL	0.0	1.6	1.6	2.8	1.1	2.8
2014		-3.5 r	0.6 r	4.3	4.9	5.7	8.7 r
	III	-0.2 r	1.5 r	1.7	2.2	1.1	2.4 r
	II I	0.7 r 1.2 r	4.5 r -0.3 r	3.8 -1.6	-3.2 11.3	-5.2 8.4	-3.9 r 9.9 r
2013	ANNUAL	0.9	1.8	0.8	0.2	-1.3	-0.8
2013		-1.1 r	2.7 r	3.8	-1.1	-2.6	0.0 r
2010	III	-1.6 r	0.2 r	1.8	0.9	-1.3	2.5 r
	II	3.1 r	1.0	-2.0	3.1	3.5	0.0 r
	I 	2.6 r	4.7 r	2.1	-4.6	-6.2	-7.0 r
		Percent	change from cor	responding qua	rter of previous	year	
2015	ANNUAL	-1.5 r	-0.6 r	1.0	2.5	2.3	4.1 r
2015		-1.2 r	-1.4 r	-0.2	3.6	3.1	4.8 r
	III	-1.4 r	-0.9 r	0.5	2.7	2.4	4.2 r
	II I	-1.9 r -1.5 r	-0.7 r 0.7 r	1.3 2.2	2.7 1.0	2.6 1.1	4.8 r 2.5 r
2014	ANNUAL	0.0	1.6	1.6	2.8	1.1	2.8
2014	IV	-0.5 r	1.6 r	2.0	3.7	2.4	4.1 r
	III	0.2	2.1	1.9	2.2	0.3	2.0 r
	II	-0.2 r	1.8 r	1.9	1.8	-0.3	2.0 r
	I	0.4 r	0.9 r	0.5	3.4	1.9	3.0 r
	ANNUAL	0.9	1.8	0.8	0.2	-1.3	-0.8
2013	IV	0.8 r 1.5	2.2 r 2.0	1.4 0.5	-0.5 0.9	-1.7 -0.6	-1.2 r -0.6
	II	1.5	1.6 r	0.2	0.4	-1.0	-1.0 r
	I	0.1 r	1.3 r	1.2	-0.2	-1.9	-0.3 r
			In	ndexes 2009=100			
2015	ANNUAL	105.3 r	113.6 r	107.8	110.7	100.0	105.1 r
2015	IV	104.9 r	113.3 r	107.9	112.9	101.6	107.6 r
	III	105.7 r	113.7 r	107.5	110.6	99.6	104.7 r
	II	105.2 r	113.5 r	107.9	110.1	99.5	104.7 r
	I	105.5 r	113.9 r	107.9	109.1	99.3	103.4 r
	ANNUAL	107.0 r	114.2 r	106.8	108.0	97.7	101.0 r
2014	IV III	106.3 r 107.2 r	114.9 r 114.7 r	108.1 107.0	109.0 107.7	98.6 97.2	102.6 r 100.5 r
	II	107.2 r	114.7 r	106.5	107.7	96.9	99.9 r
	I	107.1 r	113.0 r	105.6	108.0	98.3	100.9 r
2013	ANNUAL	107.0 r	112.5 r	105.1	105.1	96.7	98.2 r
2013	IV	106.8 r	113.1 r	106.0	105.2	96.3	98.5 r
	III	107.0 r	112.4 r	105.0	105.5	96.9	98.5 r
	II	107.5 r 106.6 r	112.3 r 112.0 r	104.5 105.1	105.2 104.4	97.2 96.4	97.9 r 97.9 r
		100.0 I	112.V I	103.1	±07.4	JU.4 	١٠٠٠ ــــــــــــــــــــــــــــــــــ

r=revised

Appendix table 2. Durable manufacturing sector: Revised labor productivity, hourly compensation, and unit labor costs, seasonally adjusted.

Year and		Labor produc-	0	Hours	Hourly compensa- tion (1)	Real hourly compensa-	Unit labor
quart			Output				costs
0015				_	r at annual rate		4 2
	ANNUAL	-1.2 r	-0.7 r	0.5	3.1	2.9	4.3 r
2015	III	-5.6 r 1.8 r	-4.6 r -0.4 r	1.0 -2.2	10.5 1.6	10.3	17.0 r -0.3 r
	II	-0.9 r	-1.4 r	-0.5	2.9	0.1	3.8 r
	I	-3.0 r	-4.2 r	-1.3	2.2	4.8	5.3 r
	ANNUAL	0.6	2.8	2.2	2.3	0.6	1.7
2014	IV	-0.9 r -0.1 r	1.3 r 3.0 r	2.2 3.2	6.1 2.3	7.0 1.1	7.0 r 2.4 r
	II	0.4 r	6.2 r	5.8	-3.8	-5.8	-4.3 r
	I	1.8 r	0.4 r	-1.4	11.2	8.4	9.2 r
2013	ANNUAL	0.9	2.1	1.2	-0.6	-2.0	-1.5
2013		0.4 r	4.8 r	4.5	-3.5	-5.0	-3.9 r
	III II	-0.9 r 3.3 r	1.0 r 1.2 r	1.9 -2.0	1.7 2.3	-0.5 2.7	2.6 r -0.9
	I	2.0 r	5.3 r	3.3	-6.0	-7.6	-7.8 r
			change from cor		 rter of previous	 year	
2015	ANNUAL	-1.2 r	-0.7 r	0.5	3.1	2.9	4.3 r
2015	IV	-1.9 r	-2.7 r	-0.8	4.2	3.7	6.3 r
	III	-0.7 r	-1.2 r	-0.5	3.2	2.9	3.9 r
	II I	-1.2 r -0.9 r	-0.4 r 1.5 r	0.9 2.4	3.3 1.6	3.2 1.7	4.6 r 2.5 r
2014	ANNUAL	0.6	2.8	2.2	2.3	0.6	1.7
2014	IV	0.3 r	2.7 r	2.4	3.8	2.5	3.5 r
	III	0.6	3.6	3.0	1.3	-0.5	0.7 r
	II I	0.4 r 1.1 r	3.1 r 1.8 r	2.7 0.7	1.2 2.8	-0.9 1.3	0.8 r 1.7 r
2013	ANNUAL	0.9	2.1	1.2	-0.6	-2.0	-1.5
2013	IV	1.2 r	3.0 r	1.9	-1.4	-2.7	-2.6 r
	III	1.5	2.3	0.8	0.7	-0.9	-0.8
	II I	1.1 r 0.0 r	1.5 r 1.6	0.4 1.6	-0.3 -1.2	-1.8 -2.9	-1.4 r -1.2 r
2015	ANNUAL	110.2 r	121.9 r	110.6	109.9	99.3	99.7 r
2015		100.2 r	120.7 r	110.5	112.4	101.1	102.9 r
2013	III	110.8 r	120.7 r	110.2	109.6	98.7	98.9 r
	II	110.3 r	122.2 r	110.8	109.2	98.7	99.0 r
	I	110.5 r	122.7 r		108.4	98.6	98.1 r
2014	ANNUAL	111.5 r	122.8 r	110.1	106.6	96.5	95.6 r
2014	IV	111.3 r 111.6 r	124.0 r 123.6 r	111.3 110.7	107.8 106.2	97.5 95.8	96.8 r 95.2 r
	II	111.6 r	123.6 r 122.7 r	109.9	105.6	95.6	94.6 r
	I	111.5 r	120.8 r		106.7	97.0	95.7 r
2013	ANNUAL	110.8 r	119.4 r	107.7	104.2	95.9	94.0 r
2013	IV		120.7 r	108.7		95.1	93.6 r
	III	110.9 r	119.3 r 119.0 r	107.5 107.0	104.8	96.3 96.4	94.5 r
	II I	111.2 r 110.3 r	119.0 r 118.6 r	107.0	104.4	96.4 95.8	93.9 r 94.1 r
					103.8		

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

Year and quar	ter	Labor produc- tivity	Output	Hours worked	Hourly compensa- tion (1)	Real hourly compensa- tion (2)	Unit labor costs
		Percen			r at annual rate(
2015	ANNUAL	-1.2 r	0.5 r	1.7	1.5	1.3	2.7 r
2015	IV III II	-0.6 r 1.7 r -1.1 r -1.3 r	1.9 r 1.8 r -0.3 r -1.2 r	2.5 0.1 0.8 0.1	4.9 2.9 5.0 -2.9	4.8 1.2 2.2 -0.4	5.6 r 1.2 r 6.2 r -1.6 r
2014	ANNUAL	0.1	0.7	0.6	3.6	1.9	3.5
2014	IV III II	-6.4 r 1.6 r 2.8 r 1.1 r	1.1 r 0.7 r 3.3 r -0.8 r	8.0 -0.9 0.5 -1.9	2.9 1.9 -2.3 11.4	3.7 0.7 -4.3 8.6	9.9 r 0.3 r -5.0 r 10.2 r
2013	ANNUAL	1.3	1.5	0.2	1.5	0.1	0.2
2013	IV III I	-1.9 r -2.0 r 2.9 r 4.0 r	0.6 r -0.4 r 0.9 4.0 r	2.6 1.6 -1.9 0.0	3.6 -0.5 4.6 -2.0	2.1 -2.7 5.0 -3.7	5.7 r 1.5 r 1.7 -5.8 r
		Percent	change from cor	responding qua	rter of previous	year	
2015	ANNUAL	-1.2 r	0.5 r	1.7	1.5	1.3	2.7 r
2015	IV III I	-0.3 r -1.8 r -1.9 r -0.9 r	0.5 r 0.3 r 0.1 r 0.9 r	0.9 2.2 1.9 1.9	2.4 1.9 1.7 -0.2	1.9 1.7 1.6 -0.1	2.8 r 3.8 r 3.6 r 0.8 r
2014	ANNUAL	0.1	0.7	0.6	3.6	1.9	3.5
2014	IV III I	-0.3 r 0.9 0.0 r 0.0 r	1.0 r 0.9 r 0.6 r 0.1 r	1.4 0.1 0.7 0.1	3.3 3.5 2.9 4.7	2.1 1.7 0.8 3.1	3.7 r 2.6 3.0 r 4.7 r
2013	ANNUAL	1.3	1.5	0.2	1.5	0.1	0.2
2013	IV III I	0.7 r 1.8 2.1 r 0.8 r	1.3 r 1.6 1.9 r 1.3 r	0.6 -0.1 -0.2 0.5	1.4 1.2 1.8 1.8	0.1 -0.3 0.3 0.0	0.7 r -0.5 -0.3 r 1.0 r
			In	dexes 2009=100			
2015 2015	ANNUAL IV III	103.9 r 103.9 r 104.0 r	107.3 r 107.9 r 107.4 r	103.3 103.8 103.2	111.6 113.4 112.0	100.8 102.0 100.8	107.5 r 109.1 r 107.7 r
	II I	103.6 r 103.9 r	106.9 r 107.0 r	103.2 103.0	111.2 109.9	100.5 100.0	107.4 r 105.8 r
2014	ANNUAL	105.1 r	106.8 r	101.6	110.0	99.6	104.6 r
2014	IV III I	104.2 r 106.0 r 105.6 r 104.8 r	107.3 r 107.0 r 106.8 r 106.0 r	103.0 101.0 101.2 101.1	110.7 109.9 109.4 110.1	100.1 99.2 99.0 100.1	106.2 r 103.7 r 103.6 r 105.0 r
	ANNUAL IV III II	104.6 r 105.1 105.6 r	106.1 r 106.2 r 106.1 106.2 r 105.9 r	101.0 101.6 100.9 100.5 101.0	106.2 107.1 106.2 106.3 105.1	97.7 98.0 97.5 98.2 97.0	101.1 r 102.4 r 101.0 100.7 r 100.2 r

See footnotes following Table 6. r=revised