

Expansion of the Current Population Survey Sample Effective July 2001

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Effective with the release of July 2001 data, official labor force estimates from the Bureau of Labor Statistics (BLS) Current Population Survey (CPS) and Local Area Unemployment Statistics (LAUS) program reflect the expansion of the monthly CPS sample from about 50,000 to about 60,000 eligible households. This expansion of the monthly CPS sample was one part of the Census Bureau's plan to meet the requirements of the State Children's Health Insurance Program (SCHIP) legislation. The SCHIP legislation requires the Census Bureau to improve State estimates of the number of children who live in low-income families and lack health insurance. These estimates are obtained from the Annual Demographic Supplement to the CPS.

In September 2000, the Census Bureau began expanding the monthly CPS sample in 31 states and the District of Columbia. The additional 10,000 households were added to the sample over a 3-month period. BLS chose not to include the additional households in the official labor force estimates, however, until it had sufficient time to evaluate the estimates from the 60,000-household sample. This article discusses the impact of the sample expansion on national labor force estimates and on the State and area labor force statistics over the January-June 2001 period.

Effect of the sample expansion on national CPS estimates

At the national level, the estimates (not seasonally adjusted) derived from the 50,000- and 60,000-household samples were virtually the same. In any given month, the 60,000-household sample estimates for the overall labor force participation rate and the employment-population ratio differed by no more than 0.1 percentage point from estimates produced from the 50,000-household sample. The overall unemployment rates were identical in both samples over the period. (See table 1.)

A marginal benefit of the new sample is that it will slightly improve the coefficient of variation on the national unemployment level, from about 1.9 percent to about 1.8 per-

cent, assuming an unemployment rate of 6 percent. (The coefficient of variation, or CV, is defined as the standard error of the estimate divided by the estimate, expressed as a percentage.) The relatively small improvement reflects the allocation of the additional sample to less populous States that have a smaller impact on the national coefficient of variation. A simple across-the-board proportional increase in State sample sizes would have resulted in a larger drop in the CV at the national level.

As shown in table 1, there were only marginal differences in the monthly labor force, employment, and unemployment levels between the two samples. Estimates from both samples were examined for other data series as well, such as occupational employment, full- and part-time employment, and multiple jobholding, and the differences over the January-June period appeared to be insignificant.

Among the major worker groups, labor force estimates from the 50,000- and 60,000-household samples were essentially the same over the January-June period. While differences in the estimates for some population subgroups may appear relatively large, they likely reflect the greater known variance associated with estimates for these groups, such as blacks, Hispanics, and teenagers.

At the national level, previously published monthly labor force estimates for January to June will not be revised, because the differences between the two samples were only minimal. The 2001 annual averages for all labor force series, however, will be calculated using the monthly average (January-December) from the expanded 60,000-household sample.

Effect of the sample expansion on LAUS State estimates

At the State level, the sample expansion was not evenly distributed, but rather concentrated in States (and the District of Columbia) with the least reliable March estimates of children in poverty without health insurance. States were identified for sample supplementation based on the standard error of their March estimate of low-income children without health insurance.

The sample expansion resulted in substantial improvements in the quality of the State CPS data by reducing the coefficient of variation on the monthly and annual average labor force estimates. (See table 2, which provides the current CVs for all States and the resultant CVs for those States

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receiving the additional households.) The SCHIP expansion did not result in systematically higher or lower labor force values across the States.

The monthly State CPS employment and unemployment estimates are not used directly, but instead are inputs to the LAUS estimating models, which provide the "official" estimates of the State levels. For this reason, the impact of the new sample on the model-based estimates also was analyzed. In comparing the old and new estimates, no systematic differences in the levels or in the direction of change were found in either the CPS unemployment rates or the model-based estimates. For the vast majority of monthly comparisons between the old and new State samples, the differences also were not statistically significant. Exceptions included the April unemployment rates for both Colorado and the District of Columbia and the January and March unemployment rates for Connecticut.

While the sample expansion was not designed to reduce error in the unemployment rate estimates, the substantial sample increases in selected States have important implications for the LAUS models. These models are designed to respond to changes in the reliability of the monthly State CPS data. The "noise component" directly incorporates measures of the magnitude (standard deviation) of the CPS sampling error in the estimation process. More reliable CPS data are given more weight in the estimation methodology. When the CPS data are less reliable, the model estimates depend more on historical patterns than on the current monthly CPS data. This property of the LAUS models

allows them to exploit the SCHIP sample immediately. The new, lower CPS standard deviations were fed into the models' noise component, resulting in stronger weighting of the combined-sample CPS in the model-based estimates for the 31 States and the District of Columbia.

States not involved directly in the sample expansion may have small changes in their CPS estimates due to the second-stage ratio adjustment procedure used in the CPS. (For more information, see the "Explanatory Notes and Estimates of Error" section in this issue of *Employment and Earnings*.) Because the national sample estimates change slightly due to the SCHIP-related sample expansion, small adjustments to the sample weights in those States with no sample expansion will be made to ensure conformity to national demographic controls. The impact on the CPS data for these States, and on their model-based estimates, is minimal.

The new sample will be the basis for the July 2001 and June 2001 revised estimates for all States, the District of Columbia, New York City, and Los Angeles-Long Beach. The LAUS additivity process forces sub-State employment and unemployment estimates to equal their respective state-wide totals. Therefore, beginning with July 2001/June 2001 revised data, sub-State estimates will reflect the new sample through the additivity process. The new sample data for all months of 2001 will be used to calculate the 2001 annual average data that will appear in the 2001 *Geographic Profile of Employment and Unemployment* and in the 2001 benchmarking of State and sub-State labor force estimates.