

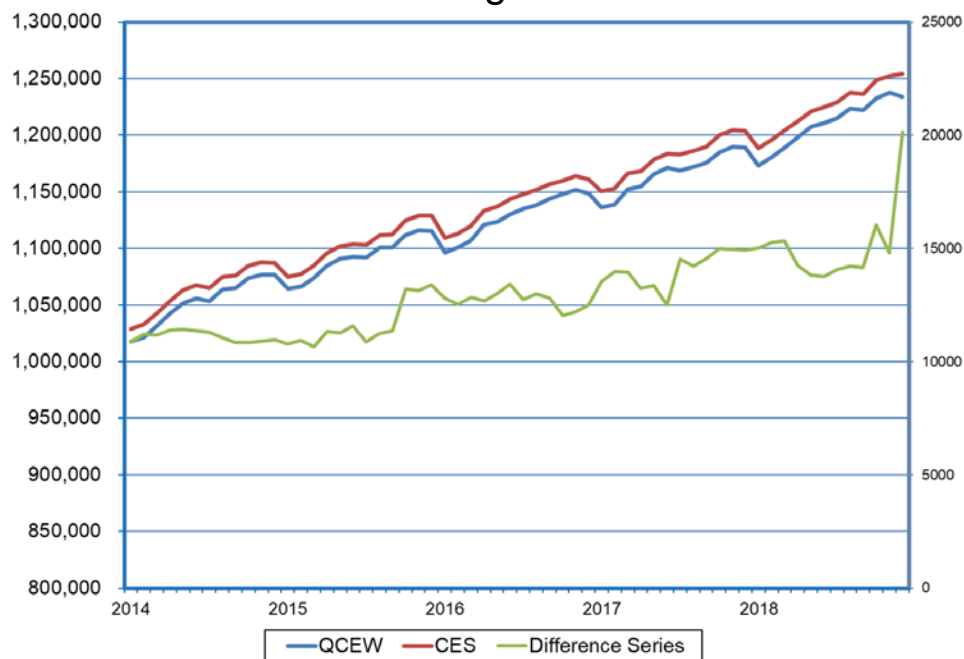
# Research Notes



QCEW vs. CES Employment Estimates  
Jason Gortari, Economist and Tim Wilcox, Economist

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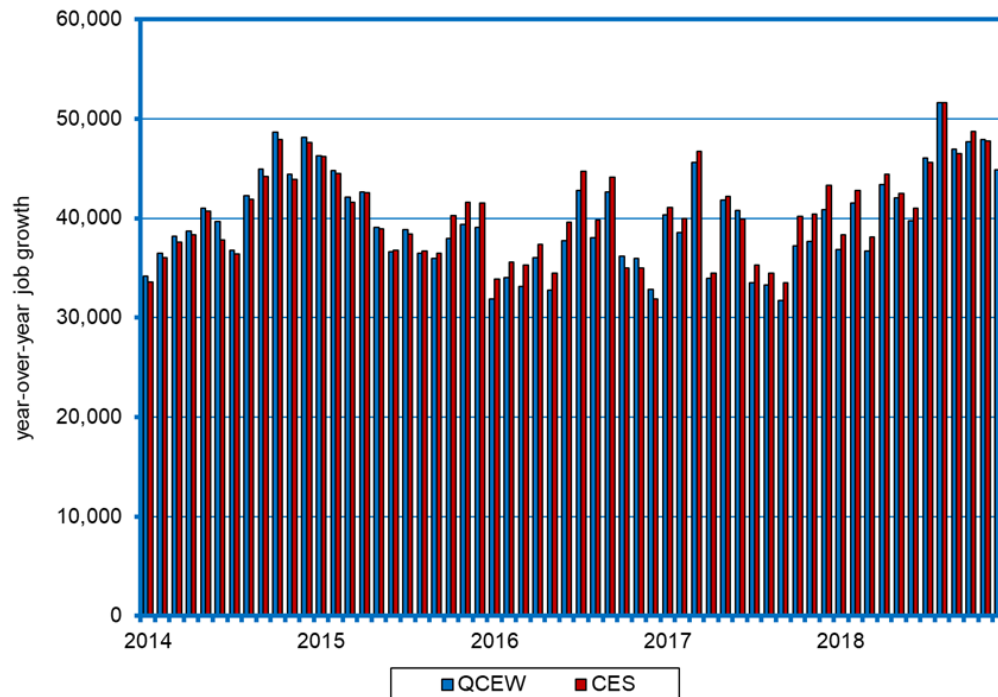
## CES Job Estimates Higher Than QCEW Trends



- This research note will focus on the difference between two data series used by the Research and Analysis Bureau; Quarterly Census of Employment and Wages (QCEW) and Current Employment Statistics (CES).
- The Quarterly Census of Employment and Wages (QCEW) Program publishes the most accurate, albeit less-timely, measure of jobs. QCEW monthly employment counts are released six months after the end of the quarter. It represents a comprehensive count of employment based on information reported by all businesses covered under the Unemployment Insurance System, but is not available until several months following the end of a calendar quarter. As such, QCEW is the principal source of benchmark data for the more timely Current Employment Statistics (CES) monthly estimates--which are revised at the end of every calendar year. CES monthly employment estimates are released the following month after collection.
- CES employment estimates are derived from a sample of roughly 2,400 monthly surveys in the State, and are subject to sizable volatility in estimates due to sampling and non-sampling errors. QCEW employment counts are derived from a census which produces a higher level of accuracy and eliminates the possibility of estimation and sampling errors.
- CES employment estimates across various industries tend to vary (higher or lower) from QCEW's throughout the year. The variation between the CES and QCEW employment series can be explained by the different structures of each program. For example, QCEW does not count the self-employed whereas CES does. Additionally, CES does not take agricultural employment into account in its estimation model amongst other differences. Although most of these differences have been adjusted for, there is still some residual differences in definition that result in slight variation between the series.

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- In 2018 both the CES and QCEW series turned in strong performances in average employment growth over the year. Although both series have demonstrated strong growth. CES appears to have been estimating slightly on the optimistic side, resulting in higher average growth estimates than QCEW.
- While CES estimates did not surpass QCEW for every aggregate group, there were some notable ones. The specific industries where growth, as measured by CES estimates, has exceeded QCEW by the greatest amount were Professional and Scientific Services, Educational Services, and Construction.
- In 2018, average total employment growth over the year in QCEW is around 43,800 while CES is around 44,800. The largest difference in employment between CES and QCEW was seen in December. Low response rates in the CES December sample likely caused employment to be estimated on the high end of the range that month. CES employment in industries that exceeded QCEW counts the greatest were subject to the largest amounts of sampling volatility. By removing the month of December, the total average over the year employment difference between CES and QCEW reduces in half.
- The CES program calculates employment as a weighted average of employment estimates using the combination of sample data and a forecast of employment using QCEW historical data. During the year of 2018, CES employment forecasts slightly exceeded QCEW employment resulting in CES estimates realizing strong performances in average employment growth over the year in multiple industries. As a result, minor revisions downward are expected during the 2019 year-end CES benchmarking process to accommodate for over estimation.

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