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PRODUCTIVITY AND COSTS BY INDUSTRY: SELECTED SERVICE-PROVIDING AND MINING INDUSTRIES, 2006

Labor productivity, defined as output per hour, rose in nearly two-thirds of the measured service-providing and mining industries in 2006, about the same proportion as in 2005. Output rose in 66 percent of the industries, while labor hours increased in 59 percent. Unit labor costs fell in approximately 20 percent of the industries in 2006.

Over the period 1987 to 2006, labor productivity increased in 86 percent of the industries, significantly more than in 2006. Output grew in 91 percent, while hours increased in 66 percent of the industries. Unit labor costs fell in one quarter of the industries over the longer period.

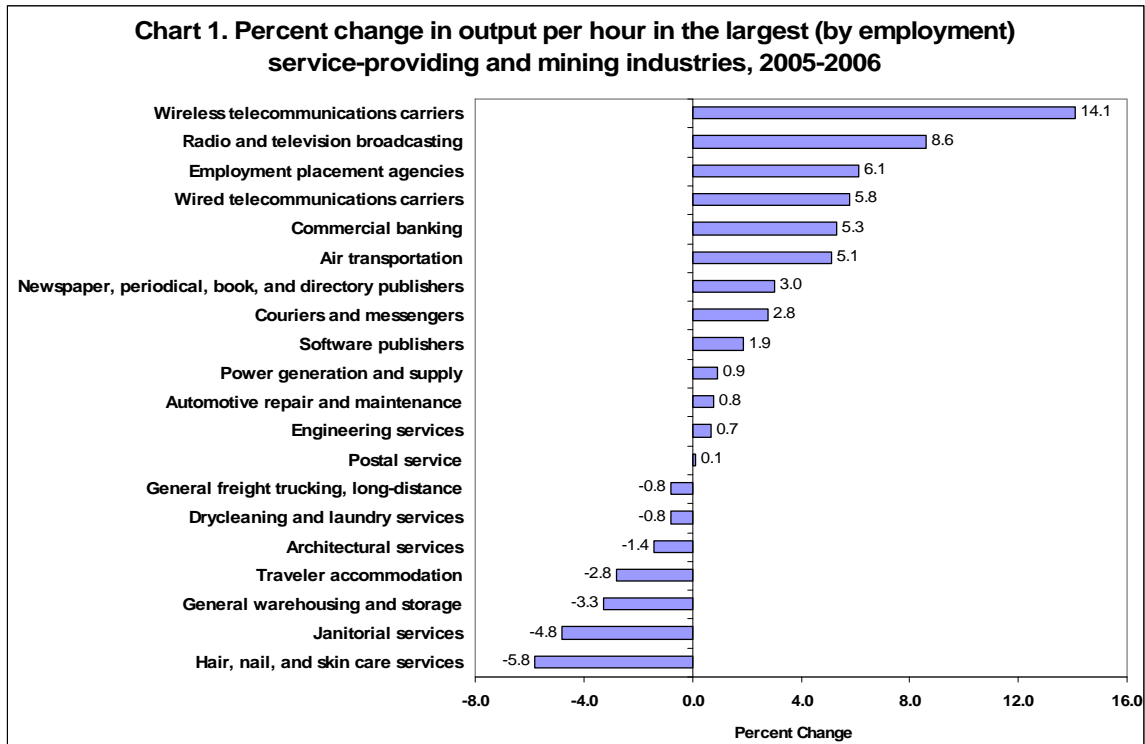
Productivity data for industries in manufacturing, retail trade, wholesale trade, and food services and drinking places are published in separate releases that can be accessed online at http://www.bls.gov/schedule/archives/prin_nr.htm.

2005-2006 change

In 2006, output per hour increased in 27 of the 40 detailed service-providing industries and in one of the 4 detailed mining industries studied. (See table 1.) Three industries recorded double-digit productivity growth: video tape and disc rental (NAICS 53223), 22.4 percent; wireless telecommunications carriers (NAICS 5172), 14.1 percent; and truck, trailer, and RV rental and leasing (NAICS 53212), 11.8 percent.

Productivity fell the most in amusement and theme parks (NAICS 71311), 11.1 percent, and in refrigerated warehousing and storage (NAICS 49312), 9.2 percent. Labor productivity fell 9.1 percent in the mining sector (NAICS 21) and 7.1 percent in coal mining (NAICS 2121). (Results for the mining sector as a whole are not consistent with changes in the detailed mining industries shown in table 1, because BLS does not publish measures for every detailed mining industry.)

Chart 1 shows the 2006 productivity changes in the twenty largest service-providing and mining industries studied.



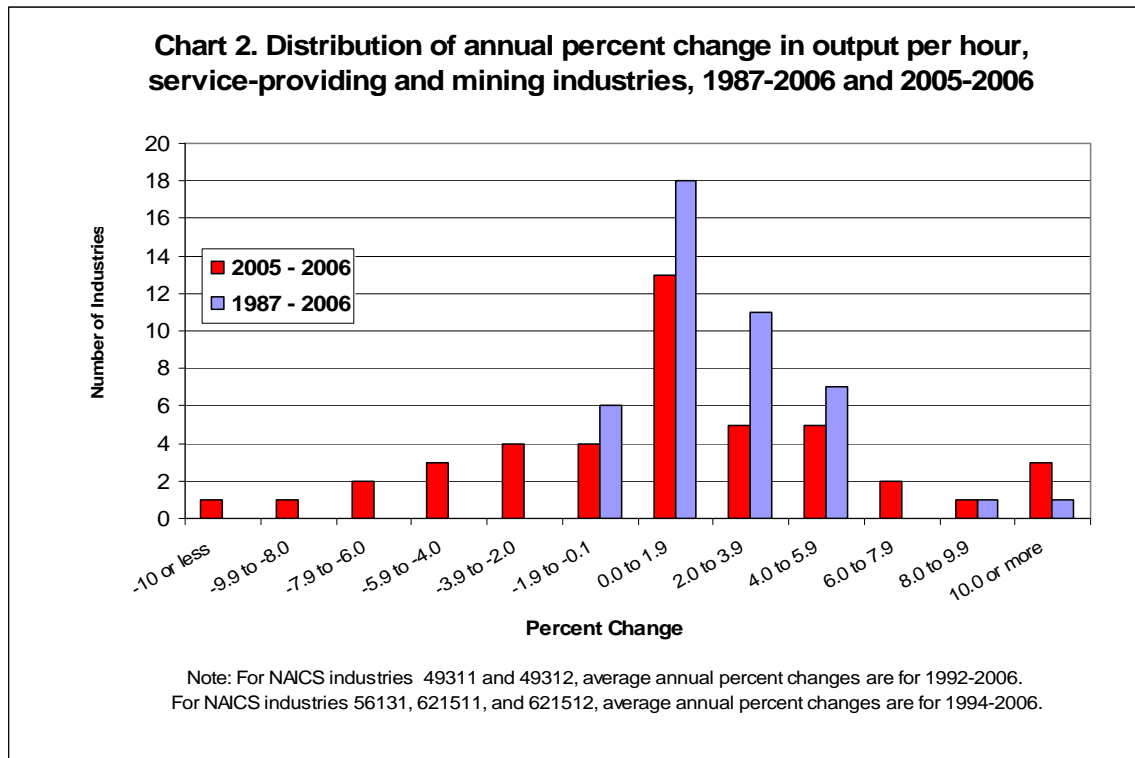
Unit labor costs, which reflect hourly compensation and productivity, rose in more than three-fourths of the service-providing industries in 2006, and in all of the mining industries. The biggest increases in unit labor costs occurred in mining, led by a 19.2 percent increase in oil and gas extraction (NAICS 211). Among the service-providing industries, the biggest increase occurred in hair, nail, and skin care services (NAICS 81211), 10.0 percent.

Several service-providing industries reduced their unit labor costs in 2006. Wireless telecommunications carriers (NAICS 5172) and video tape and disc rental (NAICS 53223) recorded unit labor cost reductions of 19.8 and 8.2 percent, respectively. These were the two industries where productivity increased the most.

Long-term trends

Between 1987 and 2006, labor productivity increased in 34 of the 40 detailed service-providing industries and in all of the covered mining industries. Software publishers (NAICS 5112) recorded the greatest productivity growth over the period, 16.2 percent per year on average, followed by wireless telecommunications carriers (NAICS 5172), with growth of 9.7 percent.

As shown in Chart 2, labor productivity declined in more of the measured service-providing and mining industries in 2006 than over the longer-term period.



Unit labor costs increased in three-quarters of the detailed service-providing industries and in all but one mining industry from 1987 to 2006. Unit labor costs grew most rapidly in oil and gas extraction (NAICS 211), 5.8 percent per year on average. The most rapid declines in unit labor costs occurred in the two industries with the fastest productivity growth, software publishers (NAICS 5112) and wireless telecommunications carriers (NAICS 5172), 9.4 and 6.4 percent, respectively.

New Industries

Productivity and cost measures for three new industries are presented here for the first time: warehousing and storage (NAICS 493), general warehousing and storage (NAICS 49311), and refrigerated warehousing and storage (NAICS 49312). Measures for these new industries were constructed using standard BLS methods as described in the Technical Note. Output measures for the warehousing and storage industries are based on detailed annual receipts data collected by the U.S. Bureau of the Census, deflated with BLS producer price indexes (PPIs). The labor hours measures reflect data from the BLS Current Employment Statistics (CES) survey and the Current Population Survey (CPS). The labor productivity measures for these industries begin in 1992.

Revisions

The measures in this news release incorporate current data from the Census Bureau's 2006 Service Annual Survey and other sources. Measures in this release replace the mining and service industry series published in the news release *Productivity and Costs by Industry: Selected Service-Providing and Mining Industries, 2005* (released June 8, 2007), and in table 50 of the Monthly Labor Review. All of the measures for 2006 in this release are preliminary and subject to revision.

The industries included in this release are classified according to the 2002 NAICS. Industry productivity measures will be classified according to the 2007 NAICS in 2009, with the publication of data for 2007.

Additional Information

Industry productivity and related indexes and rates of change can be accessed electronically by visiting the Labor Productivity and Costs web site at <http://www.bls.gov/lpc/home.htm>. Data on industry employment, hours, labor compensation, value of production, and the implicit price deflator for output for these industries are available upon request by calling the Division of Industry Productivity Studies (202-691-5618) or by sending a request by e-mail to dipsweb@bls.gov. While the index numbers and rates of change reported by BLS in this news release are rounded to one decimal place, all industry productivity percent changes are calculated using index numbers to three decimal places.

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Technical Note

Labor Productivity: The industry labor productivity measures describe the relationship between industry output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although the labor productivity measures relate output to hours of employees or all persons in an industry, they do not measure the specific contribution of labor or any other factor of production. 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; managerial skill; and the characteristics and effort of the workforce.

Long-term productivity trends tend to be more reliable indicators of the performance of an industry than are year-to-year changes. The annual changes in an industry's output and use of labor may reflect cyclical changes in the economy as well as long-term trends.

Output: Industry output is measured as an annual-weighted index of the changes in the various products or services (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 primarily from BLS. Output measures for some mining and utilities industries are based on physical quantity data from the Energy Information Administration, U.S. Department of Energy, while output measures for some transportation industries are based on physical quantity data from the Bureau of Transportation Statistics, U.S. Department of Transportation. Other data sources for some industries include the U.S. Geological Survey, U.S. Department of the Interior; the U.S. Postal Service; the Federal Deposit Insurance Corporation; and the Postal Rate Commission.

Labor Hours: The primary source of industry employment and hours data is the BLS Current Employment Statistics (CES) survey. The CES provides monthly data on the number of total and nonsupervisory worker jobs held by wage and salary workers in nonfarm establishments, as well as data on the average weekly hours of nonsupervisory workers in those establishments. CES data are supplemented or further disaggregated for some industries using data from the BLS Quarterly Census of Employment and Wages (QCEW), the Bureau of the Census, or other sources. Data from the Current Population Survey (CPS) are also used to supplement the CES data. The industry productivity program estimates the average weekly hours of supervisory workers for each industry using data from the CPS together with the CES data. Data from the CPS are also used to estimate the employment and hours of self-employed and unpaid family workers in each industry. Other sources of employment and hours data for some service industries include the American Association of Railroads, the U.S. Department of Transportation, and the U.S. Postal Service. Hours of all workers in an industry are treated as homogeneous and are directly aggregated.

Unit Labor Costs: Unit labor costs represent the cost of labor input required to produce one unit of output. The unit labor cost indexes are computed by dividing an index of 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 lower unit labor costs.

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 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.

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2005-2006

NAICS code	Industry	2006 Employment (thousands)	Percent change, 2005-2006				
			Output per hour	Output	Hours	Labor compensation	Unit labor costs
Mining Industries							
21	Mining	619	-9.1	0.8	10.9	19.0	18.0
211	Oil and gas extraction	135	-7.0	0.7	8.2	20.0	19.2
2111	Oil and gas extraction	135	-7.0	0.7	8.2	20.0	19.2
212	Mining, except oil and gas	220	-3.0	1.1	4.2	8.9	7.7
2121	Coal mining	78	-7.1	0.0	7.7	9.9	9.8
2122	Metal ore mining	32	-5.1	3.7	9.3	18.6	14.4
2123	Nonmetallic mineral mining and quarrying	110	0.4	0.8	0.4	4.2	3.4
Service-Providing Industries							
Utilities							
2211	Power generation and supply	396	0.9	0.3	-0.6	2.0	1.7
2212	Natural gas distribution	106	-2.6	-3.0	-0.5	6.3	9.7
Transportation and Warehousing							
481	Air transportation	457	5.1	1.5	-3.5	-2.4	-3.8
482111	Line-haul railroads	186	3.1	4.7	1.5	5.3	0.6
48412	General freight trucking, long-distance	922	-0.8	1.5	2.4	5.1	3.5
48421	Used household and office goods moving	106	-1.5	-1.5	0.0	3.2	4.8
491	Postal service	770	0.1	-0.4	-0.5	4.4	4.8
4911	Postal service	770	0.1	-0.4	-0.5	4.4	4.8
492	Couriers and messengers	611	2.8	0.3	-2.4	3.6	3.3
493	Warehousing and storage	647	-2.1	7.8	10.1	9.4	1.5
4931	Warehousing and storage	647	-2.1	7.8	10.1	9.4	1.5
49311	General warehousing and storage	544	-3.3	6.8	10.4	10.3	3.4
49312	Refrigerated warehousing and storage	48	-9.2	0.3	10.4	6.0	5.7
Information							
511	Publishing	944	4.5	1.8	-2.6	5.8	4.0
5111	Newspaper, book, and directory publishers	697	3.0	-2.3	-5.2	3.1	5.5
5112	Software publishers	247	1.9	6.7	4.7	9.9	3.0
51213	Motion picture and video exhibition	136	3.3	-0.6	-3.7	2.1	2.7
515	Broadcasting, except internet	338	6.6	7.5	0.9	2.8	-4.4
5151	Radio and television broadcasting	246	8.6	8.9	0.3	4.5	-4.0
5152	Cable and other subscription programming	92	3.2	5.5	2.3	-2.8	-7.9
5171	Wired telecommunications carriers	489	5.8	0.0	-5.5	2.8	2.8
5172	Wireless telecommunications carriers	203	14.1	23.2	7.9	-1.2	-19.8
5175	Cable and other program distribution	143	0.0	7.0	7.0	15.1	7.5
Finance and Insurance							
52211	Commercial banking	1323	5.3	6.1	0.8	8.5	2.3
Real Estate and Rental and Leasing							
532111	Passenger car rental	132	1.4	-1.9	-3.3	1.7	3.6
53212	Truck, trailer and RV rental and leasing	62	11.8	4.1	-6.9	5.0	0.9
53223	Video tape and disc rental	137	22.4	1.2	-17.3	-7.1	-8.2
Professional and Technical Services							
541213	Tax preparation services	148	-3.7	-0.1	3.8	8.8	8.9
54131	Architectural services	230	-1.4	3.9	5.4	11.3	7.1
54133	Engineering services	920	0.7	4.6	3.9	9.7	4.8
54181	Advertising agencies	191	1.0	6.8	5.7	6.2	-0.6
541921	Photography studios, portrait	77	1.9	-2.7	-4.6	6.6	9.6

Table 1. Percent change in output per hour, output, hours, compensation, and unit labor costs, 2005-2006

NAICS code	Industry	2006 Employment (thousands)	Percent change, 2005-2006				
			Output per hour	Output	Hours	Labor compensation	Unit labor costs
Administrative and Waste Services							
56131	Employment placement agencies	305	6.1	4.7	-1.3	11.8	6.8
56151	Travel agencies	123	4.1	4.4	0.3	-1.3	-5.5
56172	Janitorial services	1182	-4.8	1.2	6.4	7.6	6.3
Health Care and Social Assistance							
6215	Medical and diagnostic laboratories	211	1.6	6.8	5.1	7.3	0.5
621511	Medical laboratories	143	1.8	7.0	5.2	6.8	-0.2
621512	Diagnostic imaging centers	68	1.5	6.5	4.9	8.3	1.8
Arts, Entertainment, and Recreation							
71311	Amusement and theme parks	134	-11.1	-1.8	10.4	1.7	3.5
71395	Bowling centers	79	4.2	2.0	-2.2	4.0	2.0
Accommodation and Food Services							
7211	Traveler accommodation	1798	-2.8	0.9	3.7	3.4	2.5
Other Services							
8111	Automotive repair and maintenance	1174	0.8	-0.1	-0.9	2.5	2.6
81211	Hair, nail and skin care services	924	-5.8	-3.2	2.8	6.5	10.0
81221	Funeral homes and funeral services	108	7.0	-2.1	-8.5	-1.3	0.9
8123	Drycleaning and laundry services	368	-0.8	2.4	3.2	5.8	3.3
81292	Photofinishing	28	1.8	-10.5	-12.1	-12.4	-2.1

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2006

NAICS code	Industry	Average annual percent change, 1987-2006				
		Output per hour	Output	Hours	Labor compensation	Unit labor costs
Mining Industries						
21	Mining	0.1	-0.3	-0.4	4.4	4.7
211	Oil and gas extraction	1.2	-1.0	-2.2	4.8	5.8
2111	Oil and gas extraction	1.2	-1.0	-2.2	4.8	5.8
212	Mining, except oil and gas	2.5	1.1	-1.3	1.7	0.5
2121	Coal mining	2.9	0.1	-2.7	-0.1	-0.2
2122	Metal ore mining	2.9	2.0	-0.9	3.6	1.6
2123	Nonmetallic mineral mining and quarrying	1.6	1.6	0.0	3.3	1.7
Service-Providing Industries						
Utilities						
2211	Power generation and supply	3.0	1.3	-1.7	3.1	1.9
2212	Natural gas distribution	3.0	1.0	-1.9	3.8	2.7
Transportation and Warehousing						
481	Air transportation	3.0	3.4	0.4	3.1	-0.3
482111	Line-haul railroads	4.8	2.6	-2.1	1.2	-1.3
48412	General freight trucking, long-distance	1.4	3.3	1.9	3.8	0.5
48421	Used household and office goods moving	-1.1	0.5	1.6	4.4	3.9
491	Postal service	1.1	1.2	0.1	4.1	2.9
4911	Postal service	1.1	1.2	0.1	4.1	2.9
492	Couriers and messengers	-0.7	2.3	3.1	6.7	4.3
493	Warehousing and storage ^{1/}	3.4	6.8	3.2	6.0	-0.7
4931	Warehousing and storage ^{1/}	3.4	6.8	3.2	6.0	-0.7
49311	General warehousing and storage ^{1/}	5.4	8.6	3.1	6.7	-1.7
49312	Refrigerated warehousing and storage ^{1/}	-0.4	3.7	4.0	4.5	0.8
Information						
511	Publishing	4.3	4.8	0.5	5.8	0.9
5111	Newspaper, book, and directory publishers	0.3	-0.4	-0.7	3.6	4.0
5112	Software publishers	16.2	24.3	6.9	12.6	-9.4
51213	Motion picture and video exhibition	0.8	1.8	1.0	3.9	2.0
515	Broadcasting, except internet	1.2	2.7	1.4	5.2	2.4
5151	Radio and television broadcasting	0.6	0.9	0.3	4.3	3.4
5152	Cable and other subscription programming	2.5	8.1	5.5	10.6	2.3
5171	Wired telecommunications carriers	5.1	3.3	-1.7	2.4	-0.8
5172	Wireless telecommunications carriers	9.7	24.1	13.2	16.2	-6.4
5175	Cable and other program distribution	0.3	5.8	5.5	10.4	4.3
Finance and Insurance						
52211	Commercial banking	2.4	2.2	-0.2	5.9	3.5
Real Estate and Rental and Leasing						
532111	Passenger car rental	1.0	3.4	2.4	6.5	3.0
53212	Truck, trailer and RV rental and leasing	5.3	4.8	-0.6	3.8	-0.9
53223	Video tape and disc rental	4.5	6.1	1.6	4.5	-1.6
Professional and Technical Services						
541213	Tax preparation services	1.0	4.1	3.1	4.5	0.4
54131	Architectural services	1.5	4.0	2.4	6.2	2.2
54133	Engineering services	1.3	3.5	2.2	6.8	3.1
54181	Advertising agencies	1.7	2.0	0.3	5.0	2.9
541921	Photography studios, portrait	-0.2	2.4	2.6	5.0	2.5

Table 2. Average annual percent change in output per hour, output, hours, compensation, and unit labor costs, 1987-2006

NAICS code	Industry	Average annual percent change, 1987-2006				
		Output per hour	Output	Hours	Labor compensation	Unit labor costs
Administrative and Waste Services						
56131	Employment placement agencies ^{2/}	2.8	5.5	2.7	9.1	3.5
56151	Travel agencies	4.1	3.1	-0.9	4.3	1.2
56172	Janitorial services	2.3	4.4	2.0	6.0	1.5
Health Care and Social Assistance						
6215	Medical and diagnostic laboratories ^{2/}	3.6	7.1	3.3	6.1	-0.9
621511	Medical laboratories ^{2/}	2.8	5.9	3.0	5.2	-0.6
621512	Diagnostic imaging centers ^{2/}	4.8	9.2	4.2	8.1	-1.0
Arts, Entertainment, and Recreation						
71311	Amusement and theme parks	-0.7	2.6	3.3	6.5	3.9
71395	Bowling centers	0.2	-1.0	-1.3	1.5	2.6
Accommodation and Food Services						
7211	Traveler accommodation	1.4	2.7	1.3	5.6	2.8
Other Services						
8111	Automotive repair and maintenance	1.4	2.4	1.0	4.4	2.0
81211	Hair, nail and skin care services	2.0	3.1	1.1	5.7	2.4
81221	Funeral homes and funeral services	-0.2	0.2	0.4	4.6	4.4
8123	Drycleaning and laundry services	1.1	0.6	-0.5	3.2	2.5
81292	Photofinishing	0.9	-4.7	-5.6	-1.7	3.1

^{1/} For NAICS industries 493, 4931, 49311, and 49312, average annual percent changes are for 1992-2006.

^{2/} For NAICS industries 56131, 6215, 621511, and 621512, average annual percent changes are for 1994-2006.