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PRODUCTIVITY AND COSTS BY INDUSTRY: WHOLESALE TRADE AND RETAIL TRADE INDUSTRIES – 2019

Labor productivity rose 5.3 percent in retail trade and 0.4 percent in wholesale trade in 2019, the U.S. Bureau of Labor Statistics reported today. **Unit labor costs**, which reflect the total labor costs required to produce a unit of output, rose in wholesale trade and fell in retail trade.

Annual productivity growth for retail trade in 2019 was the highest since 1999. In 2019, retail trade output increased at an accelerating rate while hours worked fell at a faster rate than in 2018. In wholesale trade, productivity and output increased at a slower rate than in 2018 and hours worked increased at a slightly faster rate.

Chart 1. Largest changes in productivity in 4-digit wholesale trade and retail trade industries, 2019

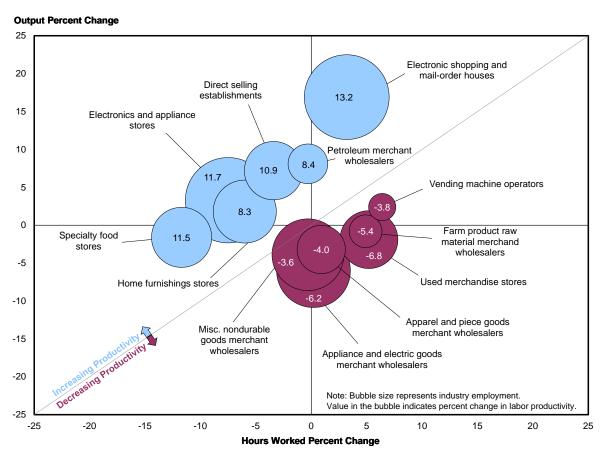


Chart 1 shows the percent changes in output and hours worked for industries with the largest increases and decreases in productivity in 2019. Change in productivity is approximately equal to the change in output minus the change in hours worked. Industries above the diagonal line experienced growth in productivity while industries below the diagonal line experienced declines.

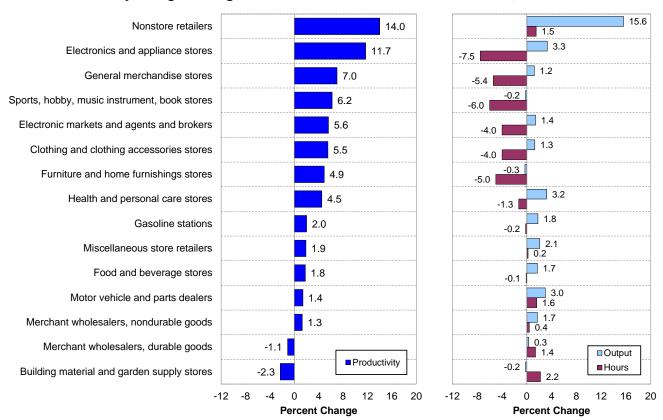
Among the six 4-digit industries with the highest productivity growth, five reported growth in output while one industry showed growth in hours worked. Productivity growth was greatest in electronic shopping and mail-order houses (+13.2 percent) where growth in output far surpassed growth in hours worked.

Of the six 4-digit industries with the largest declines in productivity, hours worked increased in five and output increased in one, vending machine operators. The two industries with the greatest decreases in productivity were appliance and electric goods merchant wholesalers (-6.2 percent) and used merchandise stores (-6.8 percent).

Labor Productivity Rose in Majority of Industries in 2019

Productivity increased in 13 of the 15 3-digit NAICS industries studied in 2019. Eight industries had productivity gains of at least 4.0 percent, with the highest in nonstore retailers (+14.0 percent) which also had the largest increase in output (+15.6 percent). Of the two industries with productivity declines, building material and garden supply stores experienced the largest drop (-2.3 percent). (See chart 2).

Chart 2. Productivity change in 3-digit wholesale trade and retail trade industries, 2019



Productivity increased in 30 of the 46 4-digit NAICS industries studied in 2019. Output grew in 31 industries while hours worked grew in 24 industries. (See table 1).

In **wholesale trade**, productivity rose 0.4 percent as output grew 1.0 percent and hours worked increased 0.6 percent.

- Productivity fell 1.1 percent in durable goods wholesalers and rose 1.3 percent in nondurable goods wholesalers.
- Productivity increased in 8 of the 19 4-digit wholesale trade industries while output rose in 11 industries and hours worked grew in 13.
- The most rapid increase in productivity occurred in petroleum merchant wholesalers (+8.4 percent) because output grew 8.1 percent while hours worked declined 0.3 percent.

In **retail trade**, productivity increased by 5.3 percent as output grew 3.7 percent and hours worked fell 1.5 percent.

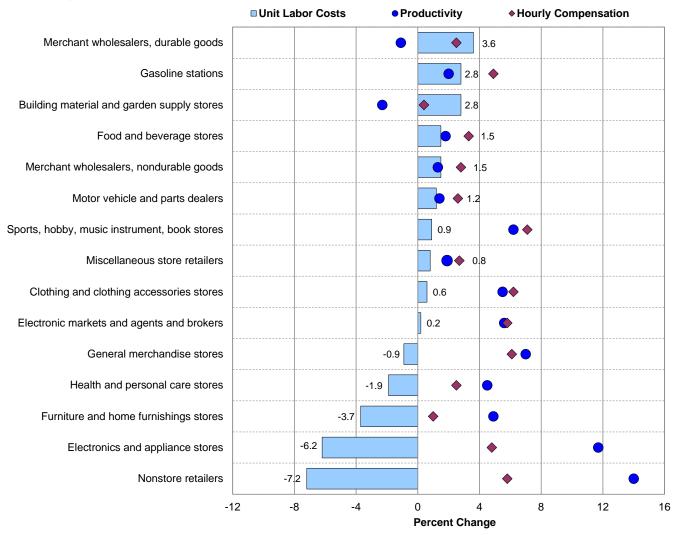
- Productivity increased in 22 of the 27 4-digit retail trade industries while output grew in 20 industries and hours worked rose in 11.
- The largest productivity increase occurred in electronic shopping and mail-order houses (+13.2 percent) as output increased at over five times the rate of hours worked.
- Specialty food stores hours worked declined 11.7 percent while output declined 1.6 percent, resulting in a productivity increase of 11.5 percent.

Unit Labor Costs Decline in One Third of Industries in 2019

When productivity gains outpace hourly compensation, unit labor costs decline.

- Unit labor costs fell in 5 out of 15 3-digit wholesale and retail trade industries in 2019. All unit labor cost declines occurred in industries where productivity rose. (See chart 3).
- Unit labor costs declined in 4 of 19 4-digit wholesale trade industries. In retail trade, 9 of 27 4-digit industries had declines in unit labor costs, and two 4-digit industries had no change.
- Hourly compensation, defined as labor compensation per hour worked, rose in 37 of the 46 4-digit industries.

Chart 3. Unit labor costs, productivity, and hourly compensation in 3-digit wholesale trade and retail trade industries, 2019



Long-term Labor Productivity Increases for Most Industries

From 1987 to 2019, **labor productivity** increased at an average annual rate of 2.7 percent in wholesale trade and 2.9 percent in retail trade. (See table 2.)

- Among the 4-digit industries, productivity rose from 1987 to 2019 in 43 industries, was unchanged in 2 industries, and declined in 1 industry, metal and mineral merchant wholesalers.
- Of the 43 4-digit industries with increasing productivity growth, 38 experienced rising output while 22 had an increase in hours worked.
- Median productivity among 4-digit industries grew at an average annual rate of 1.9 percent.
- The 2007 to 2019 productivity growth in durable wholesale, nondurable wholesale, and retail trade industries was slower than during the 1987-2007 period. (See chart 4).
- The number of 4-digit industries with increasing productivity dropped from 43 out of 46 during the 1987-2007 period to 33 during the 2007-2019 period.

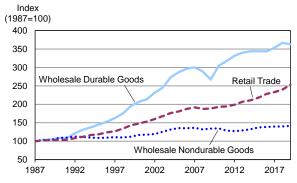
Long-term Trends in Unit Labor Costs Vary by Sector

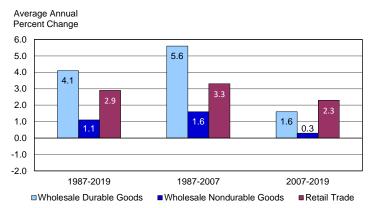
From 1987 to 2019, **unit labor costs** declined at an average annual rate of 0.3 percent in wholesale durable goods, increased at an average annual rate of 2.7 percent in wholesale nondurable goods, and were unchanged in retail trade. (See table 2.)

- Among the 4-digit industries, unit labor costs fell in 15 out of 46 industries from 1987 to 2019. Unit labor costs declined in 2 out of 19 wholesale trade and in 13 out of 27 retail trade industries.
- From 2007 to 2019, unit labor costs declined in 14 out of 46 industries. All industries with declines in unit labor costs experienced increases in productivity.
- During the 1987 to 2007 and 2007 to 2019 periods, electronics and appliance stores had the largest unit labor cost declines and the largest productivity gains among the 3-digit industries.

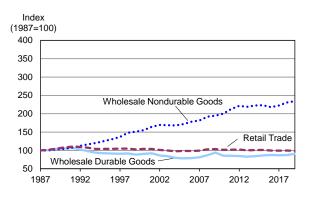
Chart 4. Long-term changes in productivity and unit labor costs for wholesale trade industry groups and retail trade industry

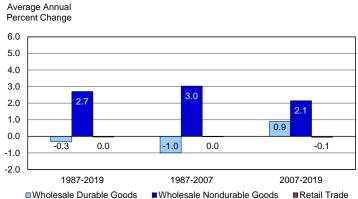
Labor Productivity





Unit Labor Costs





Additional Information

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

The trade measures in this release incorporate benchmark data from the Census Bureau's Annual Wholesale Trade Report (February 2020), Monthly Wholesale Trade Survey (May 2020), Annual Retail Trade Survey (February 2020), Annual Revision of the Monthly Retail and Food Services: Sales and Inventories (April 2020), and Nonemployer Statistics (May 2020). Accordingly, the labor productivity and output series for all industries have been revised for 2018 and earlier years. Additionally, the unit labor cost measures incorporate preliminary data from the BLS Quarterly Census of Employment and Wages (June 2020).

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 worked (hourly compensation) and real output per hour worked (labor productivity). When hourly compensation growth outpaces productivity, unit labor costs increase. Alternatively, when productivity growth exceeds hourly compensation, unit labor costs decrease.

Output: 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 for data in this release is derived by deflating nominal sales or values of production using price indexes. 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.

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 data on self-employed and unpaid family workers 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. 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 BLS QCEW and the economic censuses of the Census Bureau, U.S. Department of Commerce.

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 compen- sation	Hourly compensation
Wholesale Trade								
Wholesale trade	42	6,028.4	0.4	2.5	1.0	0.6	3.5	2.9
Merchant wholesalers, durable goods	423	3,262.2	-1.1	3.6	0.3	1.4	4.0	2.5
Motor vehicles and parts		364.3	-1.8	2.9	1.7	3.5	4.6	1.1
Furniture and furnishings		119.5	4.9	-0.3	3.8	-1.1	3.5	4.6
Lumber and construction supplies	1	254.5	-0.4	2.6	3.2	3.6	5.9	2.2
Commercial equipment		693.3	4.0	-0.9	5.6	1.5	4.6	3.0
Metals and minerals	4235	139.3	-0.7	1.3	0.1	0.8	1.4	0.7
Appliances and electric goods	4236	365.3	-6.2	8.1	-6.0	0.2	1.6	1.4
Hardware and plumbing	4237	285.9	-3.4	5.0	-0.1	3.3	4.9	1.5
Machinery and supplies		721.5	-2.8	5.8	-1.0	1.8	4.7	2.8
Miscellaneous durable goods	4239	318.6	1.2	3.7	-1.7	-2.9	1.9	4.9
Merchant wholesalers, nondurable goods	424	2,230.2	1.3	1.5	1.7	0.4	3.2	2.8
Paper and paper products	4241	132.2	-2.5	8.5	-6.7	-4.3	1.2	5.8
Druggists' goods	4242	243.5	0.9	3.7	1.2	0.3	4.9	4.6
Apparel and piece goods		156.4	-4.0	4.1	-3.2	0.9	0.8	-0.1
Grocery and related products	1	812.4	1.5	0.2	2.0	0.5	2.2	1.7
Farm product raw materials	1	72.2	-5.4	-6.5	-0.8	4.9	-7.2	-11.6
Chemicals Petroleum	_	153.3 105.9	-1.7 8.4	3.1 -0.8	0.4	2.2	3.6 7.2	1.4 7.5
Alcoholic beverages	1	207.9	2.7	1.6	8.1 4.3	-0.3 1.6	6.0	4.3
Miscellaneous nondurable goods	1	346.4	-3.6	7.6	-3.9	-0.3	3.4	3.7
•								
Electronic markets and agents and brokers	1	536.0	5.6	0.2	1.4	-4.0	1.6	5.8
Electronic markets and agents and brokers	4251	536.0	5.6	0.2	1.4	-4.0	1.6	5.8
Retail Trade								
Retail trade	44-45	16,410.5	5.3	-1.1	3.7	-1.5	2.5	4.1
Motor vehicle and parts dealers	441	2,093.4	1.4	1.2	3.0	1.6	4.2	2.6
Automobile dealers	4411	1,331.2	2.4	1.3	2.9	0.4	4.2	3.8
Other motor vehicle dealers	4412	177.6	0.5	-2.0	6.6	6.2	4.5	-1.6
Auto parts, accessories, and tire stores	4413	584.6	-1.4	2.5	1.7	3.1	4.2	1.1
Furniture and home furnishings stores	442	498.7	4.9	-3.7	-0.3	-5.0	-4.0	1.0
Furniture stores	4421	231.8	1.9	0.4	-2.2	-4.0	-1.8	2.3
Home furnishings stores	4422	266.9	8.3	-8.1	1.8	-6.0	-6.4	-0.4
Electronics and appliance stores		490.4	11.7	-6.2	3.3	-7.5	-3.0	4.8
Electronics and appliance stores	4431	490.4	11.7	-6.2	3.3	-7.5	-3.0	4.8
Building material and garden supply stores Building material and supplies dealers		1,329.3 1,163.3	-2.3 -3.0	2.8 1.9	-0.2 0.3	2.2 3.4	2.6 2.2	0.4 -1.1
Lawn and garden equipment and supplies stores		1,103.3	2.2	9.0	-3.4	-5.5	5.3	11.4
Food and beverage stores	1	3,146.7	1.8	1.5	1.7	-0.1	3.2	3.3
Grocery stores	1	2,722.8	1.1	2.1	1.9	0.7	4.0	3.3
Specialty food stores Beer, wine and liquor stores	1	242.7 181.2	11.5 -2.9	-4.1 2.5	-1.6 1.4	-11.7 4.4	-5.6 3.9	6.9 -0.5
•								
Health and personal care stores	1	1,103.3	4.5	-1.9	3.2	-1.3	1.2	2.5
Health and personal care stores	4461	1,103.3	4.5	-1.9	3.2	-1.3	1.2	2.5
Gasoline stations		949.6	2.0	2.8	1.8	-0.2	4.7	4.9
Gasoline stations	4471	949.6	2.0	2.8	1.8	-0.2	4.7	4.9
Clothing and clothing accessories stores	448	1,398.1	5.5	0.6	1.3	-4.0	1.9	6.2
Clothing stores		1,029.2	6.8	0.0	0.8	-5.6	0.8	6.8
Shoe stores	1	203.8	0.9	2.9	2.7	1.8	5.6	3.7
	4483	165.1	5.7	1.0	2.5	-3.0	3.5	6.8
Jewelry, luggage, and leather goods stores				l				
Sports, hobby, music instruments, book stores		602.7	6.2	0.9	-0.2	-6.0	0.7	7.1

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

	2017 NAICS code	2019 Employment (thousands)	Percent change, 2018-2019						
Industry			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation	
Book stores and news dealers	4512	85.7	2.2	2.7	-0.8	-2.9	1.9	4.9	
General merchandise stores	452	3,055.2	7.0	-0.9	1.2	-5.4	0.3	6.1	
Department stores	4522	1,083.1	5.1	1.1	-3.6	-8.3	-2.6	6.2	
Other general merchandise stores	4523	1,972.1	6.7	-0.7	2.4	-4.0	1.8	6.0	
Miscellaneous store retailers	453	981.5	1.9	0.8	2.1	0.2	3.0	2.7	
Florists	4531	73.8	6.0	-7.3	5.8	-0.2	-1.9	-1.7	
Office supplies, stationery and gift stores	4532	257.4	5.8	0.0	1.4	-4.1	1.4	5.7	
Used merchandise stores	4533	225.2	-6.8	5.3	-1.9	5.2	3.3	-1.9	
Other miscellaneous store retailers	4539	425.1	2.8	1.2	3.1	0.3	4.3	4.0	
Nonstore retailers	454	761.6	14.0	-7.2	15.6	1.5	7.3	5.8	
Electronic shopping and mail-order houses	4541	483.3	13.2	-5.4	16.9	3.2	10.5	7.0	
Vending machine operators	4542	49.7	-3.8	8.7	2.4	6.4	11.3	4.5	
Direct selling establishments	4543	228.6	10.9	-10.8	7.2	-3.4	-4.3	-1.0	

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

Industry	2017 NAICS code	2019 Employment (thousands)	A	1987-2019				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation
Wholesale Trade								
Wholesale trade	. 42	6,028.4	2.7	1.0	3.0	0.3	4.0	3.7
Merchant wholesalers, durable goods	. 423	3,262.2	4.1	-0.3	4.4	0.2	4.0	3.8
Motor vehicles and parts	1	364.3	3.2	0.4	3.2	0.0	3.6	3.7
Furniture and furnishings	. 4232	119.5	1.7	2.1	1.8	0.1	3.9	3.9
Lumber and construction supplies	. 4233	254.5	1.0	1.6	1.8	0.8	3.4	2.7
Commercial equipment		693.3	11.3	-6.5	11.5	0.2	4.3	4.1
Metals and minerals		139.3	-0.4	3.8	-0.1	0.3	3.7	3.4
Appliances and electric goods	I	365.3	6.9	-2.5	6.7	-0.2	4.0	4.2
Hardware and plumbing		285.9	1.4	2.1	2.4	1.0	4.5	3.5
Machinery and supplies	I	721.5 318.6	1.6 1.1	2.2 2.6	1.7 1.5	0.1 0.5	4.0 4.1	3.9 3.7
Merchant wholesalers, nondurable goods	. 424	2,230.2	1.1	2.7	1.3	0.2	4.1	3.8
Paper and paper products	I	132.2	0.6	2.6	0.0	-0.6	2.7	3.3
Druggists' goods		243.5	2.2	3.5	3.5	1.2	7.1	5.9
Apparel and piece goods		156.4	1.8	1.5	1.4	-0.4	3.0	3.3
Grocery and related products		812.4	1.0	2.2	1.7	0.7	4.0	3.3
Farm product raw materials		72.2	1.1	3.6	-0.5	-1.6	3.0	4.7
Chemicals		153.3	0.0	3.4	0.7	0.6	4.1	3.4
Petroleum		105.9	2.5	2.2	1.2	-1.3	3.4	4.7
Alcoholic beverages		207.9 346.4	0.3 0.0	2.8 3.3	2.1 -0.4	1.8 -0.4	4.9 2.9	3.1 3.3
•								
Electronic markets and agents and brokers		536.0	1.5	0.8	3.0	1.5	3.8	2.3
Electronic markets and agents and brokers	. 4251	536.0	1.5	0.8	3.0	1.5	3.8	2.3
Retail Trade								
Retail trade	. 44-45	16,410.5	2.9	0.0	3.3	0.4	3.3	2.9
Motor vehicle and parts dealers	. 441	2,093.4	2.2	0.6	3.0	0.8	3.6	2.8
Automobile dealers	. 4411	1,331.2	2.3	0.6	3.1	0.8	3.7	2.9
Other motor vehicle dealers	. 4412	177.6	2.5	0.8	3.9	1.4	4.7	3.3
Auto parts, accessories, and tire stores	. 4413	584.6	1.0	1.4	1.7	0.7	3.2	2.4
Furniture and home furnishings stores	. 442	498.7	3.8	-1.0	3.6	-0.2	2.6	2.8
Furniture stores	. 4421	231.8	3.2	-0.6	3.0	-0.2	2.4	2.6
Home furnishings stores	. 4422	266.9	4.6	-1.5	4.4	-0.2	2.9	3.0
Electronics and appliance stores	. 443	490.4	10.7	-7.2	10.9	0.2	2.9	2.7
Electronics and appliance stores	. 4431	490.4	10.7	-7.2	10.9	0.2	2.9	2.7
Building material and garden supply stores	. 444	1,329.3	2.5	0.0	3.2	0.7	3.2	2.5
Building material and supplies dealers		1,163.3	2.4	0.1	3.2	0.9	3.3	2.4
Lawn and garden equipment and supplies stores	. 4442	166.0	3.2	-0.5	3.0	-0.3	2.4	2.7
Food and beverage stores	. 445	3,146.7	0.7	2.1	0.7	0.0	2.8	2.8
Grocery stores	. 4451	2,722.8	0.5	2.4	0.6	0.1	3.0	2.9
Specialty food stores	. 4452	242.7	0.5	1.8	-0.3	-0.8	1.5	2.3
Beer, wine and liquor stores	. 4453	181.2	2.0	0.7	1.5	-0.5	2.2	2.7
Health and personal care stores	. 446	1,103.3	1.8	1.4	2.8	1.0	4.2	3.2
Health and personal care stores	I	1,103.3	1.8	1.4	2.8	1.0	4.2	3.2
Gasoline stations		949.6	1.4	1.6	1.1	-0.2	2.8	3.0
Gasoline stations.		949.6	1.4	1.6	1.1	-0.2	2.8	3.0
Clothing and clothing accessories stores	. 448	1,398.1	4.0	-1.0	3.6	-0.4	2.5	2.9
Clothing stores	. 4481	1,029.2	4.3	-1.2	4.0	-0.3	2.7	3.0
Shoe stores	. 4482	203.8	2.9	-0.7	2.6	-0.3	1.9	2.2
Jewelry, luggage, and leather goods stores	. 4483	165.1	3.3	-0.1	2.6	-0.7	2.5	3.2
Sports, hobby, music instruments, book stores	. 451	602.7	3.6	-0.6	3.6	0.0	3.0	3.0
Sporting goods and musical instrument stores		517.0	4.1	-1.1	4.4	0.3	3.3	3.0

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

Industry	2017 NAICS code	2019 Employment (thousands)	Average annual percent change, 1987-2019						
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compen- sation	Hourly compen- sation	
Book stores and news dealers	4512	85.7	1.8	1.2	0.2	-1.6	1.3	3.0	
General merchandise stores	452	3,055.2	3.0	-0.7	4.1	1.1	3.4	2.3	
Department stores	4522	1,083.1	0.7	0.9	0.3	-0.4	1.3	1.7	
Other general merchandise stores	4523	1,972.1	4.9	-1.7	7.2	2.1	5.3	3.1	
Miscellaneous store retailers	453	981.5	3.3	-0.8	3.1	-0.2	2.3	2.5	
Florists	4531	73.8	3.1	0.0	0.0	-3.1	0.0	3.1	
Office supplies, stationery and gift stores	4532	257.4	5.6	-2.4	3.7	-1.8	1.2	3.1	
Used merchandise stores	4533	225.2	4.4	-1.8	5.7	1.2	3.8	2.5	
Other miscellaneous store retailers	4539	425.1	1.0	0.6	2.5	1.5	3.1	1.6	
Nonstore retailers	454	761.6	8.4	-3.8	9.2	0.8	5.1	4.3	
Electronic shopping and mail-order houses	4541	483.3	10.1	-4.7	14.2	3.7	8.9	4.9	
Vending machine operators	4542	49.7	0.3	3.1	-1.8	-2.1	1.3	3.5	
Direct selling establishments	4543	228.6	2.7	-0.1	1.3	-1.4	1.2	2.6	