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PRODUCTIVITY AND COSTS

Fourth Quarter and Annual Averages 2019, Preliminary

Nonfarm business sector labor productivity increased 1.4 percent in the fourth quarter of 2019, the U.S. Bureau of Labor Statistics reported today, as output increased 2.5 percent and hours worked increased 1.1 percent. (All quarterly percent changes in this release are seasonally adjusted annual rates.) From the fourth quarter of 2018 to the fourth quarter of 2019, productivity increased 1.8 percent, reflecting a 2.7-percent increase in output and a 0.9-percent increase in hours worked. (See chart 1 and table A1.)

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, 2015Q1 – 2019Q4

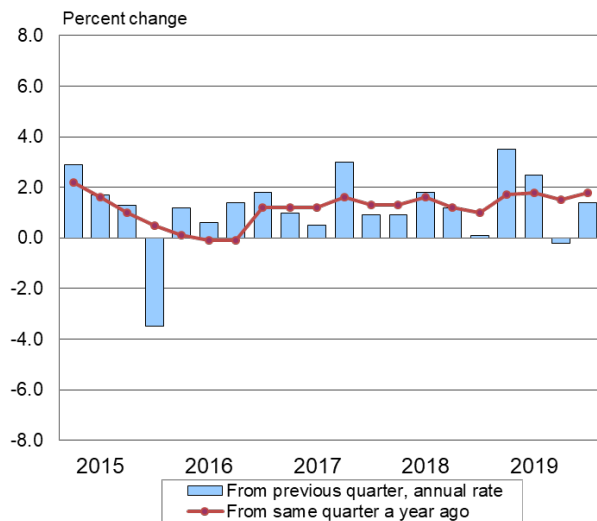
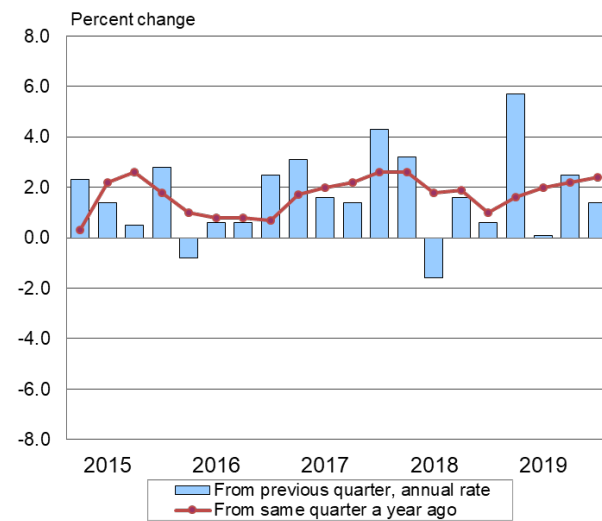


Chart 2. Unit labor costs, nonfarm business, 2015Q1 – 2019Q4



Unit labor costs in the nonfarm business sector increased 1.4 percent in the fourth quarter of 2019 as hourly compensation grew at a faster rate (2.8 percent) than productivity (1.4 percent). Unit labor costs increased 2.4 percent over the last four quarters. (See chart 2 and table 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 fourth quarter of 2019, as output decreased 1.0 percent and hours worked increased 0.2 percent. Total manufacturing sector productivity declined 0.7 percent over the last four quarters, as output decreased 1.2 percent and hours worked decreased 0.5 percent. (See chart 3 and tables A1 and 3.) Productivity decreased 0.8 percent in the durable manufacturing sector in the fourth quarter of 2019, reflecting a 1.6-percent decrease in output and a 0.8-percent decrease in hours worked. Productivity decreased 2.2 percent in the nondurable manufacturing sector, as output decreased 0.4 percent and hours worked increased 1.9 percent. (See tables A1, 4, and 5.) **Unit labor costs** in the total manufacturing sector increased 5.9 percent in the fourth quarter of 2019, and increased 5.3 percent from the same quarter a year ago. (See chart 4 and table A1.)

Chart 3. Labor productivity, manufacturing, 2015Q1 – 2019Q4

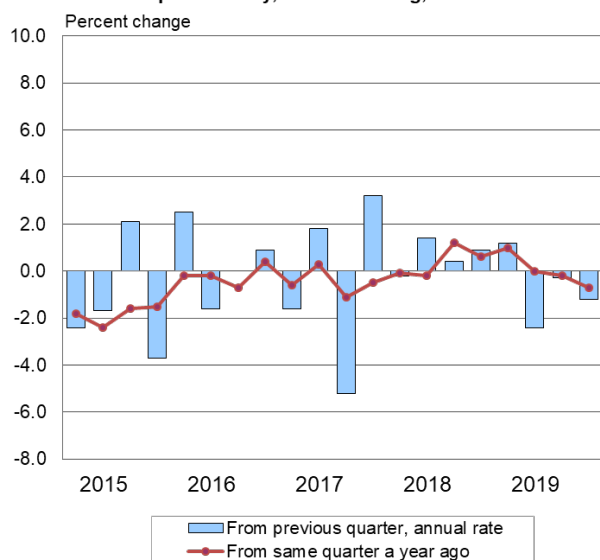
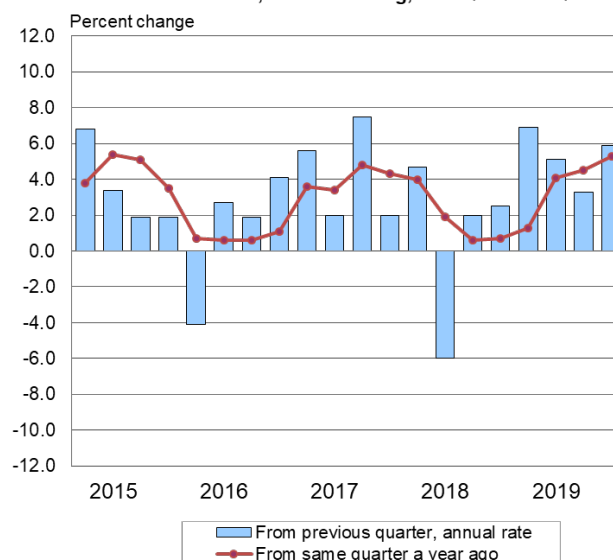


Chart 4. Unit labor costs, manufacturing, 2015Q1 – 2019Q4



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.)

Revised measures

Revised and previously published measures for the third quarter of 2019 are shown in tables A2 and B1 and cover the following major sectors: nonfarm business, business, manufacturing, and nonfinancial corporations.

Manufacturing output and all related measures—including labor productivity—were revised historically to incorporate revised BLS annual measures of sectoral output from 1987 to 2017. 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 third and fourth quarters of 2019.

In the **third quarter of 2019**, **nonfarm business** productivity decreased 0.2 percent, the same rate as previously reported. (See table B1.) Unit labor costs in the nonfarm business sector increased 2.5 percent in the third quarter, also the same rate as previously reported.

In the **manufacturing sector**, productivity was revised down 0.4 percentage point, to a decrease of 0.3 percent. Manufacturing unit labor costs increased 3.3 percent, a 0.3-percentage point upward revision from the previous estimate.

In the **nonfinancial corporate sector**, productivity was revised down 0.6 percentage point in the third quarter of 2019, to an increase of 2.4 percent. This downward revision to productivity is the result of a 0.6-percentage point downward revision to output; hours worked increased 0.6 percent as previously reported. (See table A2.)

Annual averages

Table C1 presents **annual average changes** for the most recent 5 years for the nonfarm business sector and the total manufacturing sector. **Nonfarm business sector** productivity grew 1.7 percent in 2019, as output increased 2.7 percent and hours worked increased 1.0 percent. The 1.7-percent increase in nonfarm business labor productivity is the largest annual increase since 2010, when it increased 3.4 percent. The 1.0-percent increase in hours worked is the smallest increase in the annual series since 2010 (-0.1 percent). The average annual rate of nonfarm business sector productivity growth from 2007 to 2019—corresponding to the current business cycle—is 1.3 percent, which is below the long-term rate from 1947 to 2019 of 2.1 percent.

Unit labor costs in the nonfarm business sector increased 2.0 percent in 2019, reflecting increases of 3.8 percent in hourly compensation and 1.7 percent in productivity. Real hourly compensation, which takes into account changes in consumer prices, increased 1.9 percent in 2019.

In the **manufacturing sector**, the annual average changes in labor productivity, output, and hours worked were all 0.0 percent in 2019. The average annual rate of manufacturing productivity growth from 2007 to 2019 is 0.4 percent, well below the long-term rate from 1987 to 2019 of 2.5 percent. Unit labor costs increased 3.8 percent in 2019.

Quarterly and annual data, where available, for all sectors from 2017 to 2019 appear in tables 1-6. Full historical measures can be found on the Productivity and Costs home page: www.bls.gov/lpc/#data.

The revised Productivity and Costs news release for fourth-quarter 2019 is scheduled to be released on Thursday, March 5, 2020 at 8:30 a.m. (EST).

Upcoming Revisions

Data in this release do not reflect the annual benchmark revision of the BLS Current Employment Statistics program data scheduled to be released February 7, 2020. This benchmark will be incorporated in our next release on March 5, 2020.

Sector	Percent change from:	Labor productivity	Output	Hours worked	Hourly compensation	Real hourly compensation	Unit labor costs
Nonfarm business	Previous quarter	1.4	2.5	1.1	2.8	0.3	1.4
	A year ago	1.8	2.7	0.9	4.2	2.1	2.4
Business	Previous quarter	1.1	2.4	1.3	2.6	0.0	1.5
	A year ago	1.8	2.7	0.9	4.3	2.2	2.4
Manufacturing	Previous quarter	-1.2	-1.0	0.2	4.6	2.0	5.9
	A year ago	-0.7	-1.2	-0.5	4.6	2.5	5.3
Durable manufacturing	Previous quarter	-0.8	-1.6	-0.8	6.6	3.9	7.5
	A year ago	-0.3	-1.2	-0.9	4.9	2.8	5.2
Nondurable manufacturing	Previous quarter	-2.2	-0.4	1.9	1.1	-1.4	3.4
	A year ago	-1.3	-1.2	0.1	4.1	2.1	5.5

Sector		Labor productivity	Output	Hours worked	Hourly compensation	Real hourly compensation	Unit labor costs
Nonfinancial corporate	Revised	2.4	3.0	0.6	2.4	0.6	0.0
	Previously published	3.0	3.6	0.6	2.4	0.6	-0.6

Sector		Labor productivity	Output	Hours worked	Hourly compensation	Real hourly compensation	Unit labor costs
Nonfarm business	Revised	-0.2	2.3	2.5	2.3	0.5	2.5
	Previously published	-0.2	2.3	2.5	2.3	0.5	2.5
Business	Revised	-0.2	2.4	2.6	2.3	0.5	2.6
	Previously published	-0.2	2.4	2.6	2.3	0.5	2.5
Manufacturing	Revised	-0.3	1.0	1.3	3.1	1.2	3.3
	Previously published	0.1	1.3	1.2	3.1	1.3	3.0
Durable manufacturing	Revised	0.6	1.7	1.1	2.5	0.7	1.9
	Previously published	0.7	1.8	1.0	2.6	0.8	1.8
Nondurable manufacturing	Revised	-1.3	0.3	1.6	4.2	2.4	5.5
	Previously published	-0.8	0.8	1.6	4.2	2.4	5.0

Table C1. Labor productivity growth and related measures - annual average changes: 2015-2019							
Sector	Year	Labor productivity	Output	Hours worked	Hourly compensation	Real hourly compensation	Unit labor costs
Nonfarm business	2019	1.7	2.7	1.0	3.8	1.9	2.0
	2018	1.3	3.5	2.1	3.1	0.7	1.8
	2017	1.3	2.9	1.5	3.5	1.3	2.1
	2016	0.3	1.7	1.4	1.1	-0.2	0.8
	2015	1.3	3.5	2.1	3.1	2.9	1.7
Manufacturing	2019	0.0	0.0	0.0	3.8	1.9	3.8
	2018	0.3	2.3	1.9	2.2	-0.3	1.8
	2017	-0.5	0.6	1.0	3.5	1.3	4.0
	2016	-0.2	-0.2	0.0	0.5	-0.7	0.7
	2015	-1.8	-0.9	1.0	2.5	2.3	4.4

TECHNICAL NOTES

Labor Hours

Hours worked 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.

Detailed hours data are presented in the table “Hours Worked in Total U.S. Economy and Subsectors” on the BLS website (https://www.bls.gov/lpc/special_requests/us_total_hrs_emp.xlsx).

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 worked. Business output accounted for about 77 percent of the value of GDP in 2018. Nonfarm business, which excludes farming, accounted for about 76 percent of GDP in 2018.

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 55 percent of the value of GDP in 2018.

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 2012=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.

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)								
2019 ANNUAL	1.7	2.7	1.0	3.8	1.9	2.0	0.5	1.4
2019 IV	1.1	2.4	1.3	2.6	0.0	1.5	0.5	1.1
III	-0.2	2.4	2.6	2.3	0.5	2.6 r	-0.4 r	1.2
II	2.8	2.0	-0.7	2.8	-0.1	0.1	7.0	3.0
I	3.6	3.9	0.3	9.5	8.5	5.7	-7.2	-0.1
2018 ANNUAL	1.3	3.4	2.0	3.2	0.8	1.9	2.8	2.3
2018 IV	0.0	1.2	1.3	0.5	-1.0	0.5	2.1	1.2
III	0.8	3.4	2.6	2.6	0.6	1.7	1.1	1.5
II	2.4	4.0	1.5	0.7	-1.4	-1.7	10.8	3.6
I	1.3	2.9	1.6	4.7	1.4	3.4	0.1	2.0
2017 ANNUAL	1.3	2.8	1.5	3.5	1.3	2.1	1.2	1.7
2017 IV	0.1	4.1	4.0	4.4	1.2	4.3	0.7	2.7
III	3.4	4.0	0.5	5.0	2.8	1.5	2.9	2.1
II	0.4	2.6	2.2	2.1	1.7	1.7	0.3	1.1
I	0.6	2.6	2.0	3.5	0.7	2.9	0.1	1.7

Percent change from corresponding quarter of previous year								
2019 ANNUAL	1.7	2.7	1.0	3.8	1.9	2.0	0.5	1.4
2019 IV	1.8	2.7	0.9	4.3	2.2	2.4	-0.2	1.3
III	1.5	2.4	0.9	3.7	1.9	2.2	0.2	1.3
II	1.8	2.7	0.9	3.8	1.9	2.0	0.6	1.4
I	1.7	3.1	1.4	3.3	1.6	1.5	1.5	1.5
2018 ANNUAL	1.3	3.4	2.0	3.2	0.8	1.9	2.8	2.3
2018 IV	1.1	2.9	1.7	2.1	-0.1	1.0	3.5	2.1
III	1.2	3.6	2.4	3.1	0.5	1.9	3.1	2.4
II	1.8	3.7	1.9	3.7	1.0	1.9	3.5	2.6
I	1.3	3.4	2.1	4.0	1.8	2.7	1.0	2.0
2017 ANNUAL	1.3	2.8	1.5	3.5	1.3	2.1	1.2	1.7
2017 IV	1.1	3.3	2.2	3.7	1.6	2.6	1.0	1.9
III	1.7	2.9	1.2	4.0	1.9	2.2	0.9	1.6
II	1.3	2.6	1.3	3.3	1.3	2.0	0.7	1.4
I	1.3	2.5	1.2	3.0	0.4	1.7	2.2	1.9

Indexes 2012=100								
2019 ANNUAL	107.8	121.6	112.8	120.1	107.6	111.4	108.7	110.2
2019 IV	108.2	122.6	113.4	121.2	107.7	112.1	109.2	110.8
III	107.9 r	121.9 r	113.0 r	120.4 r	107.7 r	111.7 r	109.0 r	110.5 r
II	107.9	121.2	112.3	119.7	107.6	110.9	109.2	110.2
I	107.2	120.6	112.5	118.9	107.6	110.9	107.3	109.4
2018 ANNUAL	106.0	118.3	111.7	115.7	105.6	109.2	108.1	108.7
2018 IV	106.3	119.4	112.4	116.2	105.4	109.4	109.4	109.4
III	106.3	119.0	112.0	116.1	105.7	109.3	108.8	109.1
II	106.0	118.0	111.3	115.4	105.5	108.8	108.5	108.7
I	105.4	116.9	110.9	115.1	105.9	109.2	105.7	107.7
2017 ANNUAL	104.6	114.4	109.4	112.1	104.8	107.2	105.2	106.3
2017 IV	105.1	116.1	110.5	113.8	105.5	108.3	105.7	107.2
III	105.0	114.9	109.4	112.6	105.2	107.2	105.5	106.5
II	104.2	113.8	109.2	111.2	104.5	106.8	104.8	105.9
I	104.0	113.1	108.7	110.7	104.0	106.4	104.7	105.6

See footnotes following Table 6.
r=revised

February 6, 2020
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)								
2019 ANNUAL	1.7	2.7	1.0	3.8	1.9	2.0	0.6	1.4
2019 IV	1.4	2.5	1.1	2.8	0.3	1.4	0.5	1.0
III	-0.2	2.3	2.5	2.3	0.5	2.5	-0.6 r	1.2 r
II	2.5	1.9	-0.5	2.5	-0.4	0.1	7.2	3.1
I	3.5	3.9	0.4	9.4	8.4	5.7	-7.1	0.0
2018 ANNUAL	1.3	3.5	2.1	3.1	0.7	1.8	3.0	2.3
2018 IV	0.1	1.2	1.1	0.7	-0.8	0.6	1.9	1.2
III	1.2	3.5	2.2	2.9	0.9	1.6	1.9	1.7
II	1.8	4.0	2.1	0.3	-1.9	-1.6	10.9	3.6
I	0.9	2.9	2.0	4.1	0.9	3.2	0.4	2.0
2017 ANNUAL	1.3	2.9	1.5	3.5	1.3	2.1	1.0	1.6
2017 IV	0.9	4.2	3.3	5.2	2.0	4.3	0.8	2.7
III	3.0	4.2	1.2	4.4	2.2	1.4	3.2	2.2
II	0.5	2.7	2.2	2.1	1.7	1.6	0.4	1.1
I	1.0	2.5	1.5	4.2	1.4	3.1	-1.4	1.2

Percent change from corresponding quarter of previous year								
2019 ANNUAL	1.7	2.7	1.0	3.8	1.9	2.0	0.6	1.4
2019 IV	1.8	2.7	0.9	4.2	2.1	2.4	-0.1	1.3
III	1.5	2.4 r	0.9	3.7	1.9	2.2	0.2	1.3
II	1.8	2.6	0.8	3.8	2.0	2.0	0.8	1.5
I	1.7	3.2	1.5	3.3	1.6	1.6	1.7	1.6
2018 ANNUAL	1.3	3.5	2.1	3.1	0.7	1.8	3.0	2.3
2018 IV	1.0	2.9	1.9	2.0	-0.2	1.0	3.7	2.1
III	1.2	3.6	2.4	3.1	0.5	1.9	3.4	2.5
II	1.6	3.8	2.1	3.5	0.8	1.8	3.7	2.6
I	1.3	3.5	2.2	3.9	1.7	2.6	1.2	2.0
2017 ANNUAL	1.3	2.9	1.5	3.5	1.3	2.1	1.0	1.6
2017 IV	1.3	3.4	2.0	4.0	1.8	2.6	0.7	1.8
III	1.6	3.0	1.5	3.8	1.7	2.2	0.7	1.5
II	1.2	2.6	1.4	3.2	1.2	2.0	0.6	1.4
I	1.2	2.4	1.2	2.9	0.4	1.7	2.1	1.9

Indexes 2012=100								
2019 ANNUAL	107.5	121.3	112.9	120.1	107.7	111.7	109.8	110.9
2019 IV	107.9	122.4	113.4	121.3	107.8	112.4	110.3	111.5
III	107.5 r	121.6 r	113.1 r	120.4 r	107.7 r	112.0 r	110.2 r	111.2 r
II	107.6	120.9	112.4	119.7	107.5	111.3	110.3	110.9
I	106.9	120.4	112.6	119.0	107.6	111.3	108.4	110.0
2018 ANNUAL	105.7	118.1	111.8	115.8	105.7	109.5	109.1	109.3
2018 IV	106.0	119.2	112.4	116.4	105.5	109.8	110.4	110.0
III	106.0	118.8	112.1	116.1	105.7	109.6	109.9	109.7
II	105.7	117.8	111.5	115.3	105.5	109.1	109.4	109.3
I	105.2	116.7	110.9	115.2	106.0	109.6	106.6	108.3
2017 ANNUAL	104.4	114.2	109.4	112.3	105.0	107.6	105.9	106.9
2017 IV	104.9	115.8	110.4	114.1	105.7	108.7	106.5	107.8
III	104.7	114.7	109.5	112.7	105.2	107.6	106.3	107.0
II	103.9	113.5	109.2	111.4	104.6	107.2	105.5	106.5
I	103.8	112.7	108.6	110.9	104.2	106.8	105.4	106.2

See footnotes following Table 6.
r=revised

February 6, 2020
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)						
2019 ANNUAL	0.0	0.0	0.0	3.8	1.9	3.8
2019 IV	-1.2	-1.0	0.2	4.6	2.0	5.9
III	-0.3 r	1.0 r	1.3 r	3.1	1.2 r	3.3 r
II	-2.4 r	-3.1	-0.7	2.6	-0.3	5.1 r
I	1.2	-1.7	-2.9	8.2	7.2	6.9
2018 ANNUAL	0.3 r	2.3 r	1.9	2.2	-0.3	1.8 r
2018 IV	0.9	1.6	0.7	3.4	1.8	2.5
III	0.4	4.0	3.6	2.4	0.4	2.0
II	1.4	2.7	1.2	-4.6	-6.7	-6.0
I	-0.2	1.9	2.2	4.4	1.2	4.7
2017 ANNUAL	-0.5 r	0.6 r	1.0	3.5	1.3	4.0 r
2017 IV	3.2 r	5.1 r	1.7	5.4	2.2	2.0 r
III	-5.2 r	-2.7 r	2.7	1.9	-0.2	7.5 r
II	1.8 r	1.7 r	-0.2	3.9	3.5	2.0 r
I	-1.6 r	0.4 r	2.1	3.9	1.1	5.6 r

Percent change from corresponding quarter of previous year						
2019 ANNUAL	0.0	0.0	0.0	3.8	1.9	3.8
2019 IV	-0.7	-1.2	-0.5	4.6	2.5	5.3
III	-0.2 r	-0.6 r	-0.4	4.3	2.5	4.5 r
II	0.0	0.1	0.2	4.1	2.2	4.1
I	1.0	1.6	0.6	2.2	0.6	1.3
2018 ANNUAL	0.3 r	2.3 r	1.9	2.2	-0.3	1.8 r
2018 IV	0.6	2.5	1.9	1.3	-0.9	0.7
III	1.2 r	3.4 r	2.2	1.8	-0.8	0.6 r
II	-0.2 r	1.7 r	1.9	1.7	-0.9	1.9 r
I	-0.1 r	1.4 r	1.6	3.9	1.6	4.0 r
2017 ANNUAL	-0.5 r	0.6 r	1.0	3.5	1.3	4.0 r
2017 IV	-0.5 r	1.1 r	1.6	3.8	1.6	4.3 r
III	-1.1 r	0.1 r	1.2	3.7	1.7	4.8 r
II	0.3 r	1.0 r	0.7	3.7	1.7	3.4 r
I	-0.6 r	0.1 r	0.7	3.0	0.4	3.6 r

Indexes 2012=100						
2019 ANNUAL	98.6	104.9	106.4	116.9	104.8	118.6
2019 IV	98.2	104.6	106.6	118.5	105.3	120.7
III	98.5 r	104.9 r	106.5 r	117.2 r	104.8 r	119.0 r
II	98.5 r	104.6 r	106.2	116.3	104.5	118.0 r
I	99.1 r	105.5 r	106.4	115.6	104.5	116.6 r
2018 ANNUAL	98.6 r	104.9 r	106.5	112.6	102.8	114.3 r
2018 IV	98.8 r	105.9 r	107.2	113.3	102.7	114.6 r
III	98.6 r	105.5 r	107.0	112.4	102.3	113.9 r
II	98.5 r	104.5 r	106.0	111.7	102.2	113.4 r
I	98.2 r	103.8 r	105.7	113.0	103.9	115.1 r
2017 ANNUAL	98.2 r	102.6 r	104.5	110.2	103.0	112.2 r
2017 IV	98.3 r	103.3 r	105.1	111.8	103.6	113.8 r
III	97.5 r	102.0 r	104.7	110.4	103.1	113.2 r
II	98.8 r	102.7 r	104.0	109.8	103.1	111.2 r
I	98.3 r	102.3 r	104.0	108.8	102.3	110.6 r

See footnotes following Table 6.
r=revised

February 6, 2020
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)						
2019 ANNUAL	0.4	0.7	0.2	3.7	1.8	3.2
2019 IV	-0.8	-1.6	-0.8	6.6	3.9	7.5
III	0.6 r	1.7 r	1.1 r	2.5 r	0.7 r	1.9 r
II	-1.1	-2.3	-1.2	1.9	-1.0	3.1
I	0.1	-2.7	-2.8	8.6	7.6	8.5
2018 ANNUAL	0.7 r	3.0 r	2.3	2.6	0.2	1.9 r
2018 IV	2.0	4.7	2.7	3.0	1.5	1.0
III	1.9	5.8	3.8	1.8	-0.2	-0.1
II	0.3	2.2	1.9	-4.3	-6.3	-4.6
I	0.4	3.9	3.5	4.2	1.0	3.8
2017 ANNUAL	0.1 r	0.7 r	0.6	4.2	2.0	4.2 r
2017 IV	3.4 r	4.6 r	1.2	7.5	4.3	4.0 r
III	-4.7 r	-2.5 r	2.3	1.5	-0.7	6.5 r
II	3.1 r	0.9 r	-2.1	6.9	6.5	3.8 r
I	-1.5 r	1.4 r	2.9	3.4	0.5	4.9 r

Percent change from corresponding quarter of previous year						
2019 ANNUAL	0.4	0.7	0.2	3.7	1.8	3.2
2019 IV	-0.3	-1.2	-0.9	4.9	2.8	5.2
III	0.4	0.3	-0.1	4.0	2.2	3.6
II	0.7	1.3	0.6	3.8	1.9	3.1
I	1.1	2.5	1.4	2.2	0.5	1.1
2018 ANNUAL	0.7 r	3.0 r	2.3	2.6	0.2	1.9 r
2018 IV	1.1	4.2 r	3.0	1.1	-1.1	0.0
III	1.5 r	4.1 r	2.6	2.2	-0.4	0.7 r
II	-0.2 r	2.0 r	2.2	2.1	-0.5	2.4 r
I	0.5 r	1.7 r	1.2	5.0	2.7	4.5 r
2017 ANNUAL	0.1 r	0.7 r	0.6	4.2	2.0	4.2 r
2017 IV	0.0 r	1.1 r	1.1	4.8	2.6	4.8 r
III	-0.7 r	0.1 r	0.8	4.3	2.3	5.1 r
II	1.0 r	1.2 r	0.2	4.6	2.6	3.6 r
I	0.0 r	0.4 r	0.4	3.2	0.6	3.2 r

Indexes 2012=100						
2019 ANNUAL	99.9	106.6	106.7	117.7	105.5	117.9
2019 IV	99.7	106.4	106.6	119.7	106.3	120.0
III	100.0 r	106.8 r	106.9 r	117.8 r	105.3 r	117.8 r
II	99.8 r	106.4 r	106.6	117.0	105.1	117.3 r
I	100.1 r	107.0 r	106.9	116.5	105.4	116.4 r
2018 ANNUAL	99.5 r	105.9 r	106.5	113.5	103.6	114.2 r
2018 IV	100.1 r	107.7 r	107.6	114.1	103.5	114.0 r
III	99.6 r	106.5 r	106.9	113.3	103.1	113.7 r
II	99.1 r	105.0 r	105.9	112.8	103.1	113.8 r
I	99.0 r	104.4 r	105.4	114.0	104.8	115.1 r
2017 ANNUAL	98.7 r	102.8 r	104.1	110.7	103.5	112.1 r
2017 IV	99.0 r	103.4 r	104.5	112.8	104.6	114.0 r
III	98.1 r	102.3 r	104.2	110.8	103.5	112.9 r
II	99.3 r	102.9 r	103.6	110.4	103.7	111.2 r
I	98.6 r	102.7 r	104.2	108.6	102.1	110.1 r

See footnotes following Table 6.
r=revised

February 6, 2020
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)						
2019 ANNUAL	-0.2	-0.8	-0.6	3.9	2.1	4.2
2019 IV	-2.2	-0.4	1.9	1.1	-1.4	3.4
III	-1.3 r	0.3 r	1.6	4.2	2.4	5.5 r
II	-4.2	-4.0	0.2	4.1	1.1	8.6
I	2.5	-0.7	-3.2	7.3	6.3	4.6
2018 ANNUAL	0.1 r	1.5 r	1.4	1.2	-1.2	1.1 r
2018 IV	1.0	-1.6	-2.6	3.6	2.1	2.6
III	-1.1 r	2.2	3.4	3.5	1.5	4.7
II	3.0	3.1	0.1	-5.5	-7.5	-8.3
I	-0.1	-0.1	0.0	4.4	1.1	4.5
2017 ANNUAL	-1.6 r	0.1 r	1.7	2.3	0.1	3.9 r
2017 IV	2.7 r	5.4 r	2.6	1.4	-1.7	-1.3 r
III	-6.1 r	-2.9 r	3.3	2.9	0.8	9.6 r
II	-0.9 r	2.3 r	3.2	-1.3	-1.7	-0.4 r
I	-1.5 r	-0.8 r	0.6	4.8	1.9	6.3 r

Percent change from corresponding quarter of previous year						
2019 ANNUAL	-0.2	-0.8	-0.6	3.9	2.1	4.2
2019 IV	-1.3	-1.2	0.1	4.1	2.1	5.5
III	-0.5 r	-1.5 r	-1.0	4.8	3.0	5.3 r
II	-0.5	-1.1	-0.6	4.6	2.7	5.1
I	1.3	0.7	-0.6	2.1	0.5	0.8
2018 ANNUAL	0.1 r	1.5 r	1.4	1.2	-1.2	1.1 r
2018 IV	0.7	0.9	0.2	1.4	-0.8	0.7
III	1.1 r	2.6 r	1.5	0.9	-1.7	-0.2 r
II	-0.2 r	1.3 r	1.5	0.7	-1.9	0.9 r
I	-1.1 r	1.1 r	2.3	1.8	-0.4	3.0 r
2017 ANNUAL	-1.6 r	0.1 r	1.7	2.3	0.1	3.9 r
2017 IV	-1.5 r	0.9 r	2.5	1.9	-0.2	3.5 r
III	-1.9 r	-0.2 r	1.7	2.5	0.5	4.5 r
II	-1.1 r	0.4 r	1.5	2.1	0.1	3.2 r
I	-1.9 r	-0.7 r	1.3	2.6	0.0	4.6 r

Indexes 2012=100						
2019 ANNUAL	98.6	104.4	105.9	115.1	103.2	116.8
2019 IV	97.7	104.1	106.5	116.3	103.3	119.0
III	98.3 r	104.1 r	106.0	115.9	103.7 r	118.0 r
II	98.6 r	104.1 r	105.6	114.7	103.1	116.4 r
I	99.6 r	105.1 r	105.5	113.6	102.8	114.0 r
2018 ANNUAL	98.8 r	105.2 r	106.5	110.8	101.1	112.2 r
2018 IV	99.0 r	105.3 r	106.4	111.6	101.2	112.7 r
III	98.8 r	105.8 r	107.1	110.6	100.7	112.0 r
II	99.1 r	105.2 r	106.2	109.7	100.3	110.7 r
I	98.3 r	104.4 r	106.2	111.2	102.3	113.2 r
2017 ANNUAL	98.7 r	103.6 r	105.0	109.5	102.3	110.9 r
2017 IV	98.3 r	104.4 r	106.2	110.1	102.0	111.9 r
III	97.7 r	103.1 r	105.5	109.7	102.4	112.3 r
II	99.2 r	103.8 r	104.6	108.9	102.2	109.7 r
I	99.5 r	103.3 r	103.8	109.2	102.7	109.8 r

See footnotes following Table 6.
r=revised

February 6, 2020
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)										
2019 III	2.4 r	3.0 r	0.6	2.4	0.6	0.0 r	4.3 r	1.4 r	-4.8 r	0.7
II	0.8	1.1	0.3	2.3	-0.6	1.4	1.2	1.3	12.0	2.4
I	1.6	3.6	2.0	9.0	8.1	7.3	1.1	5.3	-33.7	-0.1
2018 ANNUAL	-0.2	1.9	2.1	3.2	0.8	3.4	3.0	3.3	-1.1	2.8
2018 IV	1.4	2.4	1.1	0.4	-1.1	-1.0	3.5	0.5	0.0	0.4
III	4.6	6.3	1.7	1.4	-0.6	-3.0	-2.5	-2.9	12.7	-1.2
II	-3.1	-0.4	2.8	-0.6	-2.7	2.5	5.3	3.4	4.8	3.6
I	1.4	3.3	1.9	9.7	6.3	8.2	1.6	6.0	0.2	5.3
2017 ANNUAL	0.3	2.0	1.7	3.3	1.1	3.0	2.2	2.7	-2.9	2.0
2017 IV	-0.9	1.7	2.7	2.6	-0.5	3.6	4.3	3.8	-7.6	2.4
III	-3.5	-2.3	1.3	2.3	0.2	6.0	6.6	6.2	-16.0	3.2
II	0.6	3.4	2.8	0.5	0.1	-0.1	1.5	0.4	3.2	0.7
I	4.8	6.7	1.8	7.8	4.8	2.8	-3.7	0.6	16.4	2.5

Percent change from corresponding quarter of previous year										
2019 III	1.5 r	2.5 r	1.0	3.5	1.7	1.9 r	2.5 r	2.1 r	-8.3 r	0.9
II	2.1	3.4	1.2	3.2	1.4	1.1	0.8	1.0	-4.4	0.4
I	1.1	3.0	1.9	2.5	0.8	1.4	1.8	1.5	-5.9	0.7
2018 ANNUAL	-0.2	1.9	2.1	3.2	0.8	3.4	3.0	3.3	-1.1	2.8
2018 IV	1.0	2.9	1.9	2.6	0.4	1.6	1.9	1.7	4.3	2.0
III	0.5	2.7	2.3	3.2	0.6	2.7	2.1	2.5	2.2	2.5
II	-1.5	0.6	2.2	3.4	0.8	5.1	4.4	4.9	-5.0	3.6
I	-0.6	1.5	2.2	3.7	1.5	4.4	3.5	4.1	-5.4	2.9
2017 ANNUAL	0.3	2.0	1.7	3.3	1.1	3.0	2.2	2.7	-2.9	2.0
2017 IV	0.2	2.3	2.1	3.3	1.1	3.1	2.1	2.7	-1.8	2.2
III	0.3	2.0	1.6	3.4	1.4	3.1	2.5	2.9	-4.0	2.0
II	1.2	3.0	1.7	3.1	1.2	1.9	1.1	1.6	0.6	1.5
I	-0.7	0.6	1.3	3.2	0.6	3.9	3.0	3.6	-6.2	2.3

Indexes 2012=100										
2019 III	102.9 r	117.6 r	114.3 r	119.6 r	107.0 r	116.3 r	112.5 r	115.0 r	83.3 r	110.5 r
II	102.3	116.7	114.2	118.9	106.8	116.3	111.3	114.7	84.4	110.3
I	102.1	116.4	114.1	118.3	107.0	115.9	111.0	114.3	82.0	109.7
2018 ANNUAL	101.0	114.0	112.9	115.5	105.4	114.3	110.0	112.9	89.3	109.5
2018 IV	101.6	115.4	113.5	115.7	104.9	113.9	110.7	112.8	90.9	109.7
III	101.3	114.7	113.2	115.6	105.2	114.2	109.7	112.7	90.9	109.6
II	100.2	112.9	112.8	115.2	105.4	115.0	110.4	113.5	88.2	109.9
I	101.0	113.0	112.0	115.4	106.1	114.3	109.0	112.6	87.2	108.9
2017 ANNUAL	101.2	111.9	110.5	111.9	104.6	110.6	106.8	109.3	90.3	106.6
2017 IV	100.6	112.1	111.5	112.8	104.5	112.1	108.6	110.9	87.2	107.5
III	100.8	111.6	110.7	112.0	104.6	111.1	107.5	109.9	88.9	106.9
II	101.7	112.3	110.4	111.4	104.6	109.5	105.7	108.2	92.9	106.0
I	101.6	111.3	109.6	111.3	104.6	109.5	105.4	108.1	92.1	105.9

See footnotes following Table 6.
r=revised

February 6, 2020
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 -1.4 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 third quarter of 2019.

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 1978-2018 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 adjustment.