

## **EXPLANATORY NOTES**

Employer Costs for Employee Compensation (ECEC) measures the average cost per employee hour worked that employers pay for wages and salaries and benefits.

Wages and salaries are defined as the hourly straight-time wage rate or, for workers not paid on an hourly basis, straight-time earnings divided by the corresponding hours. Straight-time wage and salary rates are total earnings before payroll deductions and include production bonuses, incentive earnings, commission payments, and cost-of-living adjustments. Not included in straight-time earnings are nonproduction bonuses such as lump-sum payments provided in lieu of wage increases, shift differentials, and premium pay for overtime and for work on weekends and holidays; these payments are included in the benefits component.

Benefits include: Paid leave—vacations, holidays, sick leave, and other leave; supplemental pay—premium pay for work in addition to the regular work schedule (such as overtime, weekends, and holidays), shift differentials, and nonproduction bonuses (such as referral bonuses and lump-sum payments provided in lieu of wage increases); insurance benefits—life, health, short-term disability, and long-term disability; retirement and savings benefits—defined benefit and defined contribution plans; legally required benefits—Social Security, Medicare, Federal and State unemployment insurance, and workers' compensation; and other benefits—severance pay and supplemental unemployment plans.

The Employer Costs for Employee Compensation includes data for the civilian economy, which includes data from both private industry and State and local government. Excluded from private industry are the self-employed, farm workers, and private household workers. Federal government workers are excluded from the public sector. The private industry series and the State and local government series provide data for the two sectors separately.

The cost levels for this quarter were collected from a probability sample of about 36,200 occupations within approximately 8,300 sample establishments in private industry and about 3,600 occupations within approximately 800 sample establishments in State and local government. Data are collected for the pay period including the 12<sup>th</sup> day of the survey months of March, June, September, and December.

Sample establishments are classified by industry categories based on the 1987 Standard Industrial Classification (SIC) system, as defined by the U.S. Office of Management and Budget. Within a sample establishment, specific job categories are selected and classified into about 500 occupational classifications according to the 1990 Census of Population. Individual occupations are combined to represent broader major occupational groups such as professional specialty and technical occupations.

Beginning with release of the March 2004 estimates, the ECEC will designate industry categories based on the 2002 North American Industry Classification System (NAICS) and classify jobs into occupational categories according to the 2000 Standard Occupational Classification (SOC) Manual. The NAICS and SOC conversions will involve major definitional changes to many of the currently published series. Additional information on the transition to NAICS and SOC will be available the Internet site (<http://www.bls.gov/ncs/ect/home.htm>) prior to the release of the March estimates in June 2004.

The December 2003 cost levels were calculated using the March 2003 employment counts from the Bureau of Labor Statistics Current Employment Statistics (CES) program, benchmarked to the 2001 universe of all private nonfarm establishments. The CES program converted from the 1987 Standard Industrial Classification System (SIC) basis to the 2002 North American Industry Classification System (NAICS) with the release of May 2003 estimates. The ECEC has used the March 2003 SIC employment counts for all of 2003

cost level estimates but will convert to NAICS employment counts with the release of the March 2004 ECEC estimates.

In most instances, private industry employment counts were total employment estimates for 2-digit major industry groups, such as primary metal manufacturing or food stores, as defined by the SIC system. In a few cases, 3- and 4-digit industry employment counts were used. These include the 4-digit aircraft manufacturing industry (3721) and the 3-digit health care and educational industries. For more information on SIC coding, see “BLS Establishment Estimates Revised to Incorporate March 2001 Benchmarks” in the June 2002 issue of Employment and Earnings. For State and local governments, employment counts ranged from those for 3-digit industries, such as education and health care, to those for major industry divisions, such as public administration.

Employment data from these 2-, 3-, and 4-digit industries were distributed to major occupational groups (such as executives, administrators, and managers or machine operators, assemblers, and inspectors) using the relative importance of the groups in the Employment Cost Index (ECI) sample. Because the ECI establishment sample is completely replaced over a period of several years, major occupational group employment counts from the ECI are affected by the age of the sample. However, a few years’ difference in the age of the occupational data within industries is likely to have a small impact on the estimates.

In contrast, the ECI, which measures the change in employer costs for employee compensation, is calculated with fixed 1990 employment counts to prevent employment shifts among occupations and industries from influencing the changes. Therefore, year-to-year changes in Employer Costs for Employee Compensation will differ from those in the ECI.

Historical data and related articles on the ECEC are included in the bulletin, Employer Costs for Employee Compensation, 1986-99 (Bulletin 2508). An annual historical summary from March 1986 through March 2002 is also available on the Internet site (<http://www.bls.gov/ncs/ect/home.htm>) or upon request. Data are now available on a quarterly basis beginning with June 2002 data. Information on how costs are calculated appears in “Measuring Trends in the Structure and Levels of Employer Costs for Employee Compensation,” Compensation and Working Conditions, Summer 1997. An article on changes in employer compensation costs, “Tracking Changes in Benefit Costs,” appears in Compensation and Working Conditions, Spring 1999.

### Relative Standard Errors

Because the ECEC is a sample survey, it is subject to sampling errors. Sampling errors are differences that occur between the results computed from a sample of observations and those computed from all observations in the population. The estimates derived from different samples selected using the same sample design may differ from one another. A measure of the variation among these differing estimates is the standard error. It can be used to measure the precision with which an estimate from a particular sample approximates the expected result of all possible samples. The chances are about 68 out of 100 that an estimate from the survey differs from a complete population figure by less than the standard error. The chances are about 90 out of 100 that this difference would be less than 1.6 times the standard error. All the statements of comparisons appearing in this publication are significant at a 1.6 standard error level or better, unless otherwise indicated. This means that for differences cited, the estimated difference is greater than 1.6 times the standard error of the difference.

The relative standard error (RSE) is shown with the cost estimates for some series in the appendix table. The RSE for all estimates will be available shortly after the release is issued. This information can be obtained directly from the BLS Internet site (<http://www.bls.gov/ncs/ect/home.htm>), by e-mail request (oelinfo@bls.gov), or by telephone (202) 691-6199.

For a more detailed explanation of relative standard errors, see “Measuring Trends in the Structure and Levels of Employer Costs for Employee Compensation,” Compensation and Working Conditions, Summer 1997. For a detailed explanation of how to use standard error data to analyze differences in year-to-year changes, see “Analyzing Year-to-Year Changes in Employer Costs for Employee Compensation,” Compensation and Working Conditions, Spring 1998. This article supplements an article from the Summer 1997 issue of Compensation and Working Conditions, “Explaining the Differential Growth Rates of the ECI and ECEC,” which examined how differences in the construction of these measures contribute to differing trends.

Standard errors relate to differences that occur from sampling errors, but not from nonsampling errors. Nonsampling errors are not measured and include survey nonresponse and data collection and processing errors. Survey nonresponse occurs when sample members are unwilling or unable to participate in the survey. Data collection errors include inaccurate data by respondents and definitional difficulties. Processing errors include errors in recording, coding, and entering data. Although nonsampling errors are not measured, BLS quality assurance programs contain procedures for reducing such errors. These procedures include data collection reinterviews, observed interviews, computer data edits, and systematic review of reports on which data are recorded. Extensive field economist training also is conducted to maintain high data collection standards.

#### Comparing private and public sector data

Aggregate compensation cost levels in State and local government should not be directly compared with those in private industry. Differences between these sectors stem from factors such as variation in work activities and occupational structures. Manufacturing and sales, for example, make up a large part of private industry work activities, but are rare in State and local government. White-collar occupations (largely professional occupations including teachers) account for two-thirds of the State and local government workforce, compared with one-half of private industry.

A detailed examination of differences in compensation levels and trends between private industry and State and local government may be found in “Cost of Employee Compensation in Public and Private Sectors,” Monthly Labor Review, May 1993, and “Compensation Cost Trends in Private Industry and State and Local Governments,” Compensation and Working Conditions, Fall 1999.

#### Obtaining information

Articles, bulletins, and other information may be obtained by calling (202) 691-6199, sending an e-mail message to [ocltinfo@bls.gov](mailto:ocltinfo@bls.gov), or visiting the Internet site (<http://www.bls.gov/ncs/ect/home.htm>). 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.

**Appendix. Employer costs per hour worked for components of compensation, and relative standard errors,<sup>1</sup> by major industry and occupation categories, December 2003**

Industry or occupation category	Total compensation	Wages and salaries	Benefit costs						
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits	Other benefits <sup>2</sup>
Civilian workers									
Cost per hour worked .....	\$24.59	\$17.56	\$7.03	\$1.65	\$0.59	\$1.88	\$0.90	\$1.96	\$0.04
Relative error .....	1.0	1.1	1.1	1.4	2.9	1.2	2.1	.7	9.8
State and local government workers									
Cost per hour worked .....	\$33.91	\$23.56	\$10.35	\$2.58	\$ .29	\$3.39	\$2.03	\$1.99	\$.07
Relative error .....	1.6	1.7	1.7	2.1	6.5	1.8	3.6	2.0	26.0
Private industry workers									
Cost per hour worked .....	\$22.92	\$16.49	\$6.43	\$1.48	\$.64	\$1.62	\$.70	\$1.96	\$.03
Relative error .....	1.2	1.3	1.3	1.7	3.1	1.5	2.6	.8	9.4
Goods-producing industries <sup>3</sup>									
Cost per hour worked .....	\$26.92	\$18.18	\$8.73	\$1.74	\$1.14	\$2.25	\$1.04	\$2.49	\$.07
Relative error .....	1.8	1.5	2.8	3.1	6.1	2.8	5.4	1.8	16.7
Service-producing industries <sup>4</sup>									
Cost per hour worked .....	\$21.82	\$16.02	\$5.80	\$1.41	\$.51	\$1.44	\$.61	\$1.81	\$.02
Relative error .....	1.4	1.5	1.3	2.0	2.9	1.7	2.7	.8	8.0
Manufacturing									
Cost per hour worked .....	\$26.59	\$17.73	\$8.86	\$2.00	\$1.19	\$2.37	\$.96	\$2.24	\$.10
Relative error .....	2.0	1.8	2.8	3.5	5.2	2.5	5.9	1.7	17.1
Nonmanufacturing									
Cost per hour worked .....	\$22.26	\$16.26	\$5.99	\$1.39	\$.55	\$1.48	\$.66	\$1.90	\$.02
Relative error .....	1.3	1.5	1.3	2.0	3.3	1.7	2.8	.8	7.3
White-collar workers									
Cost per hour worked .....	\$27.92	\$20.36	\$7.56	\$2.02	\$.73	\$1.83	\$.86	\$2.08	\$.04
Relative error .....	1.5	1.7	1.4	1.9	4.5	1.6	2.8	1.0	8.5
Blue-collar workers									
Cost per hour worked .....	\$21.45	\$14.67	\$6.78	\$1.19	\$.79	\$1.81	\$.75	\$2.20	\$.03
Relative error .....	1.6	1.3	2.4	3.1	2.8	2.8	5.7	1.4	20.8
Service workers									
Cost per hour worked .....	\$11.54	\$8.79	\$2.75	\$.47	\$.17	\$.72	\$.18	\$1.20	( <sup>5</sup> )
Relative error .....	1.7	1.5	2.8	3.5	6.0	4.9	9.4	1.2	( <sup>6</sup> )

<sup>1</sup> The relative error is the standard error expressed as a percent of the cost. One can be 90-percent confident that the interval around the cost estimate bounded by 1.6 times plus and 1.6 times minus the standard error contains the "true" cost.

<sup>2</sup> Includes severance pay and supplemental unemployment benefits.

<sup>3</sup> Includes mining, construction, and manufacturing.

<sup>4</sup> Includes transportation, communication, and public utilities; wholesale and

retail trade; finance, insurance, and real estate; and service industries.

<sup>5</sup> Cost per hour worked is \$0.01 or less.

<sup>6</sup> Relative error is suppressed because cost per hour worked is \$0.01 or less.

Note: The sum of individual items may not equal totals due to rounding.