

News

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OCCUPATIONAL EMPLOYMENT AND WAGES IN WASHINGTON AND PHILADELPHIA, MAY 2006

Employment was more highly concentrated in 9 of the 22 occupational groups including business and financial operations and computer and mathematical occupations in the Washington-Arlington-Alexandria, D.C.-Va.-Md.-W.Va. Metropolitan Statistical Area¹ (MSA) than in the nation. Eleven other groups had significantly less of a presence in Washington, two of which were production, and transportation and material moving occupations, according to the U.S. Department of Labor's Bureau of Labor Statistics. Regional Commissioner Sheila Watkins noted that employment was more highly concentrated in the Philadelphia-Camden-Wilmington, Pa.-N.J.-Del.-Md. MSA² than in the United States as a whole for 10 of the 22 occupational groups including business and financial operations and healthcare practitioner and technical occupations. Eight other occupational groups had a measurably lower presence in Philadelphia than they did nationally, and, as in Washington, two such occupations were production, and transportation and material moving.

Workers in the Washington area had an average (mean) hourly wage rate of \$25.21 in May 2006. For the same period, workers in the Philadelphia area averaged \$20.72 an hour. In both of these areas, wages were significantly higher than the nationwide average of \$18.84. In the Washington area, wage rates for the 22 major occupational categories were significantly higher than their respective averages nationwide. In the Philadelphia area, wage rates were significantly above their respective national averages in 16 of the 22 occupational categories and not measurably different in the remaining 6 groups. (See table A.) Philadelphia was chosen for comparison with Washington since both metropolitan areas were among the 12 largest employment centers in the country, had workforces of similar size, and were in close proximity to each other geographically.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case the Delaware Department of Labor; the District of Columbia Department of Labor; the Maryland Department of Labor, Licensing, and Regulation; the New Jersey Department of Labor and Workforce Development; the Pennsylvania Department of Labor and Industry; the Virginia Employment Commission; and the West Virginia Bureau of Employment Programs. The OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and up to 801 non-military detailed occupations for the nation, states, and 409 metropolitan areas.

¹ The Washington-Arlington-Alexandria, D.C.-Va.-Md.-W.Va. Metropolitan Statistical Area (MSA) referenced in this release includes the District of Columbia; the cities of Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, and Manassas Park, and the counties of Arlington, Clarke, Fairfax, Fauquier, Loudoun, Prince William, Spotsylvania, Stafford, and Warren in Virginia; the counties of Calvert, Charles, Frederick, Montgomery, and Prince George's in Maryland; and Jefferson County in West Virginia. For convenience, this area will be referred to as the Washington area (or by similarly abbreviated titles) throughout this release.

² The Philadelphia-Camden-Wilmington, Pa.-N.J.-Del.-Md. Metropolitan Statistical Area (MSA) includes the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties in Pennsylvania; Burlington, Camden, Gloucester, and Salem Counties in New Jersey; New Castle County in Delaware; and Cecil County in Maryland. For convenience, this area will be referred to as the Philadelphia area (or by similarly abbreviated titles) throughout this release.

Table A. Employment and wages by occupational group for the Washington and Philadelphia metropolitan areas compared to the U.S. average, May 2006

Major occupational group	Employment share (in percent)			Average hourly wage (in dollars)		
	United States	Washington	Philadelphia	United States	Washington	Philadelphia
Management	4.4	6.4 *	4.1 *	\$44.20	\$52.45 *	\$47.94 *
Business and financial operations	4.4	8.0 *	5.5 *	28.85	34.76 *	30.38 *
Computer and mathematical	2.3	7.2 *	2.9 *	33.29	38.99 *	33.53
Architecture and engineering	1.8	2.4 *	1.8	31.82	38.16 *	33.02 *
Life, physical, and social science	0.9	2.2 *	1.3 *	28.68	38.50 *	30.19 *
Community and social services	1.3	1.0 *	1.8 *	18.75	23.98 *	18.72
Legal	0.7	2.2 *	1.0 *	41.04	50.92 *	42.00
Education, training, and library	6.2	6.0	6.7 *	21.79	25.52 *	24.04 *
Arts, design, entertainment, sports, and media	1.3	2.2 *	1.1 *	22.17	29.61 *	21.53
Healthcare practitioner and technical	5.1	3.9 *	6.2 *	29.82	35.21 *	31.44 *
Healthcare support	2.6	1.6 *	2.8 *	11.83	13.53 *	12.76 *
Protective service	2.3	2.6 *	2.3	17.81	21.00 *	18.94
Food preparation and serving related	8.3	7.1 *	7.3 *	8.86	9.91 *	9.45 *
Building and grounds cleaning and maintenance	3.3	3.8 *	3.2	10.86	11.42 *	11.95 *
Personal care and service	2.5	2.2 *	2.7 *	11.02	13.34 *	11.62 *
Sales and related	10.6	9.5 *	10.8	16.52	18.23 *	18.31 *
Office and administrative support	17.4	16.5 *	18.6 *	14.60	17.32 *	15.44 *
Farming, fishing, and forestry	0.3	0.0 *	0.1 *	10.49	13.13 *	11.20
Construction and extraction	5.0	5.1	3.9 *	18.89	19.74 *	22.37 *
Installation, maintenance, and repair	4.0	3.4 *	3.6 *	18.78	20.93 *	20.27 *
Production	7.7	2.2 *	5.7 *	14.65	16.73 *	16.62 *
Transportation and material moving	7.3	4.3 *	6.4 *	14.16	15.98 *	14.63 *

* = The employment share or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

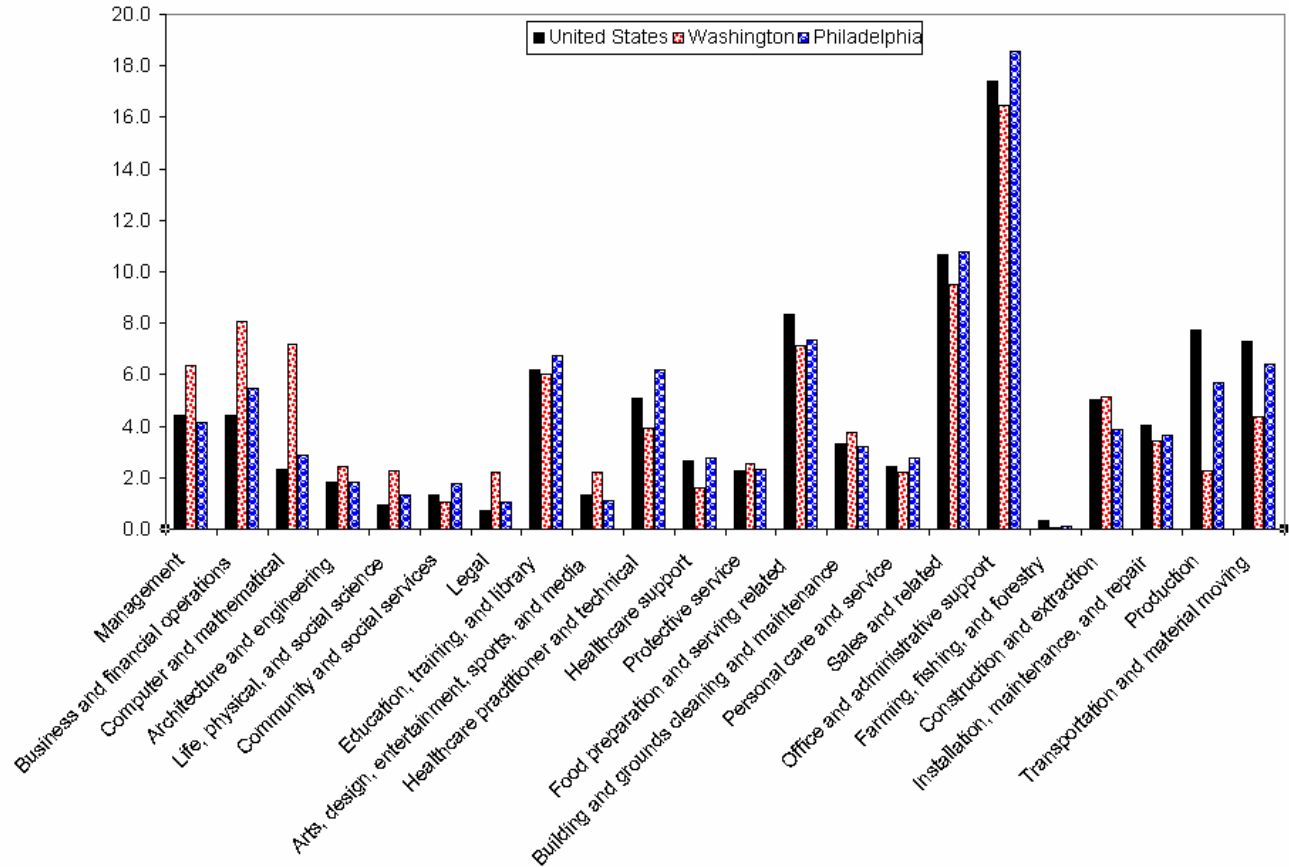
Occupational employment and wages in the Washington metropolitan area

The largest occupational group in the Washington area was office and administrative support with a total of 465,280 workers representing 16.5 percent of area employment. This group's share of local employment was significantly below the U.S. average of 17.4 percent; nationally, this was also the largest occupational group. Sales and related jobs comprised the second-largest major occupational grouping in the Washington area with 269,140 workers and a 9.5-percent share of the local workforce, significantly lower than their representation nationwide at 10.6 percent. (See chart A.)

Two of the other occupational groups that had significantly less of a presence in the Washington area compared to the nation were production, and transportation and material moving jobs. Only 2.2 percent of workers in Washington held production jobs, significantly below the U.S. average of 7.7 percent. Transportation and material moving workers also had a lower employment share in the metropolitan area (4.3 percent) than they did at the national level (7.3 percent).

However, Washingtonians posted higher employment shares when compared to the nation in a number of occupational groups, including business and financial operations, computer and mathematical, and management occupations. Business and financial operations and computer and mathematical jobs, the third- and fourth-largest major occupational groups in the Washington area, had shares of 8.0 and 7.2 percent, respectively. The percentages of workers in both of these occupations locally were significantly higher than their national shares of 4.4 and 2.3 percent, respectively. Another of the larger occupational groups in Washington was management, comprising 6.4 percent of the workforce, measurably higher than the 4.4-percent concentration nationwide. High employment shares in these three occupational groups were especially beneficial for the local economy because these jobs tend to be among the higher paying.

Chart A. Employment distribution in the United States and the Washington and Philadelphia metropolitan areas by major occupational group



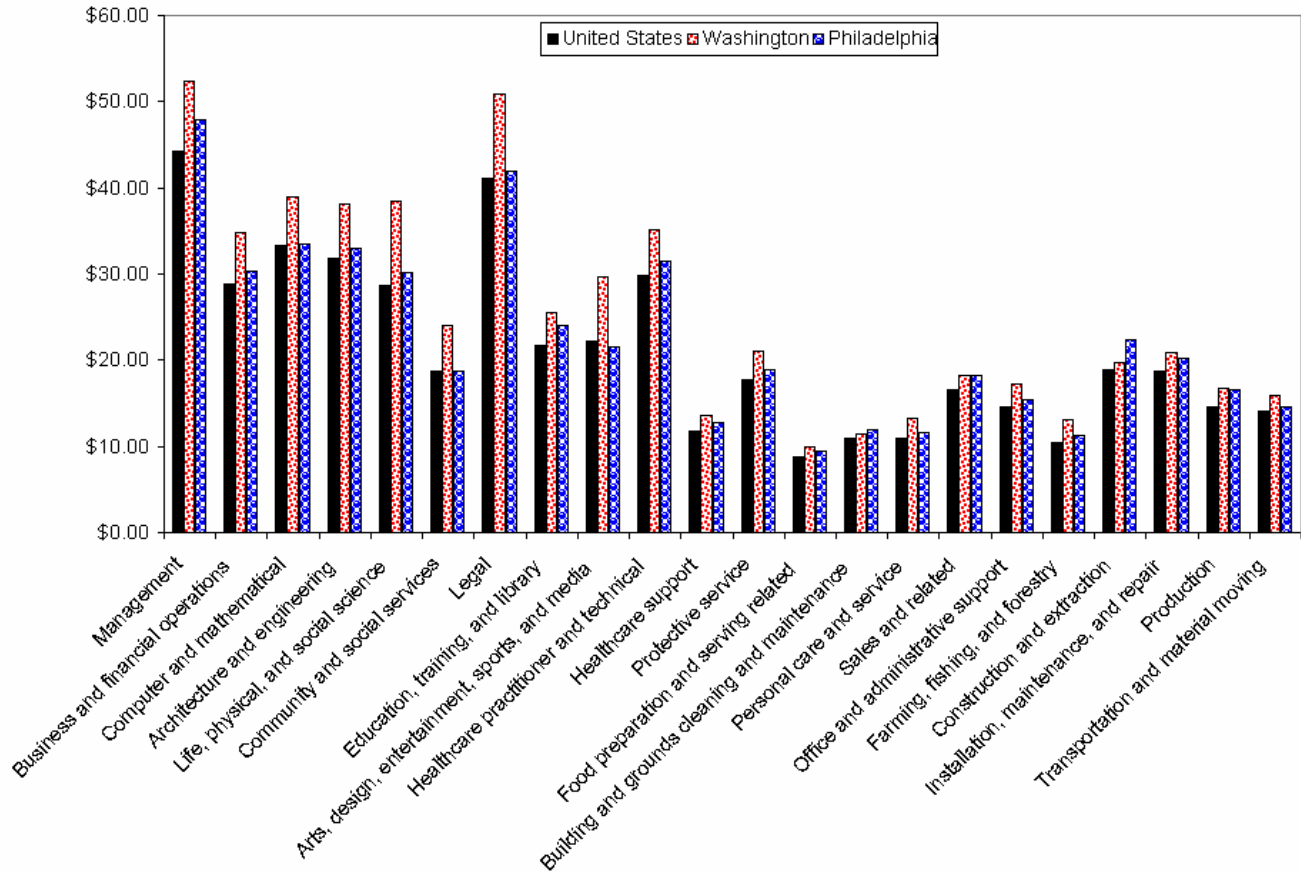
Management and legal occupations were the two highest-paying occupational groups in the Washington area, with management positions averaging \$52.45 an hour and legal, \$50.92. (See chart B.) Nationwide, these were also the highest-paying occupational groups, with average earnings of \$44.20 in management and \$41.04 in legal occupations. The average wages for both groups were significantly higher in the Washington area than for the nation.

Computer and mathematical (\$38.99); life, physical, and social science (\$38.50); architecture and engineering (\$38.16); healthcare practitioner and technical (\$35.21); and business and financial operations (\$34.76) were also among the better-paid occupational groups in Washington. The average wages for these five groups locally were measurably higher than at the national level. Food preparation and serving related workers were the lowest-paid occupational group in the Washington area at \$9.91 an hour, although this wage was also significantly higher than the national average of \$8.86.

Occupational employment and wages in the Philadelphia metropolitan area

Similar to Washington, as well as the nation, the largest occupational group in the Philadelphia area was office and administrative support with a total of 508,500 workers representing 18.6 percent of area employment. The percentage of workers in this occupation locally was significantly above the U.S. average. Sales and related jobs were the second-largest major occupational grouping in the Philadelphia metropolitan area with 295,640 workers and a 10.8-percent share of the local workforce, not measurably different from the national share of 10.6 percent for this occupation. Other occupational groups with an above-average presence included education, training, and library (6.7 percent), healthcare practitioner and technical (6.2 percent), business and financial operations (5.5 percent), and computer and mathematical (2.9 percent).

Chart B. Average hourly wages in the United States and the Washington and Philadelphia metropolitan areas by major occupational group



Food preparation and serving related and transportation and material moving jobs were among the larger occupational groups in Philadelphia accounting for 7.3 and 6.4 percent of the workforce, respectively. However, the employment shares of workers in both of these occupations locally were significantly lower than their representation nationally. Philadelphia also posted lower employment shares than the nation in a number of other occupational groups, including production; management; construction and extraction; and installation, maintenance, and repair.

As in Washington, management and legal occupations were the two highest-paying occupational groups in the Philadelphia area at \$47.94 and \$42.00 an hour, respectively. Also like Washington, the average wage for management workers in the Philadelphia area was significantly higher than that for the nation. However, wages for legal workers were not measurably different from the national average in Philadelphia, but were significantly higher in Washington.

Computer and mathematical (\$33.53); architecture and engineering (\$33.02); healthcare practitioner and technical (\$31.44); business and financial operations (\$30.38); and life, physical, and social science (\$30.19) occupations were also among the better-paid groups in Philadelphia. Average wages for four of these five occupational groups in the Philadelphia area were significantly higher than those for the nation, the only exception being computer and mathematical, for which wages were not measurably different from the U.S. average.

Similar to Washington, food preparation and serving related workers were the lowest-paid occupational group in the Philadelphia area at \$9.45 an hour. As in Washington, the wages for these workers were significantly higher than the national average.

The OES wage and employment data for the 22 major occupational groups in the Washington and Philadelphia metropolitan areas were compared to their respective national averages based on statistical significance testing. Only those occupations with wages or employment shares above or below the national wage or share after testing for significance at the 90-percent confidence level meet the criteria.

NOTE: A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. Guam, Puerto Rico, and the Virgin Islands also are surveyed, but their data are not included in this release. OES estimates are constructed from a sample of about 1.2 million establishments. Forms are mailed to approximately 200,000 establishments in May and November of each year for a 3-year period. The nationwide response rate for the May 2006 survey was 78.1 percent based on establishments and 73.4 percent based on employment. The survey included establishments sampled in the May 2006, November 2005, May 2005, November 2004, May 2004, and November 2003 semiannual panels. The sample in the Washington metropolitan area included 17,118 establishments with a response rate of 73 percent. In the Philadelphia metropolitan area, the samples included 20,368 establishments with a response rate of 73 percent.

The occupational coding system

The OES survey uses the Office of Management and Budget's (OMB) occupational classification system, the Standard Occupational Classification (SOC) system. The SOC system is the first OMB-required occupational classification system for federal agencies. The OES survey categorizes workers in 1 of 801 detailed occupations. Together, these detailed occupations make up 23 major occupational groups, 22 of which are covered in this release. The one exception is military specific occupations which are not included in the OES survey.

For more information about the SOC system, please see the Bureau of Labor Statistics (BLS) Web site at <http://www.bls.gov/soc/>.

The industry coding system

The OES survey uses the North American Industry Classification System (NAICS). For more information about NAICS, see the BLS Web site at <http://www.bls.gov/bls/naics.htm>.

Survey sample

BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies (SWAs) collect most of the data. BLS produces cross-industry and industry-specific estimates for the nation, states, and metropolitan statistical areas (MSAs). Industry-specific estimates are produced at the NAICS sector, 3-digit, 4-digit, and selected 5-digit industry levels. BLS releases all cross-industry and national estimates; the SWAs release industry-specific estimates at the state and MSA levels.

State Unemployment Insurance (UI) files provide the universe from which the OES survey draws its sample. Employment benchmarks are obtained from reports submitted by employers to the UI program. The OES survey sample is stratified by metropolitan and nonmetropolitan areas and industry. Samples selected in panels prior to May 2005 were stratified using MSA definitions based on the 1990 Metropolitan Statistical Area standards. Beginning with the May 2005 panel, the sample was stratified using new MSA definitions based on the 2000 Metropolitan Statistical Area standards.

Concepts

Occupational employment is the estimate of total wage and salary employment in an occupation across the industries surveyed. The OES survey defines employment as the number of workers who can be classified as full- or part-time employees, including workers on paid vacations or other types of paid leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their paycheck.

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are: back pay, jury duty pay, overtime pay, severance pay, shift differentials, non-production bonuses, employer cost for supplementary benefits, and tuition reimbursements.

Mean hourly wage. The mean hourly wage rate for an occupation is the total wages that all workers in the occupation earn in an hour divided by the total employment of the occupation. To calculate the mean hourly wage of each occupation, total weighted hourly wages are summed across all intervals and divided by the occupation's weighted survey employment. The mean wage for each interval is based on occupational wage data collected by the BLS Office of Compensation and Working Conditions for the National Compensation Survey (NCS).

Annual Wage. Many employees are paid at an hourly rate by their employers and may work more than or less than 40 hours per week. Annual wage estimates for most occupations in this release are calculated by multiplying the mean hourly wage by a "year-round, full-time" figure of 2,080 hours (52 weeks by 40 hours). Thus, annual wage estimates may not represent the actual annual pay received by the employee if they work more or less than 2,080 hours per year. Some workers typically work less than fulltime, year round. For these occupations, the OES survey collects and reports either the annual salary or the hourly wage rate, depending on how the occupation is typically paid, but not both. For example, teachers, flight attendants, and pilots may be paid an annual salary, but do not work the usual 2,080 hours per year. In this case, an annual salary is reported. Other workers, such as entertainment workers, are paid hourly rates, but generally do not work full time, year round. For these workers, only an hourly wage is reported.

Hourly versus Annual Wage Reporting. For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rate for an occupation is calculated by multiplying the hourly wage rate by a typical work year of 2,080 hours. The responding establishment can reference either the hourly or the annual rate for full-time workers, but they are instructed to report the hourly rate for part-time workers.

Estimation methodology

Each OES panel includes approximately 200,000 establishments. The OES survey is designed to produce estimates using six panels (3 years) of data. The full six-panel sample of 1.2 million establishments allows the production of estimates at detailed levels of geography, industry, and occupation.

Wage Updating. Significant reductions in sampling errors are obtained by combining six panels of data, particularly for small geographic areas and occupations. Wages for the current panel need no adjustment. However, wages in the five previous panels need to be updated to the current panel's reference period.

The OES program uses the BLS Employment Cost Index (ECI) to adjust survey data from prior panels before combining them with the current panel's data. The wage updating procedure adjusts each detailed occupation's wage rate, as measured in the earlier panel, according to the average movement of its broader occupational division. The procedure assumes that there are no major differences by geography, industry, or detailed occupation within the occupational division.

May 2006 OES survey estimates. The May 2006 OES survey estimates are based on all data collected from establishments in the May 2006, November 2005, May 2005, November 2004, May 2004, November 2003 semiannual samples.

Reliability of the estimates. Estimates calculated from a sample survey are subject to two types of error: sampling and nonsampling. Sampling error occurs when estimates are calculated from a subset (that is, a sample) of the population instead of the full population. When a sample of the population is surveyed, there is a chance that the sample estimate of the characteristic of interest may differ from the population value of that characteristic. Differences between the sample estimate and the population value will vary depending on the sample selected. This variability can be estimated by calculating the standard error (SE) of the sample estimate. If we were to repeat the sampling and estimation process countless times using the same survey design, approximately 90 percent of the intervals created by adding and subtracting 1.645 SEs from the sample estimate would include the population value. These intervals are called 90-percent confidence intervals. The OES survey, however, usually uses the relative standard error (RSE) of a sample estimate instead of its SE to measure sampling error. RSE is defined as the SE of a sample estimate divided by the sample estimate itself. This statistic provides the user with a measure of the relative precision of the sample estimate. RSEs are calculated for both occupational employment and mean wage rate estimates. Occupational employment RSEs are calculated using a subsample, random group replication technique called the jackknife. Mean wage rate RSEs are calculated using a variance components model that accounts for both the observed and unobserved components of the wage data. The variances of the unobserved components are estimated using wage data from the BLS National Compensation Survey. In general, estimates based on many establishments have lower RSEs than estimates based on few establishments. If the distributional assumptions of the models are violated, the resulting confidence intervals may not reflect the prescribed level of confidence.

Nonsampling error occurs for a variety of reasons, none of which are directly connected to sampling. Examples of nonsampling error include: nonresponse, data incorrectly reported by the respondent, mistakes made in entering collected data into the database, and mistakes made in editing and processing the collected data.

Additional information

The May 2006 OES national data by occupation, comparable to data in table 1, are available on the BLS Web site at <http://www.bls.gov/oes/>. Users also may access each occupation's definition and percentile wages. The May 2006 cross-industry data for states and metropolitan areas are also available on the BLS Web site, as are the industry staffing patterns at the sector, 3-, 4-, and selected 5-digit NAICS levels. These data include industry-specific occupational employment and wage data. A more detailed technical note for OES is available at <http://www.bls.gov/news.release/ocwage.tn.htm>.

OES information is available through our regional web page at <http://www.bls.gov/ro3/home.htm>. If you have additional questions, you can contact the Mid-Atlantic Information Office at 215-597-3282. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone number: 1-800-877-8339.

More detailed Standard Occupational Classification (SOC) Major Groups for the Washington and Philadelphia metropolitan areas are available on the Web site at <http://www.bls.gov/oes/current/oessrcma.htm>. An example of the level of detail available is provided in Table 1.

Table 1. Employment and wages by detailed management occupations for the Washington and Philadelphia metropolitan areas, May 2006

Occupations	Washington-Arlington-Alexandria, D.C.-Va.-Md.-W.Va.		Philadelphia-Camden-Wilmington, Pa.-N.J.-Del.-	
	Employment	Average hourly wage	Employment	Average hourly wage
Management occupations	179,880	\$52.45	113,580	\$47.94
Chief executives	5,630	78.47	3,690	79.18
General and operations managers	54,790	57.94	21,150	55.76
Legislators	(1)	(2)	1,450	(2)
Advertising and promotions managers	940	35.72	880	48.99
Marketing managers	3,690	52.23	3,700	55.18
Sales managers	5,320	52.77	6,040	53.49
Public relations managers	1,990	60.16	1,070	45.16
Administrative services managers	9,840	38.01	5,510	41.14
Computer and information systems managers	13,290	59.11	7,100	57.33
Financial managers	13,000	52.98	10,660	53.63
Compensation and benefits managers	1,490	40.43	1,280	41.47
Training and development managers	1,040	50.32	580	48.95
Human resources managers, all other	1,850	54.40	1,200	50.55
Industrial production managers	900	46.19	3,100	44.94
Purchasing managers	2,920	51.85	1,340	45.85
Transportation, storage, and distribution managers	1,370	44.88	1,860	43.78
Farm, ranch, and other agricultural managers	-	-	50	26.46
Construction managers	5,840	46.45	3,270	45.44
Education administrators, preschool and child care center/program	1,320	21.60	1,320	23.44
Education administrators, elementary and secondary school	4,000	(2)	(1)	(2)
Education administrators, postsecondary	2,990	43.58	(1)	44.88
Education administrators, all other	(1)	42.71	460	35.78
Engineering managers	5,960	59.03	3,910	57.32
Food service managers	3,240	26.23	2,750	28.12
Funeral directors	190	30.26	460	34.84
Lodging managers	550	33.74	340	29.91
Medical and health services managers	5,010	41.99	6,540	40.39
Natural sciences managers	3,840	53.79	(1)	59.37
Postmasters and mail superintendents	180	29.47	320	30.43
Property, real estate, and community association managers	2,810	36.15	1,650	33.41
Social and community service managers	1,730	33.28	-	-
Managers, all other	22,320	52.03	7,240	40.57

(1) Estimates not released.

(2) Wages for some occupations that do not generally work year-round, full time, are reported either as hourly wages or annual salaries depending on how they are typically paid.

- Data not available.