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For Immediate Release:

Thursday, October 9, 2008

OCCUPATIONAL EMPLOYMENT AND WAGES IN CHICAGO-NAPERVILLE-JOLIET AND ROCKFORD, MAY 2007

Employment was more highly concentrated in 7 of the 22 occupational groups, including management and production in the Chicago-Naperville-Joliet, Ill. Metropolitan Division¹ than in the nation. Nine other groups, including health care support and installation, maintenance, and repair, had significantly lower employment shares in the Chicago area than in the nation, according to the U.S. Department of Labor's Bureau of Labor Statistics. The Rockford, Ill. Metropolitan Statistical Area² (MSA) had higher employment shares than the United States as a whole for only 1 occupational group, production. Regional commissioner Jay A. Mousa noted that 12 other occupational groups had measurably lower employment shares in Rockford than they did nationally. (See table A.)

The Chicago area had an average (mean) hourly wage rate of \$21.97 in May 2007, significantly above the nationwide average of \$19.56. For the same period, Rockford had a mean hourly rate of \$18.45, measurably lower than the national average. In the Chicago area, wage rates for 17 of the 22 major occupational categories were significantly higher than their respective averages nationwide. Wages in the remaining 5 categories were comparable to nationwide averages. In the Rockford area, wage rates were significantly above their respective national averages in 3 of the 21 occupational categories, significantly below in 10 categories, and not measurably different in the remaining eight groups. (See table A.)

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 Illinois Department of Employment Security. 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

¹ The Chicago-Naperville-Joliet, Ill. Metropolitan Division is comprised of Cook, De Kalb, Du Page, Grundy, Kane, Kendall, McHenry, and Will counties. For convenience, this area will be referred to as the Chicago area, Chicago, or by similarly abbreviated titles throughout this release.

² The Rockford, Ill. Metropolitan Area is comprised of Boone and Winnebago counties. For convenience, this area will be referred to as the Rockford area, Rockford, or by similarly abbreviated titles throughout this release.

nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas.

Table A. Occupational employment and wages by major occupational group, United States, Chicago-Naperville-Joliet and Rockford metropolitan areas, and measures of statistical significance, May 2007

Major occupational group	Employment share (percent)			Mean hourly wage		
	United States	Chicago	Rockford	United States	Chicago	Rockford
Management	4.5	4.9*	3.3*	\$46.22	\$49.32*	\$41.16*
Business and financial operations	4.5	6.0*	3.4*	30.01	32.57*	26.31*
Computer and mathematical science	2.4	2.8*	0.8*	34.71	36.50*	26.40*
Architecture and engineering	1.9	1.4*	1.6	33.11	33.79	29.22*
Life, physical, and social science	0.9	0.8*	0.6*	29.82	30.67	29.00
Community and social services	1.3	1.1*	1.4	19.49	22.29*	19.64
Legal	0.7	1.0*	0.4*	42.53	51.46*	48.75
Education, training, and library	6.2	6.0	5.6	22.41	26.79*	22.37
Arts, design, entertainment, sports, and media	1.3	1.3	0.9*	23.27	24.10	16.41*
Healthcare practitioner and technical	5.1	4.9*	5.8	31.26	31.09	32.17
Healthcare support	2.7	2.2*	2.6	12.31	12.97*	12.58
Protective service	2.3	2.5*	1.4*	18.63	21.18*	21.38*
Food preparation and serving related	8.4	7.2*	7.4*	9.35	9.62*	8.83*
Building and grounds cleaning and maintenance	3.3	3.2	2.6*	11.33	12.47*	11.42
Personal care and service	2.5	2.5	2.0*	11.53	13.37*	10.29*
Sales and related	10.7	10.9	9.8	16.94	19.77*	15.55*
Office and administrative support	17.3	17.4	15.6*	15.00	16.36*	14.38*
Farming, fishing, and forestry	0.3	0.1*	n.a.	10.89	12.70*	n.a.
Construction and extraction	5.0	4.1*	4.6	19.53	27.70*	24.35*
Installation, maintenance, and repair	4.0	3.1*	3.3*	19.20	22.10*	19.76
Production	7.6	8.5*	17.6*	15.05	14.79	17.02*
Transportation and material moving	7.2	7.9*	9.2	14.75	16.52*	13.81*

*=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.

n.a.=not available

Occupational employment and wages in the Chicago area

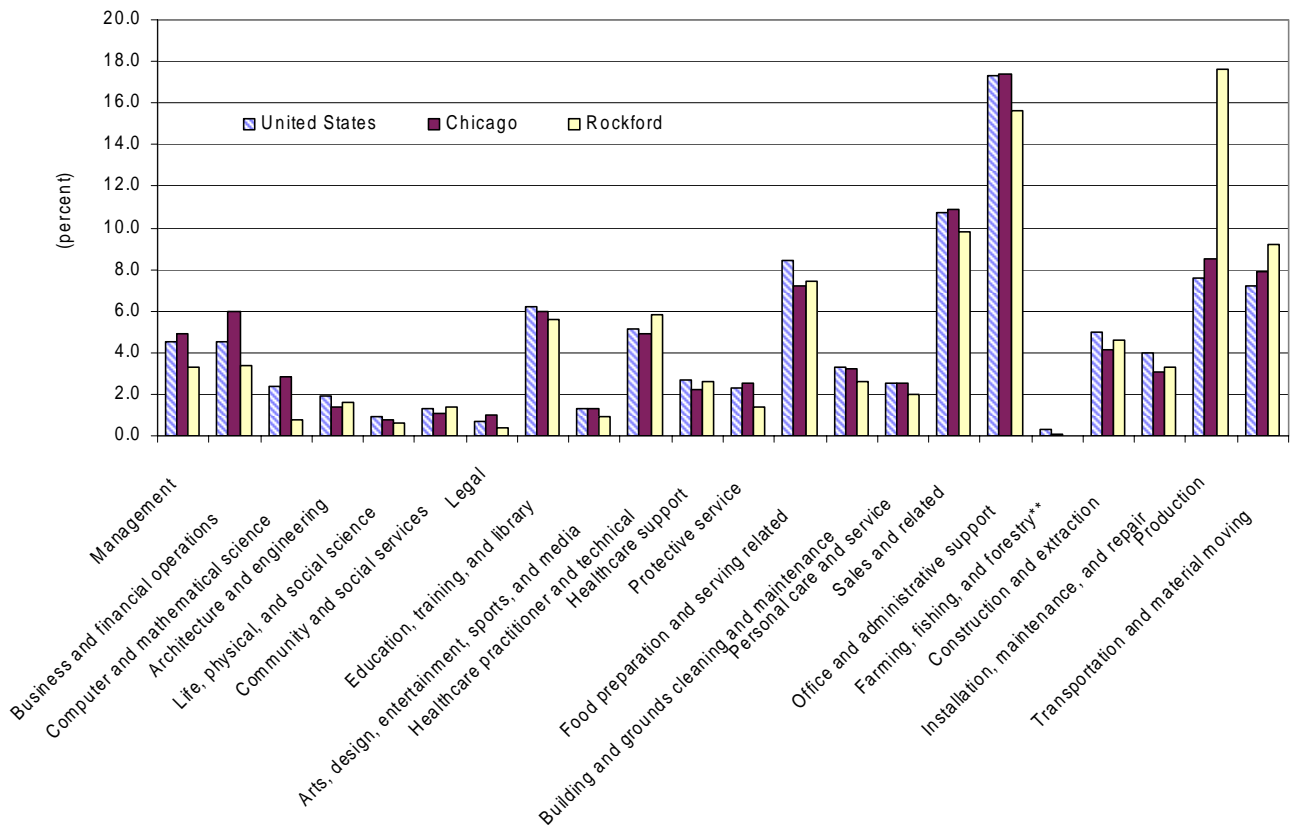
The largest occupational group in the Chicago area was office and administrative support with a total of 661,610 jobs representing 17.4 percent of area employment. This group's share of local employment was similar to the U.S. average of 17.3 percent; nationally, this was also the largest occupational group. The sales and related occupation group was the second-largest major occupational grouping in the Chicago area with 414,130 jobs and a 10.9 percent share of local employment, about the same as their national employment share of 10.7 percent. (See chart A.)

Two of the nine occupational groups that had significantly less employment shares in the Chicago area compared to the nation were construction and extraction and installation, maintenance and repair jobs. Only 4.1 percent of employment in Chicago

was in construction and extraction jobs, significantly below the U.S. average of 5.0 percent. Installation, maintenance, and repair also had a lower employment share in the metropolitan area (3.1 percent) than it did at the national level (4.0 percent).

The Chicago area posted higher employment shares when compared to the nation in several occupational groups, including business and financial operations; production; and transportation and material moving. Production and transportation and material moving jobs, the third- and fourth-largest occupational groups in the Chicago area, had shares of 8.5 percent and 7.9 percent, respectively. Employment shares in both of these occupational groups locally were significantly higher than their national shares of 7.6 and 7.2 percent, respectively. Another of the larger occupational groups in Chicago was business and financial operations, comprising 6.0 percent of employment, measurably higher than the 4.5 percent nationwide share.

Chart A. Occupational employment as a share of total employment, United States, Chicago-Naperville-Joliet and Rockford metropolitan areas by major occupational group, May 2007



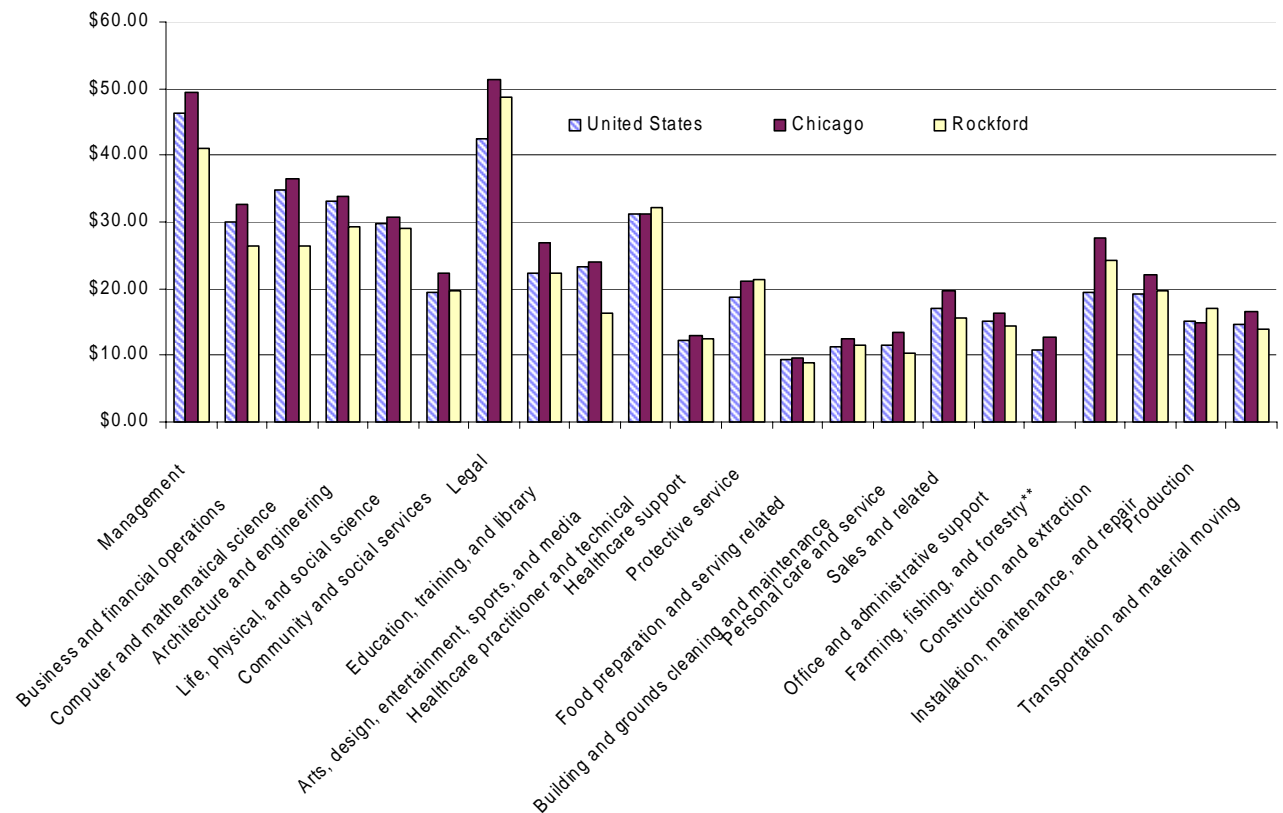
** Not available for Rockford

Legal and management occupations were the two highest paying occupational groups in the Chicago area, with legal occupations averaging \$51.46 an hour and management, \$49.32. (See chart B.) Nationwide, these were also the highest-paying occupational groups, with average earnings of \$42.53 in legal and \$46.22 in

management occupations. The average wages for both groups were significantly higher in the Chicago area than for the nation.

Computer and mathematical science (\$36.50); architecture and engineering (\$33.79); business and financial operations (\$32.57); healthcare practitioner and technical (\$31.09); and life, physical, and social science (\$30.67) were also among the better-paid occupational groups in Chicago. Among these five groups, local wages for two (computer and mathematical science and business and financial operations) were measurably higher than at the national level. At the other end of the wage spectrum, food preparation and serving related workers were the lowest-paid group in the Chicago area at \$9.62 an hour, although this wage was also significantly higher than the national average of \$9.35.

Chart B. Average hourly wages in the United States, Chicago-Naperville-Joliet and Rockford metropolitan areas by major occupational group, May 2007



** Not available for Rockford

Occupational employment and wages in the Rockford area

The largest occupational group in the Rockford area was production with 27,220 jobs representing 17.6 percent of employment which was significantly above the national average of 7.6 percent. This was the only local occupational group with an employment share significantly higher than the national average. Office and administrative support jobs were the second-largest occupational grouping in the

Rockford metropolitan area with 24,110 jobs and a 15.6 percent share of local employment, measurably lower than the 17.3 percent share nationwide.

Management (3.3 percent); installation, maintenance, and repair (3.3 percent); business and financial operations (3.4 percent); and food preparation and serving related (7.4 percent) were among the largest occupational groups in the Rockford area. However, employment shares in these groups were significantly lower than their representation nationally.

As in Chicago, legal and management occupations were the two highest-paying occupational groups in the Rockford area, with legal occupations averaging \$48.75 an hour and management, \$41.16. Local wages for management occupations were significantly less than the national average, while area wages for legal occupations were not measurably different compared to the nation.

Also among the better-paid occupational groups in the area were healthcare practitioner and technical (\$32.17); architecture and engineering (\$29.22); life, physical, and social science (\$29.00); computer and mathematical science (\$26.40); and business and financial operations (\$26.31). Average wages for 2 of these occupational groups were similar to the U.S. average and below the national average for the remaining three groups.

Construction and extraction (\$24.35), protective service (\$21.38), and production (\$17.02) were among the better-paid occupations in Rockford. Average wages for these three groups were significantly above their national averages. At the lower end of the wage spectrum, food preparation and serving related occupations were among the lowest paid in the area at \$8.83 an hour, measurably lower than the national average.

OES wage and employment data for the 22 major occupational groups in the Chicago area and 21 occupational groups in the Rockford area 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 2007 survey was 77.9 percent based on establishments and 73.5 percent based on employment. The survey included establishments sampled in the May 2007, November 2006, May 2006, November 2005, May 2005, and November 2004 semiannual panels. The sample in the Chicago area included 14,852 establishments with a response rate of 72 percent. The sample in the Rockford area included 1,410 establishments with a response rate of 75 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 www.bls.gov/soc/home.htm.

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 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, metropolitan statistical areas (MSAs), metropolitan divisions, and nonmetropolitan areas. 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. Workers in some occupations typically work less than full time, 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 2007 OES survey estimates. The May 2007 OES survey estimates are based on all data collected from establishments in the May 2007, November 2006, May 2006, November 2005, May 2005, and November 2004 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 2007 OES national data by occupation are available on the BLS Web site at www.bls.gov/oes. Users also may access each occupation's definition and percentile wages. The May 2007 cross-industry data for states, metropolitan areas, metropolitan divisions, and nonmetropolitan areas are available on the BLS Web site, as are 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 www.bls.gov/news.release/ocwage.tn.htm.

OES information is also available through our regional web page at www.bls.gov/ro5/home.htm. If you have additional questions, you can contact an economist in the Chicago information office at (312) 353-1880, menu option 0, from 8 a.m. to 4 p.m. (CT). 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 375 metropolitan areas are available on the Web site at www.bls.gov/oes/current/oessrcma.htm.

Upcoming Reduction in Sample Size of Occupational Employment Statistics Survey

Due to budget constraints, Occupational Employment Statistics has reduced the sample size of the May 2008 panel by 20 percent. Because OES estimates are produced from 3 years of pooled data, this one-time sample reduction will affect estimates for May 2008, May 2009, and May 2010. This reduction is expected to decrease the number of published employment estimates by at least 5 percent, or about 25,000 estimates, and will decrease the accuracy of the remaining estimates. The number and quality of wage estimates also are expected to decline. These cutbacks are being implemented in response to a reduction in funding to the BLS that resulted from The 2008 Consolidated Appropriations Act enacted on December 26, 2007.