REGIONAL
ECONOMIC
ANALYSIS

Pennsylvania | New Jersey | Delaware

Anticipating Benchmark Revisions of Payroll Employment Estimates in Third District States

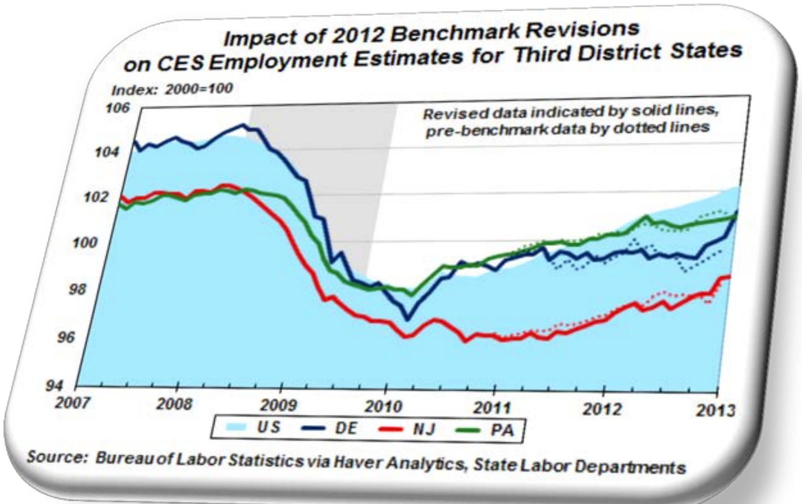
January 29, 2014

The New Benchmarks Are Here! Almost.

In March of each year, the Bureau of Labor Statistics (BLS) releases revised estimates of nonfarm payroll employment for states and metropolitan statistical areas (MSAs) as part of its Current Employment Statistics (CES) program.[1] Last year the revisions revealed greater job growth over 2012 in Delaware and New Jersey, but slightly less growth in Pennsylvania than was originally estimated. As of December 2012, the new benchmark data resulted in an additional 1,100 jobs being added to the Delaware estimate, 18,400 more jobs in New Jersey, and 4,100 fewer jobs in Pennsylvania for the year.

Economists look forward to these benchmark revisions because they more accurately reflect employment trends. At times, the revisions can be substantial, especially for smaller areas and for industrial subsectors of the overall economy.

However, analysts need not wait an entire year for the new benchmark revisions, since much of the underlying data upon which the benchmarks are made are released on an interim basis (with a six-month lag) as part of the Quarterly Census of Employment and Wages (QCEW) program, also known as the ES-202 program.



By carefully monitoring changes in the QCEW data, analysts can anticipate probable benchmark revisions, thereby producing forecasts of monthly CES employment that are more accurate and less volatile than the series itself.

This report launches our new series of Regional Economic Analysis reports, which includes a quarterly series dedicated to monitoring the QCEW, along with other important indicators of regional economic health, such as personal income and state GDP.

Reasons for Benchmark Revisions

The widely reported monthly payroll jobs numbers are generated by a federal–state cooperative program, known as the CES program, which was mentioned earlier. These monthly estimates are

[1] Our analysis of the direction and size of the potential benchmark revisions to total state employment data take into account data and information up to and including the BLS's County Employment and Wages report for the second quarter of 2013 (released on December 18, 2013).

provided for the nation,[2] the states, and designated MSAs.[3] The CES program relies on a monthly nationwide survey of about 145,000 businesses and government agencies representing about 557,000 establishments. The approximate sample sizes for our three states are shown below. These samples are used not only to estimate total employment of states but also for industrial sectors, MSAs, and sectors within MSAs.

CES Sample Size[4]	UI Accounts	Establishments
United States	145,000	557,000
Delaware	1,010	1,710
New Jersey	4,040	13,880
Pennsylvania	4,810	21,410

In contrast, about 9.2 million establishments covered by state and federal unemployment insurance (UI) laws reported counts of employment in the first quarter of 2013. Employment and payrolls for all these establishments are reported as part of the QCEW program. The CES sample represents just 6 percent of the establishments in the QCEW. Several differences between the CES sample estimate and the QCEW's full count prompt the annual rebenchmarking. They include:

- **Sample problems.** In a stratified sample, a single firm experiencing unusual growth or decline can misrepresent a small state, MSA, or sector.
- **Bad seasonal factors.** Small areas and sectors are more susceptible to shifts in seasonal trends from one year to another (e.g., if the start of summer vacation at a large university changes from year to year).
- **Births/deaths of firms.** Sample-based estimates are prone to cyclical bias (i.e., overestimating employment in recessions and underestimating during expansions) because they do not directly account for the births and deaths of firms. The BLS has adopted several sampling and modeling techniques to adjust for cyclicality that work well for the nation.[5]

This year the benchmark revision has an additional change as a result of a one-time reclassification of the industrial sector for certain firms. That impact is described first.

Revisions Due to "Noneconomic Code Changes"

Beginning in January 2013, the QCEW program reclassified many establishments into "services for the elderly and persons with disabilities" (NAICS 62412) that had previously been classified in the "private households" sector (NAICS 814).[6] This reassignment followed a review of firms that provide nonmedical, home-based services for the elderly and persons with disabilities. A reclassification does not suggest a net overall change, but rather employment falls in one sector and rises by a corresponding amount in another sector. An examination of the QCEW between December 2012 and January 2013 reveals just that.

However, under the CES program "private households" are "out of scope," or not included as nonfarm payrolls. Therefore, the reclassification within the QCEW program generates an upward revision to the CES estimates for NAICS 62412 that is not offset by a corresponding drop in any other sectors. According to the BLS, approximately 469,000 employees nationwide were moved out of the private households sector (with no effect on the CES) to NAICS 62412 in January 2013 (the QCEW data are not seasonally adjusted).[7] Prior to the reclassification, there were 792,670 employees

[2] Estimates for the nation are typically released on the first Friday of the following month. National data and other information can be found at http://www.bls.gov/ces/. For more technical details, see http://www.bls.gov/ces/cestn.htm.

[3] State estimates are typically released about 10 working days after the U.S. release; estimates for MSAs are released about seven working days after state estimates. Data and other information for states and MSAs can be found at http://www.bls.gov/sae/. For more technical details, see http://www.bls.gov/ces/cestn.htm.

[4] To view the CES sample by state, as of March 21, 2013, visit http://www.bls.gov/sae/sample.htm.

[5] Mueller, Kirk, "Impact of Business Births and Deaths in the Payroll Survey" *Monthly Labor Review*, May 2006.

[6] NAICS is the North American Industry Classification System.

[7] "CES Preliminary Benchmark Announcement," U.S. Bureau of Labor Statistics, last modified January 10, 2014, http://data.bls.gov/cgi-bin/print.pl/ces/cesprelbmk.htm.

reported in "services for the elderly and persons with disabilities" (NAICS 62412) within the QCEW; 787,200 employees reported within the CES.

Distributed proportionately across all 50 states, this change would engender sizable upward revisions (over 30,000 jobs in Pennsylvania, for example). However, the reclassification did not occur proportionately. Between December 2012 and January 2013, California's employment in NAICS 62412 increased by 365,750 workers — representing nearly 75 percent of the nation's change in employment. It should be noted that the underlying economic change may have been positive or negative; therefore, California's share may be slightly larger or smaller than the actual change implies (the sector grew by 496,560 for the nation, suggesting a small underlying growth nationwide).

After California, the states of Washington, Massachusetts, Missouri, Texas, and Nebraska also had sizable reclassifications in employment in NAICS 62412. In fact, the 10 states with the largest changes accounted for 98.6 percent of the nation's increase. Twelve states saw employment fall in that sector over the month. Delaware, New Jersey, and Pennsylvania had very small gains of 690 jobs, 1,340 jobs, and 540 jobs, respectively. These gains may not be the result of the reclassification, as normal monthly fluctuations in this series could explain these small changes.

When the benchmark revisions are released in February (for the nation; March for individual states), these additional employees will become part of the nonfarm payroll employment that had been reported as an upward shift in the CES program. However, the level shift will not result in additional job growth over the period. In fact, a downward benchmark revision of approximately 124,000 jobs is anticipated for the nation after adjusting for the reclassification, or "noneconomic code change."

Now we turn to the key question to ask in advance of the 2013 benchmark revisions: To what extent do the observed employment changes in the QCEW count differ from the reported changes in the CES survey?

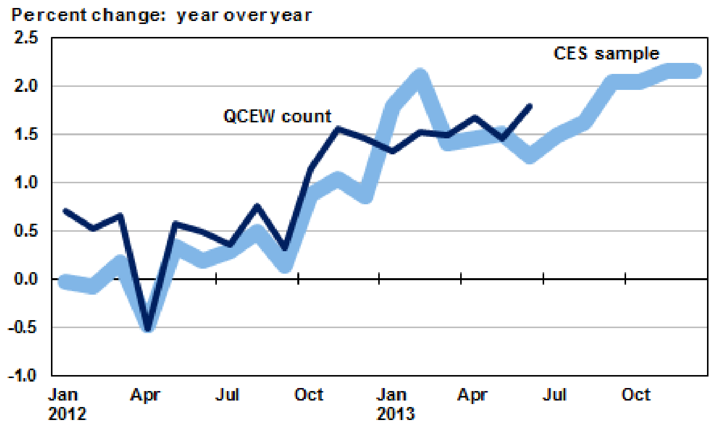
Potential 2013 Benchmark Revisions

In this first report, we draw simple comparisons of payroll jobs numbers from the CES with QCEW counts of total employment through June 2013 to anticipate the size and direction of potential revisions.[8] In subsequent reports, we will present more details on BLS benchmarking methods and employ more sophisticated techniques to assess future revisions. We intend to maintain an ongoing evaluation of the CES data with each quarterly release of QCEW data.

When the 2013 benchmark revisions are made, the BLS should have access to QCEW data through the third quarter. Given the current methodology, the growth path of the CES estimates determines the path of the benchmark revisions after September 2013.

Delaware. Since September 2012 (the final benchmarked month from last year's process), the CES sample estimates for total employment in Delaware have, on average, closely foreshadowed the QCEW job count.

CES vs. QCEW for Delaware



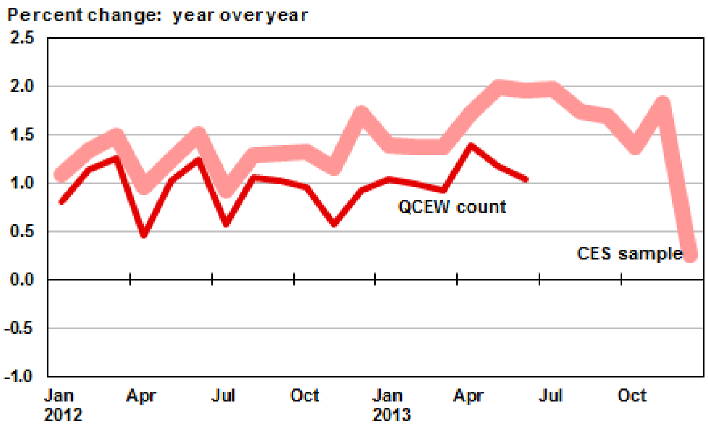
Source: Bureau of Labor Statistics via Haver Analytics, State Labor Departments

[8] The 2012 benchmark replaced CES payroll employment estimates with QCEW employment counts for the months from April 2011 to September 2012. For October 2012 through December 2012, revised estimates were produced by applying rates of change from the sample estimates to the new September 2012 levels. Further adjustments were made with updated birth/death factors. Finally, new seasonal adjustment factors were applied to data from January 2008 through December 2012.

As of June 2013, the QCEW revealed a gain of 7,320 jobs (1.8 percent) since June 2012; the CES reported 5,300 jobs (1.3 percent). Delaware's benchmark revision should be relatively small; given the tight fit, the direction is uncertain but leans toward a small positive increase.

New Jersey. In New Jersey, job growth as measured by the CES sample estimates has regularly outpaced the QCEW measures; the divergence grew wider after September 2012 (the final benchmarked month from last year's process).

CES vs. QCEW for New Jersey



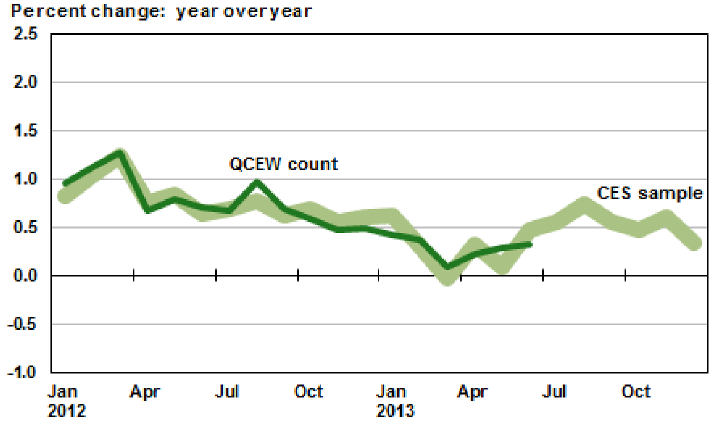
Source: Bureau of Labor Statistics via Haver Analytics, State Labor Departments

From June 2012 to June 2013, New Jersey gained 75,900 jobs (1.9 percent), according to the CES; however, the QCEW reported a significantly smaller addition of 39,980 jobs (1.0 percent). Of our three states, New Jersey is most likely to see a negative benchmark revision, albeit, a modest one.

According to preliminary CES estimates, New Jersey lost jobs from November 2013 to December 2013 (not seasonally adjusted); the state typically adds jobs in December. Barring any new information that would alter the CES's December estimate, New Jersey's revisions will retain the steep December drop.

Pennsylvania. The closest fit between the CES and the QCEW appears in Pennsylvania. There are negligible differences along the entire path from January 2012 through June 2013.

CES vs. QCEW for Pennsylvania



Source: Bureau of Labor Statistics via Haver Analytics, State Labor Departments

As of June 2013, year-over-year job gains of 17,860 (0.3 percent), as reported by the QCEW, offered confirmation of the 26,800 jobs (0.5 percent) reported earlier by the CES. For Pennsylvania, most likely only a very small benchmark revision (in either direction) will occur.

Summary

Each year in anticipation of the benchmark revisions to CES employment estimates, economists begin to speculate on the size and direction of potential revisions. For Third District states, we expect no significant revision for Pennsylvania; a slight positive revision, at most, for Delaware; and a modest downward revision for New Jersey.

Important caveats attach to these expectations.

- First, this analysis was based on QCEW counts through June 2013; the BLS will likely use counts through September 2013, which can significantly alter the employment growth paths.
- Second, this analysis was based solely on the total number of payroll jobs; the BLS methodology takes an approach by replacing CES estimates with QCEW counts (with appropriate modifications) for large sectors, then summing to get a total. Differences within individual sectors are sometimes even greater than the total between the CES and the QCEW; however, the differences between the totals (or aggregate) can often be smaller.

- Finally, additional adjustments, such as the reclassification and the computation of new seasonal factors, add further changes to the final revisions.

The BLS plans to release the 2013 benchmark revisions of state and MSA employment (and its preliminary estimate for January) on March 17; QCEW data for the third quarter of 2013 will be released on March 19. Our next report on this topic (slated for April) will contain an analysis of the benchmark revisions by state and by major industrial sectors within the states. The analysis will take a step beyond the simple approach presented here and will offer a more detailed look at how the benchmark revisions are made.

References and Suggested Reading

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