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**PRODUCTIVITY AND COSTS BY INDUSTRY: WHOLESALE TRADE,  
 RETAIL TRADE, AND FOOD SERVICES AND DRINKING PLACES INDUSTRIES – 2016**

Labor productivity rose 1.2 percent in wholesale trade, 4.6 percent in retail trade, and 1.3 percent in food services and drinking places in 2016, 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 food services and drinking places and fell in wholesale trade and retail trade.

For wholesale trade in 2016, productivity, output, and hours worked all increased at a slower rate than in 2015. In retail trade, the growth in output far outpaced the growth in hours worked leading to a bigger productivity increase in 2016 than in 2015. Productivity growth in food services and drinking places in 2016 was slightly less than that of 2015 as output increased at a slower rate.

**Chart 1. Productivity change in the largest (by employment) 4-digit wholesale trade, retail trade, and food services and drinking places industries, 2016**

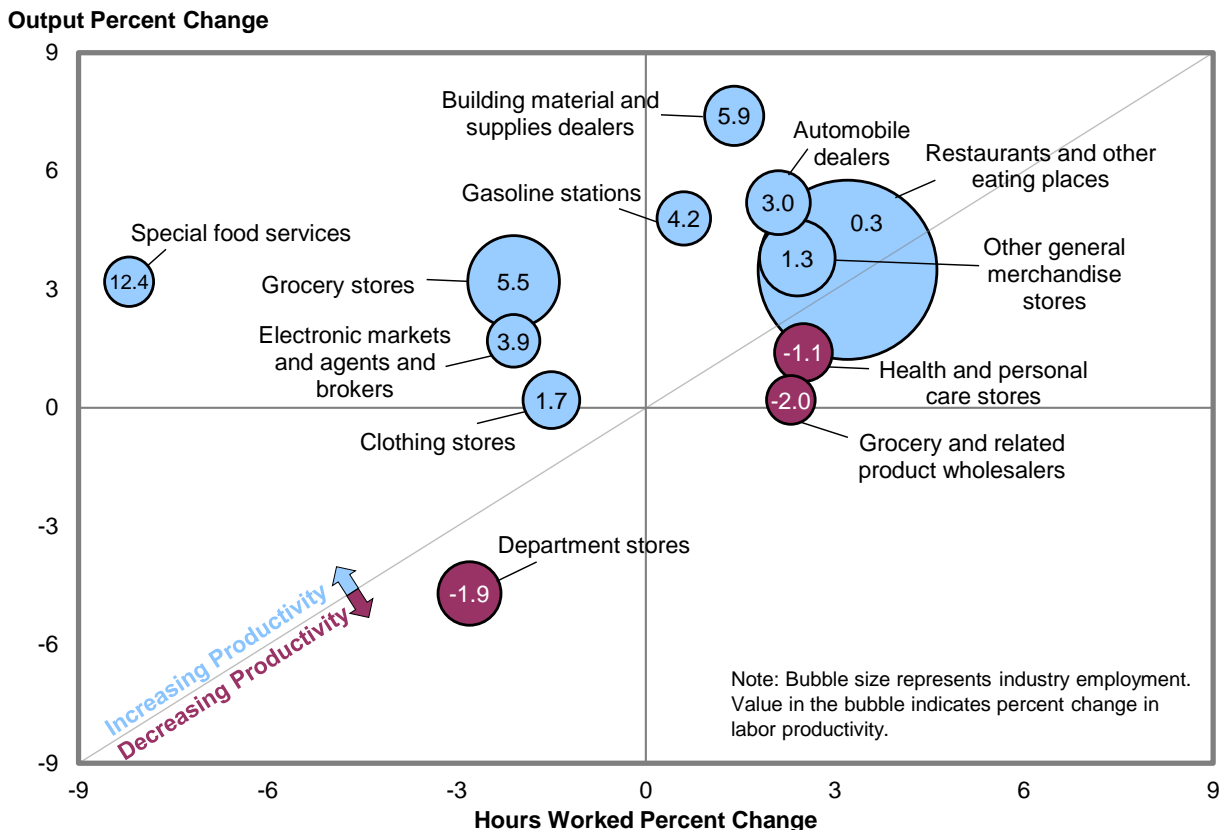


Chart 1 shows the changes in output and hours worked for industries with the largest employment. Industries above the diagonal line had growth in productivity; these all showed growth in output while slightly more than half showed growth in hours worked. Productivity growth was greatest in special food services where a moderate increase in output coincided with a rapid decline in hours worked.

Industries below the diagonal line exhibited declining productivity. Hours worked increased in two of the three industries while output grew at a slower rate. Department stores was the only industry where both output and hours worked declined.

### **Labor Productivity Rose in Majority of Industries in 2016**

Productivity increased in all of the 16 **3-digit NAICS** industries studied in 2016 except for health and personal care stores. (See chart 2.) Seven industries had productivity gains of at least 4.0 percent. Nonstore retailers, which includes electronic shopping and mail-order houses, had the largest increase in output (12.6 percent).

Productivity increased in 36 of the 49 **4-digit NAICS** industries studied in 2016. Output grew in 41 industries while hours worked grew in 29 industries.

In **wholesale trade**, productivity rose 1.2 percent as output grew 1.6 percent and hours worked increased 0.4 percent.

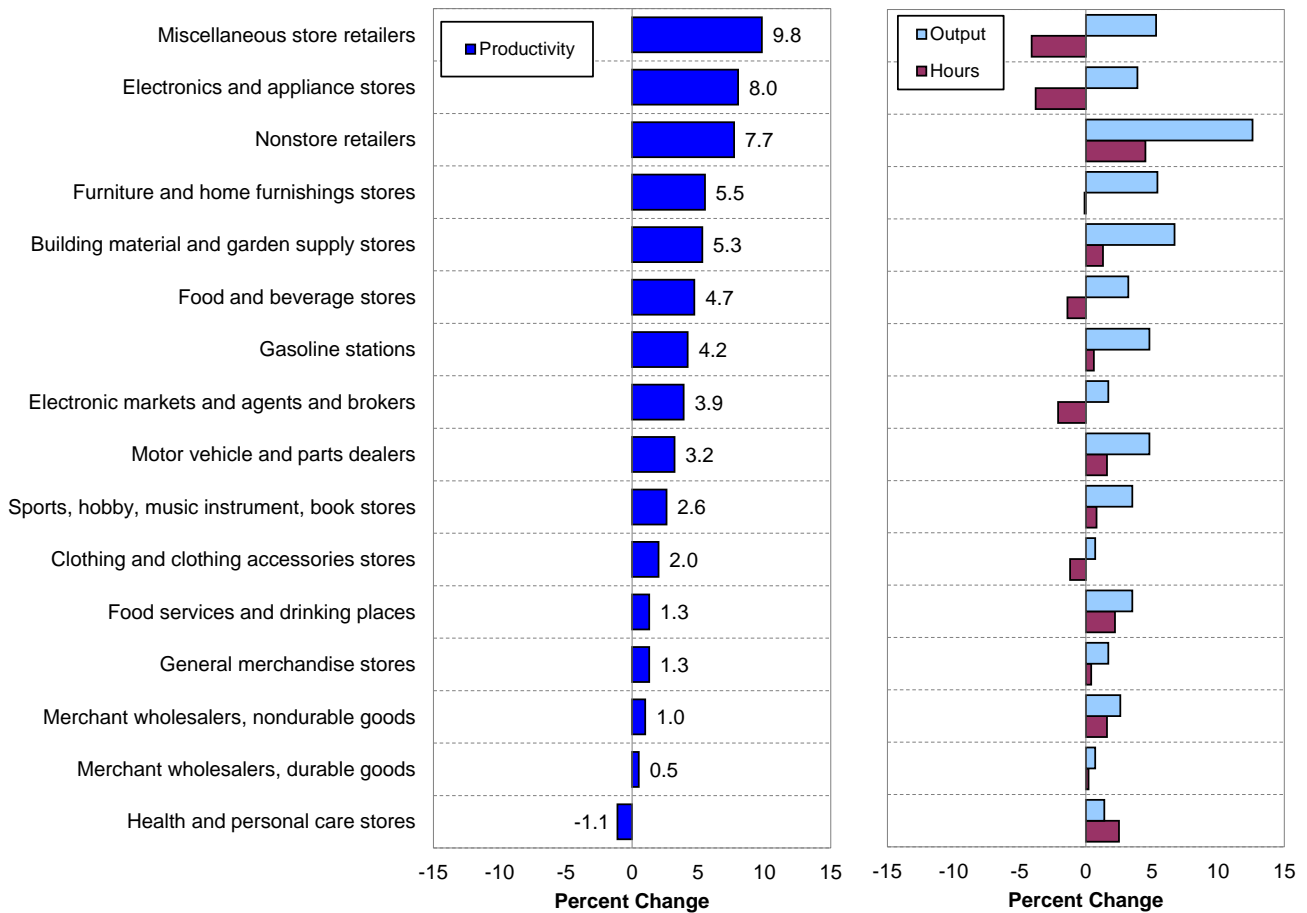
- Productivity grew 0.5 percent in durable goods wholesalers and 1.0 percent in nondurable goods wholesalers.
- Productivity increased in 12 of the 19 4-digit wholesale trade industries while output rose in 14 industries and hours worked grew in 11.
- Productivity increased most rapidly in petroleum merchant wholesalers and farm product raw material merchant wholesalers as output increased and hours worked fell in both industries.

In **retail trade**, productivity and output grew 4.6 percent with hours worked virtually unchanged.

- Productivity increased in 21 of the 27 4-digit retail trade industries while output grew in 24 industries and hours worked rose in 16.
- The largest productivity increases were in florists and office supplies, stationery, and gift stores as output rose and hours worked declined in both industries.
- The electronic shopping and mail-order houses industry experienced the largest growth in output (14.1 percent) resulting in an 11.4 percent increase in productivity.

In **food services and drinking places**, productivity rose 1.3 percent as output grew 3.5 percent and hours worked rose 2.2 percent. Output and productivity rose in all three 4-digit industries; hours worked rose in two industries.

**Chart 2. Productivity change in 3-digit wholesale trade, retail trade, and food services and drinking places industries, 2016**

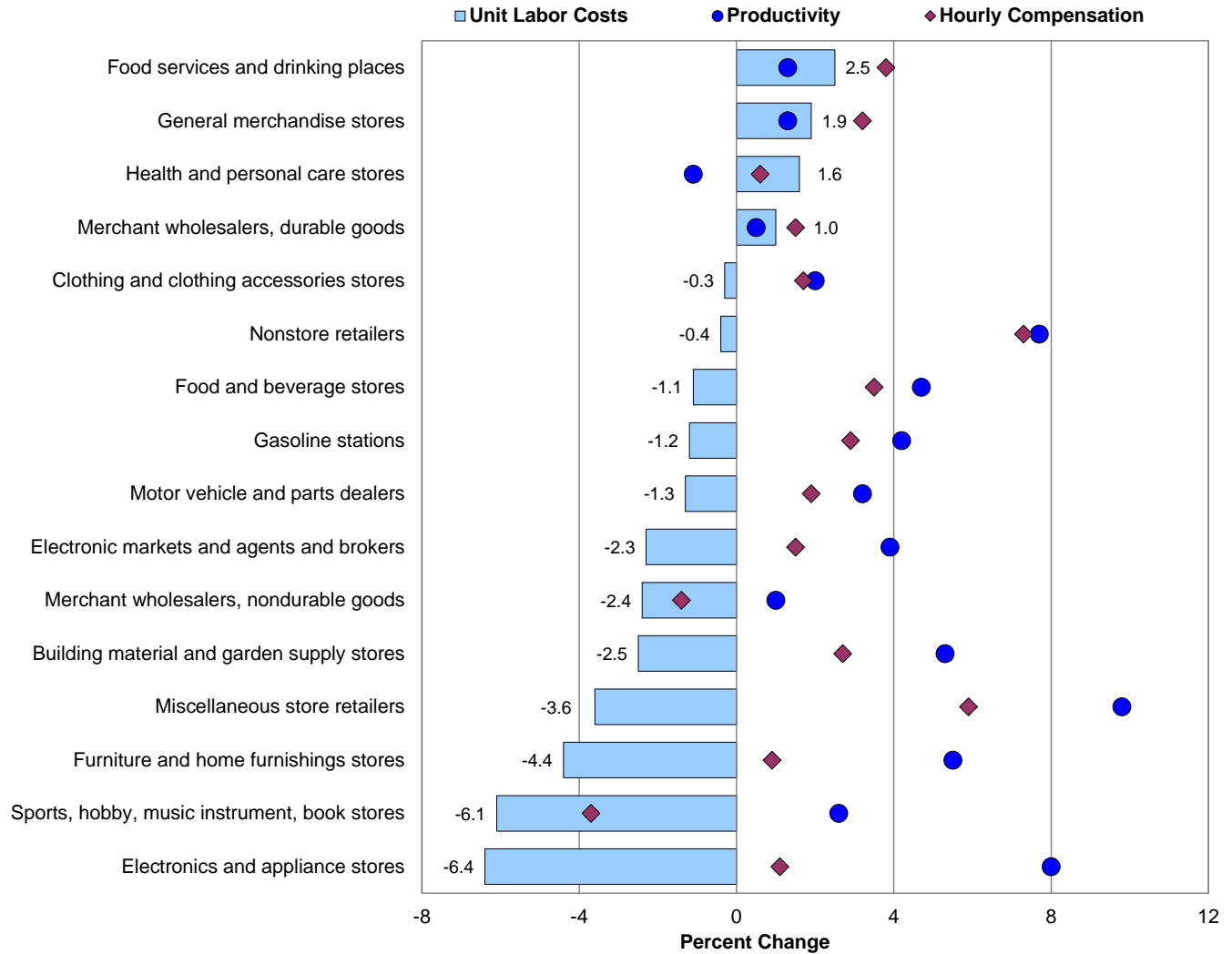


**Productivity Exceeded Hourly Compensation in Majority of Industries in 2016**

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

- Unit labor costs fell in 12 out of 16 3-digit industries in 2016. All unit labor cost declines occurred in industries where productivity rose. (See chart 3.)
- Unit labor costs declined in 7 of 19 wholesale trade and 18 of 27 retail trade 4-digit industries. Two of the food services and drinking places industries experienced an increase in unit labor costs.
- Hourly compensation, defined as labor compensation per hour worked, rose in 36 of the 49 4-digit industries.

**Chart 3. Unit labor costs, productivity, and hourly compensation in 3-digit wholesale trade, retail trade, and food services and drinking places industries, 2016**



### Long-term Productivity Slowdown Reflected in All Three Industry Groups

From 1987 to 2016, **labor productivity** increased at an average annual rate of 2.8 percent in wholesale trade, 2.9 percent in retail trade, and 0.5 percent in food services and drinking places.

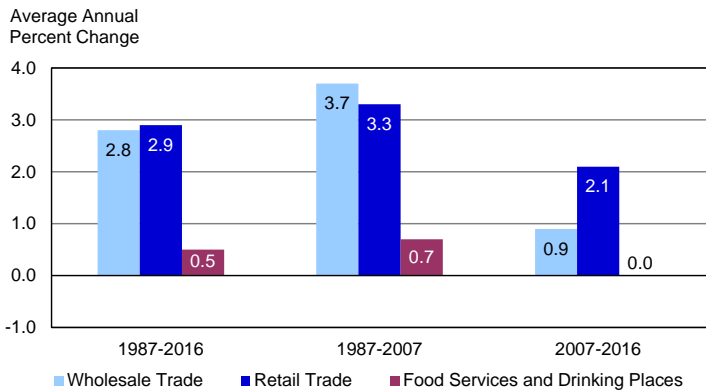
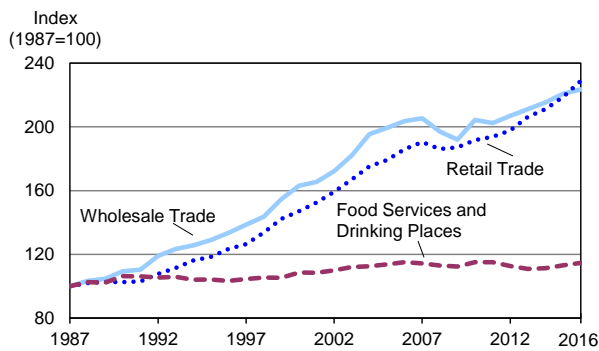
- Among the 4-digit industries, productivity rose in all but three industries from 1987 to 2016. Median productivity among these industries grew at an average annual rate of 2.0 percent.
- Over the long term, productivity growth was associated with rising output in 43 out of 49 4-digit industries while hours worked increased in 26 industries.
- The growth in productivity from 1987 to 2007 exceeded the growth in productivity from 2007 to 2016 in all three industry groups. (See chart 4.) Productivity increased in 45 out of 49 4-digit industries from 1987 to 2007 compared to 34 industries from 2007 to 2016.

From 1987 to 2016, **unit labor costs** increased at an average annual rate of 3.1 percent in food services and drinking places, the greatest change among the three industry groups. Unit labor costs increased by 0.9 percent in wholesale trade and were unchanged in retail trade.

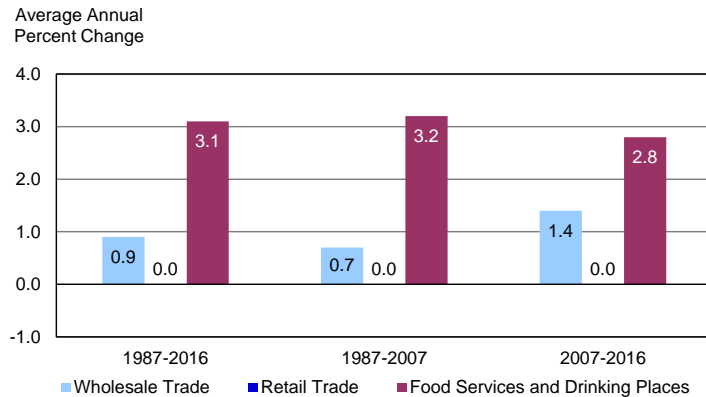
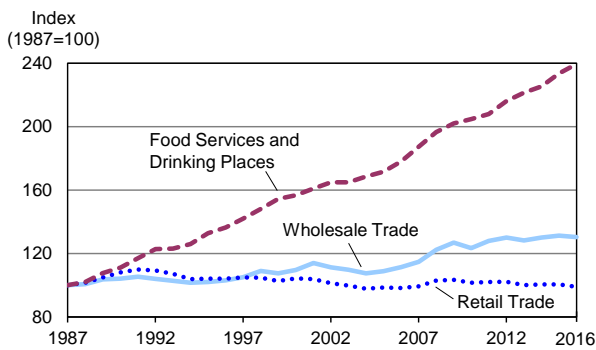
- Among the 4-digit industries, unit labor costs fell in 15 out of 49 industries from 1987 to 2016. Unit labor costs declined in 2 out of 19 wholesale trade and 13 out of 27 retail trade industries while increasing in all food services and drinking places industries.
- From 2007 to 2016, unit labor costs declined in 15 out of 49 industries. All industries with declines in unit labor costs experienced increases in productivity.
- Among the 3-digit industries, electronics and appliance stores had the largest unit labor cost declines and the largest productivity gains during the 1987 to 2007 and 2007 to 2016 periods.

**Chart 4. Long-term changes in productivity and unit labor costs for wholesale trade, retail trade, and food services and drinking places industry groups**

**Labor Productivity**



**Unit Labor Costs**



## **Additional Information**

The trade and food services and drinking places measures in this release incorporate benchmark data from the Census Bureau's Annual Wholesale Trade Report (February 2017), Monthly Wholesale Trade Survey (May 2017), Annual Retail Trade Survey (March 2017), Annual Revision of the Monthly Retail and Food Services: Sales and Inventories (May 2017), and Nonemployer Statistics (May 2017). Data have been benchmarked to the final results of the 2012 Economic Census. Accordingly, the labor productivity and output series for all industries have been revised for 2015 and earlier years. Additionally, the unit labor cost measures incorporate preliminary data from the BLS Quarterly Census of Employment and Wages (June 2017).

### **Want to know more?**

**Find data** at [www.bls.gov/lpc](http://www.bls.gov/lpc) 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

### **Questions?**

Additional information can be obtained by calling the BLS productivity program at (202) 691-5606 or by sending an email to [productivity@bls.gov](mailto:productivity@bls.gov). Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

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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	2012 NAICS code	2016 Employment (thousands)	Percent change, 2015-2016				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
<b>Wholesale Trade</b>							
Wholesale trade.....	42	6,049.1	1.2	-0.7	1.6	0.4	0.9
Merchant wholesalers, durable goods.....	423	3,028.0	0.5	1.0	0.7	0.2	1.8
Motor vehicles and parts.....	4231	343.3	-2.1	4.0	-0.7	1.4	3.2
Furniture and furnishings.....	4232	112.8	3.4	3.8	4.2	0.8	8.2
Lumber and construction supplies.....	4233	219.5	0.1	0.1	5.4	5.3	5.5
Commercial equipment.....	4234	633.4	3.1	-3.0	3.8	0.6	0.7
Metals and minerals.....	4235	128.0	-1.6	5.5	-6.1	-4.5	-1.0
Appliances and electric goods.....	4236	336.6	0.9	1.7	2.1	1.2	3.8
Hardware and plumbing.....	4237	248.4	-1.2	0.3	3.3	4.5	3.6
Machinery and supplies.....	4238	689.6	1.3	0.5	-1.9	-3.2	-1.3
Miscellaneous durable goods.....	4239	316.4	0.8	3.1	0.8	0.0	3.9
Merchant wholesalers, nondurable goods.....	424	2,113.5	1.0	-2.4	2.6	1.6	0.2
Paper and paper products.....	4241	122.5	1.7	-1.3	1.8	0.1	0.5
Druggists' goods.....	4242	205.3	1.5	-2.7	1.4	-0.1	-1.3
Apparel and piece goods.....	4243	158.0	-2.2	2.6	-1.6	0.6	1.0
Grocery and related products.....	4244	774.0	-2.0	-0.8	0.2	2.3	-0.7
Farm product raw materials.....	4245	75.0	11.7	-8.3	3.5	-7.3	-5.1
Chemicals.....	4246	132.2	2.6	1.6	-0.9	-3.4	0.7
Petroleum.....	4247	96.5	18.6	-19.6	13.0	-4.6	-9.1
Alcoholic beverages.....	4248	199.1	-2.1	4.3	1.5	3.7	5.9
Miscellaneous nondurable goods.....	4249	350.9	-4.4	2.6	2.6	7.3	5.3
Electronic markets and agents and brokers.....	425	907.6	3.9	-2.3	1.7	-2.1	-0.6
Electronic markets and agents and brokers.....	4251	907.6	3.9	-2.3	1.7	-2.1	-0.6
<b>Retail Trade</b>							
Retail trade.....	44-45	16,670.3	4.6	-1.5	4.6	0.1	3.0
Motor vehicle and parts dealers.....	441	2,046.2	3.2	-1.3	4.8	1.6	3.5
Automobile dealers.....	4411	1,325.1	3.0	-0.9	5.2	2.1	4.2
Other motor vehicle dealers.....	4412	157.0	7.1	-4.0	4.5	-2.5	0.3
Auto parts, accessories, and tire stores.....	4413	564.1	-0.1	0.6	1.3	1.4	1.9
Furniture and home furnishings stores.....	442	521.1	5.5	-4.4	5.4	-0.1	0.8
Furniture stores.....	4421	244.2	3.6	-1.8	4.3	0.7	2.4
Home furnishings stores.....	4422	276.9	7.6	-7.2	6.6	-0.9	-1.0
Electronics and appliance stores.....	443	542.6	8.0	-6.4	3.9	-3.8	-2.7
Electronics and appliance stores.....	4431	542.6	8.0	-6.4	3.9	-3.8	-2.7
Building material and garden supply stores.....	444	1,312.0	5.3	-2.5	6.7	1.3	4.0
Building material and supplies dealers.....	4441	1,140.4	5.9	-2.7	7.4	1.4	4.5
Lawn and garden equipment and supplies stores.....	4442	171.6	1.4	-2.0	2.0	0.6	-0.1
Food and beverage stores.....	445	3,184.4	4.7	-1.1	3.2	-1.4	2.0
Grocery stores.....	4451	2,754.6	5.5	-1.7	3.2	-2.1	1.5
Specialty food stores.....	4452	254.6	3.4	0.2	2.6	-0.7	2.8
Beer, wine and liquor stores.....	4453	175.2	-5.4	7.4	3.2	9.1	10.9
Health and personal care stores.....	446	1,091.3	-1.1	1.6	1.4	2.5	3.1
Health and personal care stores.....	4461	1,091.3	-1.1	1.6	1.4	2.5	3.1
Gasoline stations.....	447	933.1	4.2	-1.2	4.8	0.6	3.5
Gasoline stations.....	4471	933.1	4.2	-1.2	4.8	0.6	3.5
Clothing and clothing accessories stores.....	448	1,442.3	2.0	-0.3	0.7	-1.2	0.5
Clothing stores.....	4481	1,056.1	1.7	0.5	0.2	-1.5	0.7
Shoe stores.....	4482	218.1	3.5	-3.7	4.4	0.9	0.5
Jewelry, luggage, and leather goods stores.....	4483	168.1	2.2	-0.4	0.0	-2.2	-0.4
Sports, hobby, music instruments, book stores.....	451	678.6	2.6	-6.1	3.5	0.8	-2.9
Sporting goods and musical instrument stores.....	4511	587.0	3.0	-6.6	3.8	0.8	-3.0
Book stores and news dealers.....	4512	91.6	0.6	-3.5	1.2	0.7	-2.3



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

Industry	2012 NAICS code	2016 Employment (thousands)	Percent change, 2015-2016				
			Labor productivity	Unit labor costs	Output	Hours worked	Labor compensation
General merchandise stores.....	452	3,184.1	1.3	1.9	1.7	0.4	3.6
Department stores.....	4521	1,309.8	-1.9	2.8	-4.7	-2.8	-2.0
Other general merchandise stores.....	4529	1,874.3	1.3	3.3	3.8	2.4	7.2
Miscellaneous store retailers.....	453	991.3	9.8	-3.6	5.3	-4.1	1.5
Florists.....	4531	77.5	26.9	-14.1	10.8	-12.7	-4.8
Office supplies, stationery and gift stores.....	4532	290.1	14.4	-3.2	0.6	-12.0	-2.6
Used merchandise stores.....	4533	228.0	2.0	0.6	1.1	-0.9	1.7
Other miscellaneous store retailers.....	4539	395.7	6.3	-2.7	8.1	1.7	5.2
Nonstore retailers.....	454	743.3	7.7	-0.4	12.6	4.5	12.1
Electronic shopping and mail-order houses.....	4541	430.7	11.4	1.9	14.1	2.4	16.3
Vending machine operators.....	4542	43.9	-5.6	-0.4	-3.6	2.1	-4.0
Direct selling establishments.....	4543	268.7	-4.4	-0.2	4.5	9.4	4.3
<b>Food Services and Drinking Places</b>							
Food services and drinking places.....	722	11,650.6	1.3	2.5	3.5	2.2	6.1
Special food services.....	7223	795.6	12.4	-1.7	3.2	-8.2	1.5
Drinking places, alcoholic beverages.....	7224	390.4	1.4	1.8	3.9	2.5	5.7
Restaurants and other eating places.....	7225	10,464.6	0.3	3.1	3.5	3.2	6.7

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

Industry	2012 NAICS code	2016 Employment (thousands)	Average annual percent change, 1987-2016				
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Nonstore retailers.....	454	743.3	8.1	-4.0	8.9	0.8	4.6
Electronic shopping and mail-order houses.....	4541	430.7	10.0	-5.1	14.3	3.9	8.5
Vending machine operators.....	4542	43.9	0.4	2.9	-2.4	-2.8	0.4
Direct selling establishments.....	4543	268.7	2.3	0.3	1.0	-1.3	1.3
<b>Food Services and Drinking Places</b>							
Food services and drinking places.....	722	11,650.6	0.5	3.1	2.2	1.7	5.3
Special food services.....	7223	795.6	1.3	1.5	2.4	1.0	3.9
Drinking places, alcoholic beverages.....	7224	390.4	-0.4	3.4	-0.5	-0.1	2.9
Restaurants and other eating places.....	7225	10,464.6	0.5	3.2	2.3	1.9	5.7