

Technical Note

This release presents labor force and unemployment data for census regions and divisions, states, and selected substate areas from the Local Area Unemployment Statistics (LAUS) program (tables 1-4). Also presented are nonfarm payroll employment estimates by state and major industry from the Current Employment Statistics (CES) program (tables 5 and 6). The LAUS and CES programs are both federal-state cooperative endeavors.

Labor force and unemployment—from the LAUS program

Definitions. The labor force and unemployment data are based on the same concepts and definitions as those used for the official national estimates obtained from the Current Population Survey (CPS), a sample survey of households that is conducted for the Bureau of Labor Statistics (BLS) by the U.S. Census Bureau. The labor force includes both the employed and the unemployed. Employed persons are those who did any work at all for pay or profit in the reference week (the week including the 12th of the month) or worked 15 hours or more without pay in a family business or farm, plus those not working who had a job from which they were temporarily absent, whether or not paid, for such reasons as labor-management dispute, illness, or vacation. Unemployed persons are those who did not work at all (in the reference week), had actively looked for a job (sometime in the 4-week period ending with the reference week), and were currently available for work; persons on layoff expecting recall need not be looking for work to be counted as unemployed.

Method of estimation. Estimates for all census divisions, states, the District of Columbia, the Los Angeles-Long Beach-Glendale metropolitan division, and New York City are produced using estimating equations based on regression techniques. This method, which underwent substantial enhancement at the beginning of 2005, utilizes data from several sources, including the CPS, the CES, and state unemployment insurance (UI) data. Estimates for the six other areas contained in this release use a different regression approach. A detailed description of the estimation procedures is available from BLS upon request. Estimates for census regions are obtained by summing the model-based estimates for the component divisions and then calculating the unemployment rate.

Annual revisions. Labor force and unemployment data shown for the prior year reflect adjustments made at the end of each year, usually implemented with January estimates. The adjusted estimates reflect updated population data from the U.S. Census Bureau, any revisions in the other data sources, and model reestimation.

Seasonal adjustment. Seasonal adjustment of census division, state, and substate area model employment and unemployment levels is performed within the modeling

procedure. The model estimation is based on the classical approach to seasonal adjustment, in which the series is decomposed into trend, seasonal, irregular, and survey error. This directly yields seasonally adjusted estimates for employment and unemployment levels with reliability measures. Labor force levels and unemployment rates are calculated from these two estimates. Additionally, measures for the state of California are derived by summing the seasonally adjusted estimates for the Los Angeles-Long Beach-Glendale metropolitan division and the balance of California, and the estimates for the State of New York are the sum of the estimates for New York City and the balance of New York. Labor force estimates for census regions are calculated as the sum of the levels of the component divisions, and the unemployment rate is then calculated. In most years, historical data for the most recent 5 years are revised near the beginning of each calendar year, usually coincident with the release of January estimates.

Area definitions. The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget on December 18, 2006. A detailed list of the geographic definitions is available on the Web at <http://www.bls.gov/lau/lausmsa.htm> and also is published annually in the May issue of *Employment and Earnings*.

Employment—from the CES program

Definitions. Employment data refer to persons on establishment payrolls who receive pay for any part of the pay period that includes the 12th of the month. Persons are counted at their place of work rather than at their place of residence; those appearing on more than one payroll are counted on each payroll. Industries are classified on the basis of their principal activity in accordance with the 2002 version of the North American Industry Classification System.

Method of estimation. The employment data are estimated using a “link relative” technique in which a ratio (link relative) of current-month employment to that of the previous month is computed from a sample of establishments reporting for both months. The estimates of employment for the current month are obtained by multiplying the estimates for the previous month by these ratios.

Annual revisions. Employment estimates are adjusted annually to a complete count of jobs, called benchmarks, derived principally from tax reports that are submitted by employers who are covered under state unemployment insurance (UI) laws. The benchmark information is used to adjust the monthly estimates between the new benchmark and the preceding one and also to establish the level of employment for the new benchmark month. Thus, the benchmarking process establishes the level of employment, and the sample is used to measure the month-to-month changes in the level for the subsequent months.

Seasonal adjustment. Payroll employment data are seasonally adjusted at the statewide supersector level. In some states, the seasonally adjusted payroll employment total is computed by aggregating the independently adjusted supersector series. In other states, the seasonally adjusted payroll employment total is independently adjusted. Revisions of historical data for the most recent 5 years are made once a year, coincident with annual benchmark adjustments.

Caution on aggregating state data. State estimation procedures are designed to produce accurate data for each individual state. BLS independently develops a national employment series; state estimates are not forced to sum to national totals. Because each state series is subject to larger sampling and nonsampling errors than the national series, summing them cumulates individual state level errors and can cause significant distortions at an aggregate level. Due to these statistical limitations, BLS does not compile a “sum-of-states” employment series, and cautions users that such a series is subject to a relatively large and volatile error structure.

Reliability of the estimates

The estimates presented in this release are based on sample survey, administrative data, and modeling and, thus, are subject to sampling and other types of errors. Sampling error is a measure of sampling variability—that is, variation that occurs by chance because a sample rather than the entire population is surveyed. Survey data also are subject to nonsampling errors, such as those which can be introduced into the data collection and processing operations. Estimates not directly derived from sample surveys are subject to additional errors resulting from the specific estimation processes used. The sums of individual items may not always equal the totals shown in the same tables because of rounding. With respect to the LAUS program, unemployment rates are computed from unrounded data rather than from data that may be displayed in the tables; differences, however, are generally insignificant.

Use of error measures. In 2005, the Local Area Unemployment Statistics (LAUS) program introduced several improvements to its methodology. Among these was the development of model-based error measures for the monthly estimates and the estimates of over-the-month changes. The introductory section of this release preserves the long-time practice of highlighting the direction of the movements in regional and state unemployment rates and state nonfarm payroll employment regardless of their statistical significance. The remainder of the analysis in the release takes the statistical significance of monthly and annual changes into consideration.

Labor force and unemployment estimates. Model-based error measures for both seasonally adjusted and not seasonally adjusted data, and for over-the-month change, are available on the BLS Web site at <http://www.bls.gov/lau/lastderr.htm>. BLS uses a 90-percent confidence level in determining whether changes in LAUS unemployment rates are statistically significant. The average magnitude of the over-the-month change in a state unemployment rate that is required in order to be statistically significant at the 90-percent confidence level is between 0.3 and 0.4 percentage point. More details can be found on the Web site. Measures of nonsampling error are not available, but additional information on the subject is provided in the BLS monthly periodical, *Employment and Earnings*.

Employment estimates. Measures of sampling error for state CES data at the total nonfarm and supersector level and for metropolitan area CES data at the total nonfarm level are available on the BLS Web site at <http://www.bls.gov/sae/790stderr.htm>. BLS uses a 90-percent confidence level in determining whether changes in CES employment levels are statistically significant. Information on recent benchmark revisions for states is available on the BLS Web site at <http://www.bls.gov/sae/>.

Additional information

More complete information on the technical procedures used to develop these estimates and additional data appear in *Employment and Earnings*, which is available by subscription from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (telephone 202-512-1800), and from the BLS Handbook of Methods, Bulletin 2490, August 1997.

Estimates of labor force and unemployment, as well as nonfarm employment from the CES program, for over 370 metropolitan areas and metropolitan New England City and Town Areas (NECTAs) are available in the news release, *Metropolitan Area Employment and Unemployment*. Estimates of labor force, employment, and unemployment for all states, metropolitan areas, labor market areas, counties, cities with a population of 25,000 or more, and other areas used in the administration of various federal economic assistance programs are available on the BLS Web site at <http://www.bls.gov/lau/>. Employment data from the CES program are available at <http://www.bls.gov/sae/>.

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone: 1-800-877-8339.