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PRODUCTIVITY AND COSTS BY INDUSTRY
 SELECTED SERVICE-PROVIDING INDUSTRIES – 2019

Labor productivity rose in 14 of 29 selected service-providing industries in 2019, the U.S. Bureau of Labor Statistics reported today. This was one-third fewer industries compared to 2018 when labor productivity increased in 21 of 29 industries. Output increased in 17 industries in 2019 while hours worked increased in 18 industries.

Chart 1. Largest changes in productivity in selected service-providing industries, 2019

Output Percent Change

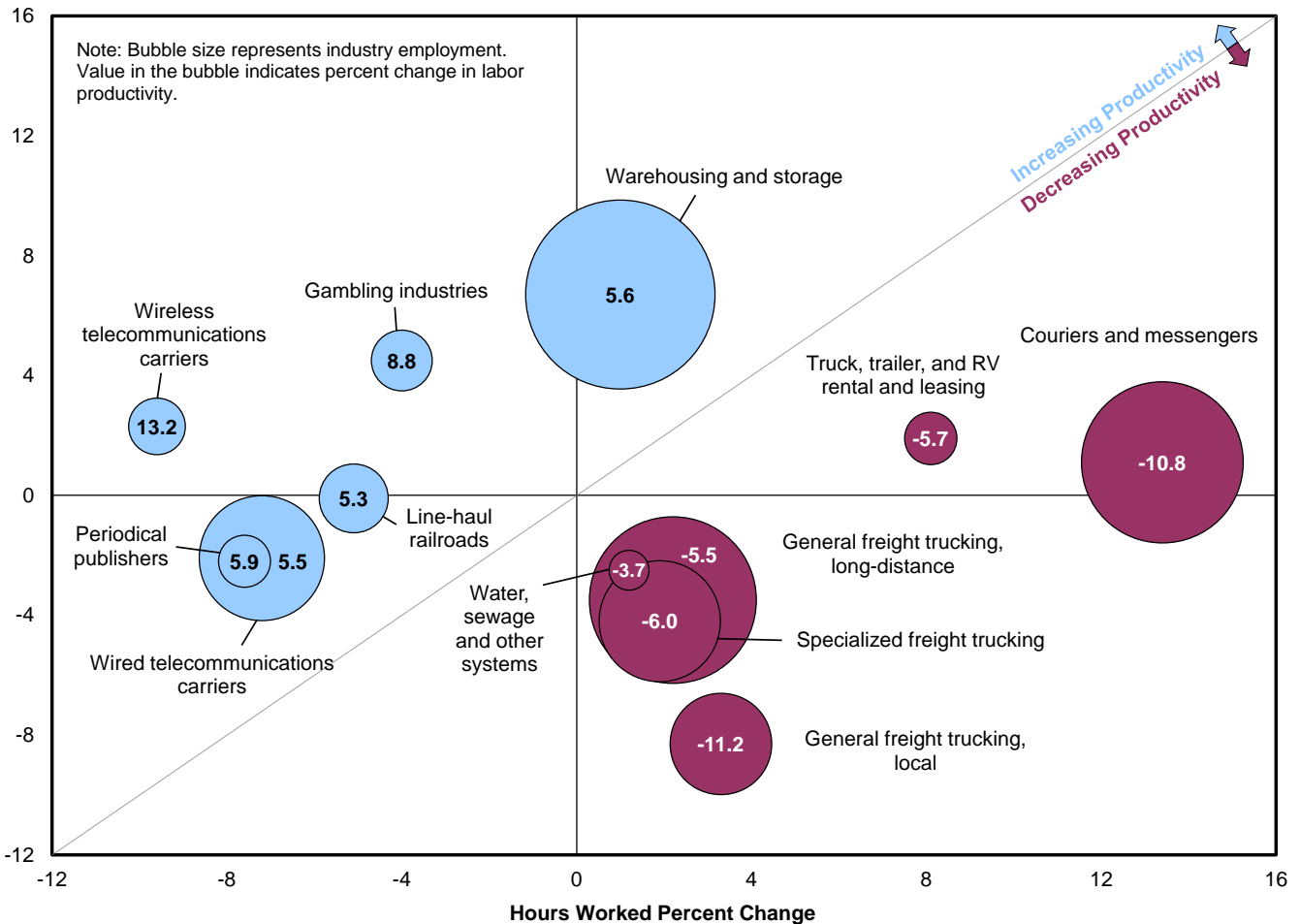


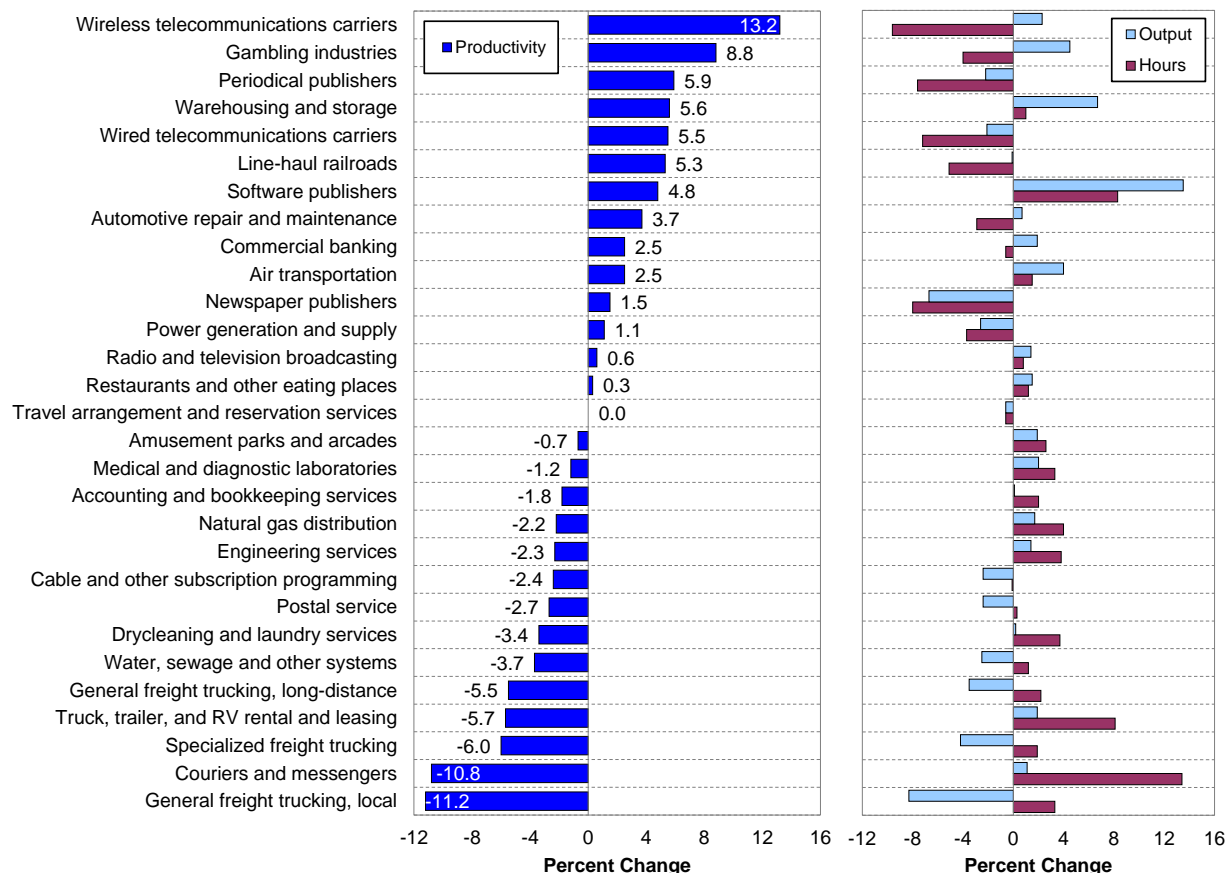
Chart 1 shows the changes in output and hours worked for industries with the largest changes in productivity. Industries above the diagonal line had productivity growth. In 2 of the 12 industries shown, output grew while hours worked declined. This was the case in wireless telecommunications carriers, the industry that recorded the greatest growth in productivity, as well as gambling industries. Productivity growth also occurred when hours worked grew, but at a slower rate than output, as shown in warehousing and storage. In line-haul railroads, periodical publishers, and wired telecommunications carriers, productivity grew because hours worked declined more than output.

Industries below the diagonal line exhibited declining productivity. In all of these industries, hours worked increased while output declined or grew at a slower rate.

Trends in Labor Productivity in 2019

- Labor productivity increased in 14 of 29 industries in 2019. (See chart 2.) Among those with increasing productivity, output grew in 9 industries and hours worked grew in 5 industries.
- Productivity gains of at least 6.0 percent occurred in 2 industries: wireless telecommunications carriers (13.2 percent) and gambling industries (8.8 percent). In both industries, output increases coincided with declines in hours worked.
- Hours worked grew in 18 of the 29 industries.
- Hours worked increased in 13 out of the 15 industries which recorded declines in productivity. Of these, the largest gains in hours worked were in couriers and messengers (13.4 percent) and truck, utility trailer, and RV rental and leasing (8.1 percent); all other industries had gains of 4.0 percent or less.

Chart 2. Labor productivity growth in selected service-providing industries, 2019

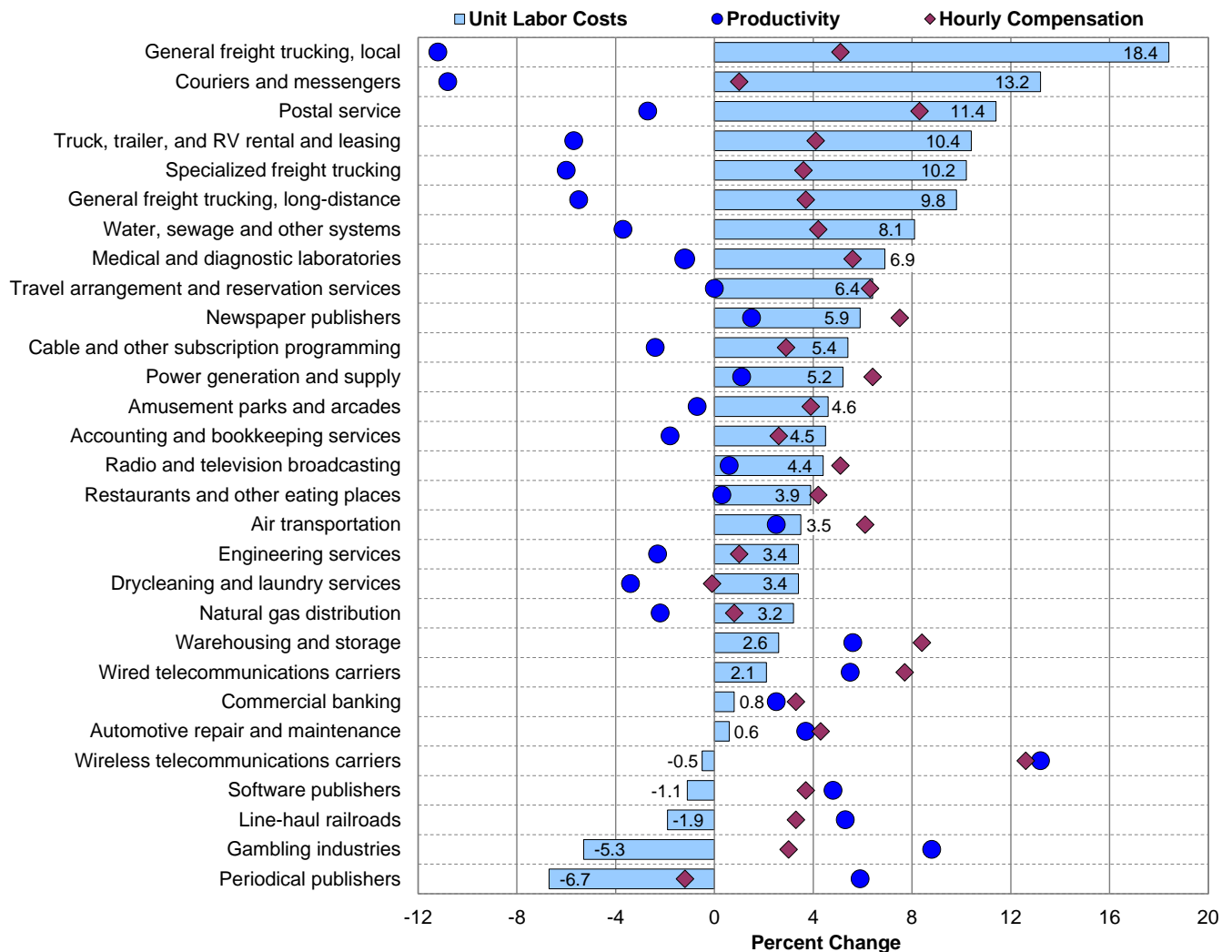


Unit labor costs declined in 5 industries in 2019. Each of the industries with a decline in unit labor costs also recorded an increase in productivity. Increases in labor productivity counter the impact of rising hourly compensation on unit labor costs facing employers.

Trends in Unit Labor Costs in 2019

- The largest declines in unit labor costs were in periodical publishers (-6.7 percent) and gambling industries (-5.3 percent). Productivity grew in both industries while hourly compensation fell in periodical publishers and rose in gambling industries. (See chart 3.)
- All unit labor cost declines occurred in industries where productivity rose.
- Each of the industries where productivity fell also recorded an increase in unit labor costs.
- Hourly compensation rose in 27 of the 29 industries measured.

Chart 3. Unit labor costs, productivity, and hourly compensation costs in selected service-providing industries, 2019



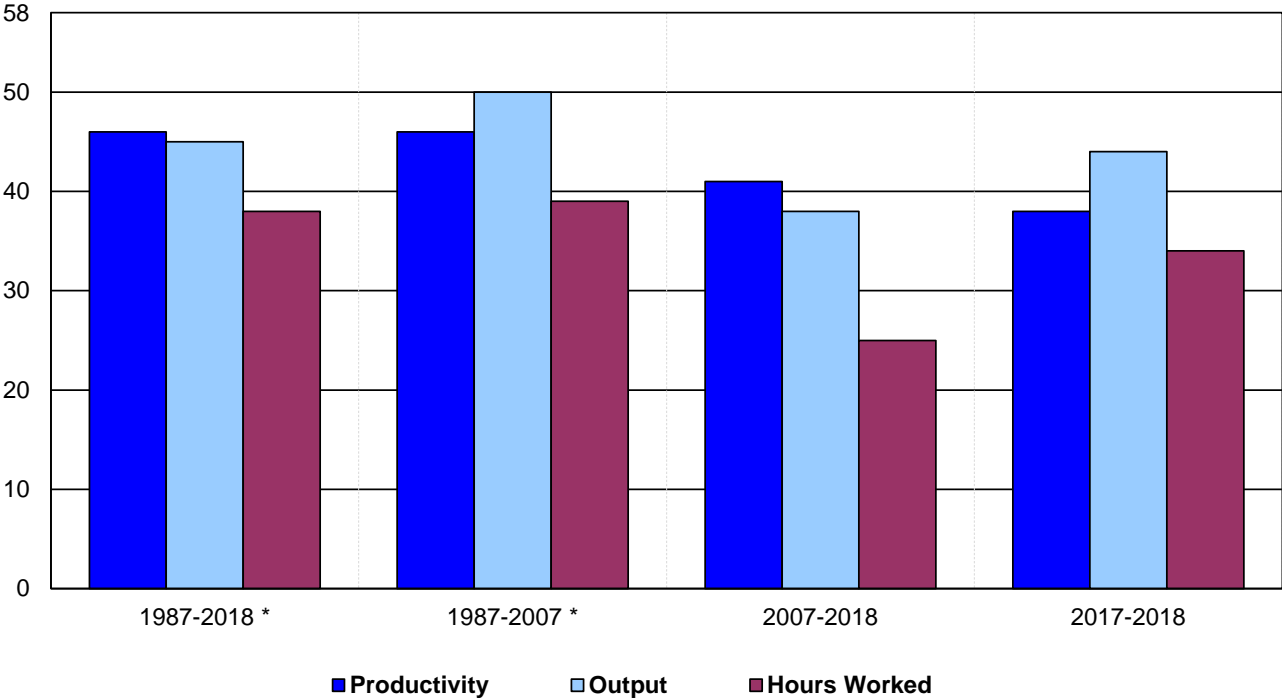
Long Term Productivity Trends

Chart 4 displays the number of industries with increases in productivity, output, and hours worked for selected time periods through 2018, the latest year for which data are available for all 58 selected service-providing industries published on the BLS website.

- Over the long term, productivity rose in 46 out of 58 service-providing industries. For the majority of the industries studied, this period extends from 1987 to 2018.
- Median long term productivity growth for all 58 industries was approximately 1.5 percent per year.
- Output increased over the long term in 45 industries while hours worked increased in 38 industries.
- Productivity increased in 41 of the 58 industries in the period from 2007 to 2018 that began with a severe recession. During this period, only 38 industries had increases in output and 25 experienced growth in hours worked.

Chart 4. Number of selected service-providing industries with increases in labor productivity, output, and hours worked

Number of Industries



* Note: Measures for 44 industries begin in 1987 while measures for 14 additional industries begin in later years.

Additional Information

Time periods for data covered by this release precede, and are therefore not impacted by, COVID-19.

The productivity and costs measures in this release incorporate data from the Census Bureau's Service Annual Survey (November 2019) and Nonemployer Statistics (June 2019). Accordingly, the labor productivity and output series for all industries have been revised for 2018 and earlier years.

Access the productivity data dashboard at www.bls.gov/lpc/lpc_by_industry_dashboard.xlsx for

- Additional industries and sectors
- Detailed data series: indexes of productivity and related measures; rates of change; and levels of industry employment, hours worked, nominal value of production, and labor compensation
- Additional years and long-term data

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Technical Note

Labor Productivity: Labor productivity describes the relationship between real output and the labor hours involved in its production. These measures show the changes from period to period in the amount of goods and services produced per hour worked. Although the labor productivity measures relate output in an industry to hours worked of all persons in that industry, they do not measure the specific contribution of labor to growth in output. Rather, they reflect the joint effects of many influences, including: changes in technology; capital investment; utilization of capacity, energy, and materials; the use of purchased services inputs, including contract employment services; the organization of production; the characteristics and effort of the workforce; and managerial skill.

Unit Labor Costs: Unit labor costs represent the cost of labor required to produce one unit of output. The unit labor cost indexes are computed by dividing an index of nominal industry labor compensation by an index of real industry output. Unit labor costs also describe the relationship between compensation per hour and real output per hour (labor productivity). Increases in hourly compensation increase unit labor costs; increases in labor productivity offset compensation increases and reduce unit labor costs.

Output: Real industry output is measured as an annual-weighted index of the changes in the various products (in real terms) provided for sale outside the industry. Real industry output is usually derived by deflating nominal sales or values of production using BLS price indexes, but for some industries it is measured by physical quantities of output.

Industry output measures are constructed primarily using data from the economic censuses and annual surveys of the U.S. Census Bureau, U.S. Department of Commerce, together with information on price changes from BLS. Other data sources include: the Energy Information Administration, U.S. Department of Energy; the Bureau of Transportation Statistics, U.S. Department of Transportation; the U.S. Postal Service; the Postal Rate Commission; and the Federal Deposit Insurance Corporation. Data from the Quarterly Service Survey from the Census Bureau are used to construct preliminary output measures for 2019 for some industries. Data from both the Census Bureau's Quarterly Service Survey and Monthly Retail Trade Survey are used to construct preliminary output measures for 2019 for some industries.

Labor Hours: Labor hours are measured as annual hours worked by all employed persons in an industry. Data on industry employment and hours come primarily from the BLS Current Employment Statistics (CES) survey and Current Population Survey (CPS). CES data on the number of total and production worker jobs held by wage and salary workers in nonfarm establishments are supplemented with CPS self-employed and unpaid family worker data to estimate industry employment. Hours worked estimates are derived using CES and CPS employment, CES data on the average weekly hours paid of production workers, CPS data on hours of nonproduction, self-employed, and unpaid family workers, and ratios of hours worked to hours paid based on data from the National Compensation Survey (NCS). For some industries, employment and hours data are supplemented or further disaggregated using data from the BLS Quarterly Census of Employment and Wages (QCEW), the Census Bureau, or other sources. Additional sources of employment and hours data for certain service industries include the Association of American Railroads, the U.S. Department of Transportation, and the U.S. Postal Service. Hours worked are estimated separately for different types of workers and then are directly aggregated; no adjustments for labor composition are made.

Labor Compensation: Labor compensation, defined as payroll plus supplemental payments, is a measure of the cost to the employer of securing the services of labor. Payroll includes salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind. Supplemental payments include both legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation, such as the employer portion of private health insurance and pension plans. Industry compensation measures are constructed primarily using data from the economic censuses and annual surveys of the Census Bureau, U.S. Department of Commerce. The estimates for 2019 are constructed using data from the BLS Quarterly Census of Employment and Wages (QCEW).

Table 1. Recent labor productivity, unit labor costs, and related data

Industry	2017 NAICS code	2019 Employment (thousands)	Percent change, 2018-2019				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
Utilities							
Utilities.....	22	549.0	-0.1	5.0	-1.8	-1.8	3.1
Utilities.....	221	549.0	-0.1	5.0	-1.8	-1.8	3.1
Power generation and supply.....	2211	385.5	1.1	5.2	-2.6	-3.7	2.5
Natural gas distribution.....	2212	110.3	-2.2	3.2	1.7	4.0	4.9
Water, sewage and other systems.....	2213	53.2	-3.7	8.1	-2.5	1.2	5.4
Transportation and Warehousing							
Air transportation.....	481	492.5	2.5	3.5	4.0	1.5	7.7
Line-haul railroads.....	482111	158.8	5.3	-1.9	-0.1	-5.1	-1.9
Truck transportation.....	484	1,765.7	-6.4	11.0	-4.2	2.3	6.3
General freight trucking.....	4841	1,274.3	-6.6	11.3	-4.3	2.5	6.6
General freight trucking, local.....	48411	343.9	-11.2	18.4	-8.3	3.3	8.5
General freight trucking, long-distance.....	48412	930.4	-5.5	9.8	-3.5	2.2	6.0
Specialized freight trucking.....	4842	491.4	-6.0	10.2	-4.2	1.9	5.6
Postal service.....	491	607.3	-2.7	11.4	-2.4	0.3	8.7
Postal service.....	4911	607.3	-2.7	11.4	-2.4	0.3	8.7
Couriers and messengers.....	492	872.5	-10.8	13.2	1.1	13.4	14.5
Warehousing and storage.....	493	1,197.7	5.6	2.6	6.7	1.0	9.5
Warehousing and storage.....	4931	1,197.7	5.6	2.6	6.7	1.0	9.5
Information							
Publishing.....	511	790.6	6.6	-0.5	8.2	1.4	7.6
Newspaper, book, and directory publishers.....	5111	329.5	2.6	0.3	-5.3	-7.7	-5.0
Newspaper publishers.....	51111	144.4	1.5	5.9	-6.7	-8.0	-1.2
Periodical publishers.....	51112	90.2	5.9	-6.7	-2.2	-7.6	-8.8
Software publishers.....	5112	461.1	4.8	-1.1	13.5	8.3	12.3
Broadcasting, except Internet.....	515	277.7	-0.9	5.2	-0.3	0.6	4.9
Radio and television broadcasting.....	5151	222.8	0.6	4.4	1.4	0.8	5.9
Cable and other subscription programming.....	5152	54.9	-2.4	5.4	-2.4	-0.1	2.9
Wired and wireless telecommunications carriers.....	5173	630.5	7.9	0.7	-0.3	-7.6	0.4
Wired telecommunications carriers.....	517311	523.6	5.5	2.1	-2.1	-7.2	-0.1
Wireless telecommunications carriers.....	517312	106.9	13.2	-0.5	2.3	-9.6	1.8
Finance and Insurance							
Commercial banking.....	52211	1,391.2	2.5	0.8	1.9	-0.6	2.7
Real Estate and Rental and Leasing							
Truck, trailer, and RV rental and leasing.....	53212	91.8	-5.7	10.4	1.9	8.1	12.6
Professional and Technical Services							
Accounting and bookkeeping services.....	5412	1,191.6	-1.8	4.5	0.1	2.0	4.6
Accounting and bookkeeping services.....	54121	1,191.6	-1.8	4.5	0.1	2.0	4.6
Engineering services.....	54133	1,044.3	-2.3	3.4	1.4	3.8	4.9
Administrative and Waste Services							
Travel arrangement and reservation services.....	5615	248.8	0.0	6.4	-0.6	-0.6	5.7
Health Care and Social Assistance							
Medical and diagnostic laboratories.....	6215	299.3	-1.2	6.9	2.0	3.3	9.1
Arts, Entertainment, and Recreation							
Amusement parks and arcades.....	7131	229.3	-0.7	4.6	1.9	2.6	6.6
Gambling industries.....	7132	124.2	8.8	-5.3	4.5	-4.0	-1.1
Accommodation and Food Services							
Food services and drinking places.....	722	12,289.8	0.5	3.9	1.6	1.1	5.5
Restaurants and other eating places.....	72251	11,008.1	0.3	3.9	1.5	1.2	5.5
Full-service restaurants.....	722511	5,565.8	-2.2	6.7	-1.9	0.3	4.7
Limited-service eating places.....	722513,4,5	5,442.3	2.5	1.7	4.8	2.2	6.7

Table 1. Recent labor productivity, unit labor costs, and related data — Continued

Industry	2017 NAICS code	2019 Employment (thousands)	Percent change, 2018-2019				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
Other Services							
Automotive repair and maintenance.....	8111	1,165.0	3.7	0.6	0.7	-2.9	1.3
Drycleaning and laundry services.....	8123	306.0	-3.4	3.4	0.2	3.7	3.6

Table 2. Long run labor productivity, unit labor costs, and related data

Industry	2017 NAICS code	2018 Employment (thousands)	Average annual percent change, 1987-2018				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
Utilities							
Utilities.....	22	553.4	2.2	1.4	1.5	-0.7	2.9
Utilities.....	221	553.4	2.2	1.4	1.5	-0.7	2.9
Power generation and supply.....	2211	391.4	2.9	0.7	2.1	-0.9	2.7
Natural gas distribution.....	2212	109.8	1.2	3.1	0.1	-1.1	3.2
Water, sewage and other systems.....	2213	52.2	-1.7	4.6	0.8	2.5	5.4
Transportation and Warehousing							
Air transportation.....	481	481.6	3.1	0.9	2.8	-0.3	3.7
Line-haul railroads.....	482111	166.2	3.5	-0.4	1.8	-1.6	1.4
Truck transportation ¹	484	1,708.3	0.6	1.1	2.0	1.1	3.2
General freight trucking ¹	4841	1,228.6	1.1	1.2	2.4	0.9	3.6
General freight trucking, local ¹	48411	326.7	2.5	0.3	3.7	0.8	4.0
General freight trucking, long-distance.....	48412	901.9	1.3	0.6	2.3	1.0	2.9
Specialized freight trucking ²	4842	479.7	0.7	2.1	1.9	1.5	4.1
Used household and office goods moving.....	48421	101.4	-0.6	2.6	-0.1	0.5	2.5
Other specialized trucking, local ²	48422	237.6	0.3	2.6	1.8	1.6	4.4
Other specialized trucking, long-distance ²	48423	140.7	1.2	1.7	3.1	2.0	4.9
Postal service.....	491	608.5	0.4	2.9	-0.6	-1.0	2.3
Postal service.....	4911	608.5	0.4	2.9	-0.6	-1.0	2.3
Couriers and messengers.....	492	771.2	-2.0	3.3	0.7	2.7	4.0
Warehousing and storage ¹	493	1,142.6	1.0	0.6	5.4	3.8	6.1
Warehousing and storage ¹	4931	1,142.6	1.0	0.6	5.4	3.8	6.1
General warehousing and storage ¹	49311	1,017.3	2.0	-0.1	6.7	4.0	6.6
Refrigerated warehousing and storage ¹	49312	64.5	-0.3	1.7	2.8	2.9	4.6
Information							
Publishing.....	511	767.8	3.8	1.7	3.5	-0.4	5.2
Newspaper, book, and directory publishers.....	5111	350.1	0.2	4.0	-2.6	-2.8	1.2
Newspaper publishers.....	51111	152.4	-0.5	3.8	-4.2	-3.8	-0.6
Periodical publishers.....	51112	95.4	-0.3	4.8	-1.7	-1.5	3.0
Book publishers.....	51113	64.5	-0.2	4.7	-1.1	-0.9	3.6
Software publishers.....	5112	417.7	10.4	-5.0	17.1	6.0	11.2
Motion picture and video exhibition.....	51213	152.2	1.2	2.3	1.7	0.5	4.0
Broadcasting, except Internet.....	515	275.6	3.0	1.5	2.9	-0.1	4.4
Radio and television broadcasting.....	5151	221.2	2.2	1.5	1.9	-0.4	3.4
Radio broadcasting.....	51511	85.2	3.7	1.2	2.4	-1.2	3.7
Cable and other subscription programming.....	5152	54.4	5.0	2.6	6.3	1.2	9.0
Wired and wireless telecommunications carriers.....	5173	666.4	6.6	-3.0	5.8	-0.7	2.7
Wired telecommunications carriers.....	517311	551.7	3.6	-0.5	2.4	-1.2	1.9
Wireless telecommunications carriers.....	517312	114.7	12.1	-7.0	18.2	5.5	9.9
Finance and Insurance							
Commercial banking.....	52211	1,381.4	3.0	2.0	2.9	-0.1	5.0
Real Estate and Rental and Leasing							
Passenger car rental.....	532111	124.5	2.2	1.6	3.1	0.9	4.7
Truck, trailer, and RV rental and leasing.....	53212	84.8	2.2	1.1	3.0	0.8	4.1
Video tape and disc rental.....	532282	10.5	5.1	-0.8	-2.7	-7.5	-3.5
Professional and Technical Services							
Accounting and bookkeeping services ³	5412	1,162.3	2.4	1.4	3.0	1.0	4.4
Accounting and bookkeeping services ³	54121	1,162.3	2.4	1.4	3.0	1.0	4.4
Offices of certified public accountants ³	541211	492.8	2.0	2.0	3.1	1.4	5.2
Tax preparation services.....	541213	135.1	0.7	2.3	2.0	1.3	4.3
Other accounting services ³	541219	360.6	4.4	-1.4	4.4	0.5	3.0
Architectural services.....	54131	211.6	1.6	1.7	2.7	1.1	4.4
Engineering services.....	54133	1,014.7	1.1	2.8	2.7	1.6	5.6
Advertising agencies.....	54181	229.3	2.2	1.6	2.9	0.7	4.6

See footnotes at end of table.

Table 2. Long run labor productivity, unit labor costs, and related data — Continued

Industry	2017 NAICS code	2018 Employment (thousands)	Average annual percent change, 1987-2018				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
Photography studios, portrait.....	541921	53.6	0.7	1.3	1.3	0.6	2.6
Veterinary services ⁴	54194	407.4	-0.9	4.2	1.8	2.7	6.1
Administrative and Waste Services							
Employment placement and executive search ⁵	56131	303.8	4.7	-0.5	5.8	1.6	5.3
Travel arrangement and reservation services ³	5615	245.6	6.3	-1.3	4.3	-0.3	2.9
Travel agencies.....	56151	107.6	6.0	-1.1	4.9	-1.1	3.7
Janitorial services.....	56172	1,408.6	2.0	1.4	3.7	1.6	5.1
Health Care and Social Assistance							
Medical and diagnostic laboratories ⁵	6215	287.9	1.9	0.6	4.9	3.2	5.5
Medical laboratories ⁵	621511	205.6	1.9	0.5	4.9	3.3	5.4
Diagnostic imaging centers ⁵	621512	82.3	2.0	1.1	4.7	3.0	5.8
Hospitals, except psychiatric and substance abuse hospitals ⁶	6221,3	4,886.1	0.5	3.2	2.0	1.5	5.3
Arts, Entertainment, and Recreation							
Amusement parks and arcades ⁷	7131	215.3	0.4	5.0	-0.1	1.8	4.9
Amusement and theme parks.....	71311	185.4	0.1	4.0	1.9	1.7	5.9
Gambling industries ³	7132	126.2	3.0	1.3	2.7	4.6	4.0
Golf courses and country clubs ²	71391	391.4	-1.0	4.1	0.0	2.9	4.1
Fitness and recreational sports centers ²	71394	674.0	3.3	-0.3	4.1	2.6	3.8
Bowling centers.....	71395	70.9	0.8	2.6	-0.9	-1.6	1.7
Accommodation and Food Services							
Accommodation and food services.....	72	14,176.1	0.8	2.7	2.4	1.6	5.1
Accommodation.....	721	2,060.7	1.9	1.8	2.7	0.8	4.6
Traveler accommodation.....	7211	1,969.0	1.9	1.8	2.7	0.8	4.6
Hotels and motels, except casino hotels.....	72111	1,655.3	1.4	2.5	2.2	0.8	4.7
Food services and drinking places.....	722	12,115.4	0.5	3.0	2.2	1.7	5.3
Special food services.....	7223	869.7	0.9	1.7	2.3	1.4	4.0
Drinking places, alcoholic beverages.....	7224	408.1	-0.3	3.0	0.0	0.3	3.0
Restaurants and other eating places.....	72251	10,837.6	0.5	3.2	2.4	1.9	5.6
Full-service restaurants.....	722511	5,534.5	0.6	3.6	2.3	1.7	5.9
Limited-service eating places.....	722513,4,5	5,303.1	0.4	2.8	2.4	2.0	5.2
Other Services							
Automotive repair and maintenance.....	8111	1,173.3	1.0	2.3	1.5	0.5	3.8
Reupholstery and furniture repair.....	81142	19.5	-0.8	3.6	-2.8	-2.0	0.8
Personal care services.....	8121	1,301.5	2.2	1.7	3.5	1.3	5.3
Hair, nail, and skin care services.....	81211	1,061.8	2.0	1.8	3.1	1.1	4.9
Funeral homes and funeral services.....	81221	111.4	-0.4	4.0	-0.4	0.1	3.6
Drycleaning and laundry services.....	8123	310.3	2.2	1.4	1.2	-1.0	2.6
Coin-operated laundries and drycleaners.....	81231	42.8	2.9	1.9	0.5	-2.3	2.4
Drycleaning and laundry services.....	81232	134.6	0.8	2.2	-1.2	-2.0	0.9
Linen and uniform supply.....	81233	132.9	2.5	0.8	3.3	0.8	4.1
Photofinishing.....	81292	10.0	3.0	1.7	-3.9	-6.7	-2.3

¹ For NAICS industries 484, 4841, 48411, 493, 4931, 49311, and 49312, average annual percent changes are for 1992-2018.

² For NAICS industries 4842, 48422, 48423, 71391, and 71394, average annual percent changes are for 2002-2018.

³ For NAICS industries 5412, 54121, 541211, 541219, 5615, and 7132, average annual percent changes are for 1997-2018.

⁴ For NAICS industry 54194, average annual percent changes are for 2004-2018.

⁵ For NAICS industries 56131, 6215, 621511, and 621512, average annual percent changes are for 1994-2018.

⁶ For NAICS industry 6221,3, average annual percent changes are for 1993-2016. Employment is for 2016.

⁷ For NAICS industry 7131, average annual percent changes are for 2007-2018.