

Measuring Data Quality in the BLS Business Register: A Local Regression Model Approach

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Motivation

- QCEW program experienced an overall budget cut of \$4.4 million in fiscal year 2014
- This reduction brought the inflation adjusted QCEW funding allocated to states to the lowest level in over a decade
- The purpose of this paper was to examine the effects of the budget cut on QCEW data quality



Methodology

- In order to measure the effects of the budget cut, a number of sources were examined
 - ▶ Changes in QCEW Flash Report metrics
 - ▶ Size of revisions in the published QCEW data
 - ▶ Results from a survey of state stakeholders



Methodology Cont'd

- Employed a local regression method to fit a smooth curve through time, across the selected Flash Report metrics
- Local regression was selected in an effort to smooth out the trend in data quality measures by using time as an independent variable
- The smoothed, fitted plots reveal even the smallest movement in data quality over time

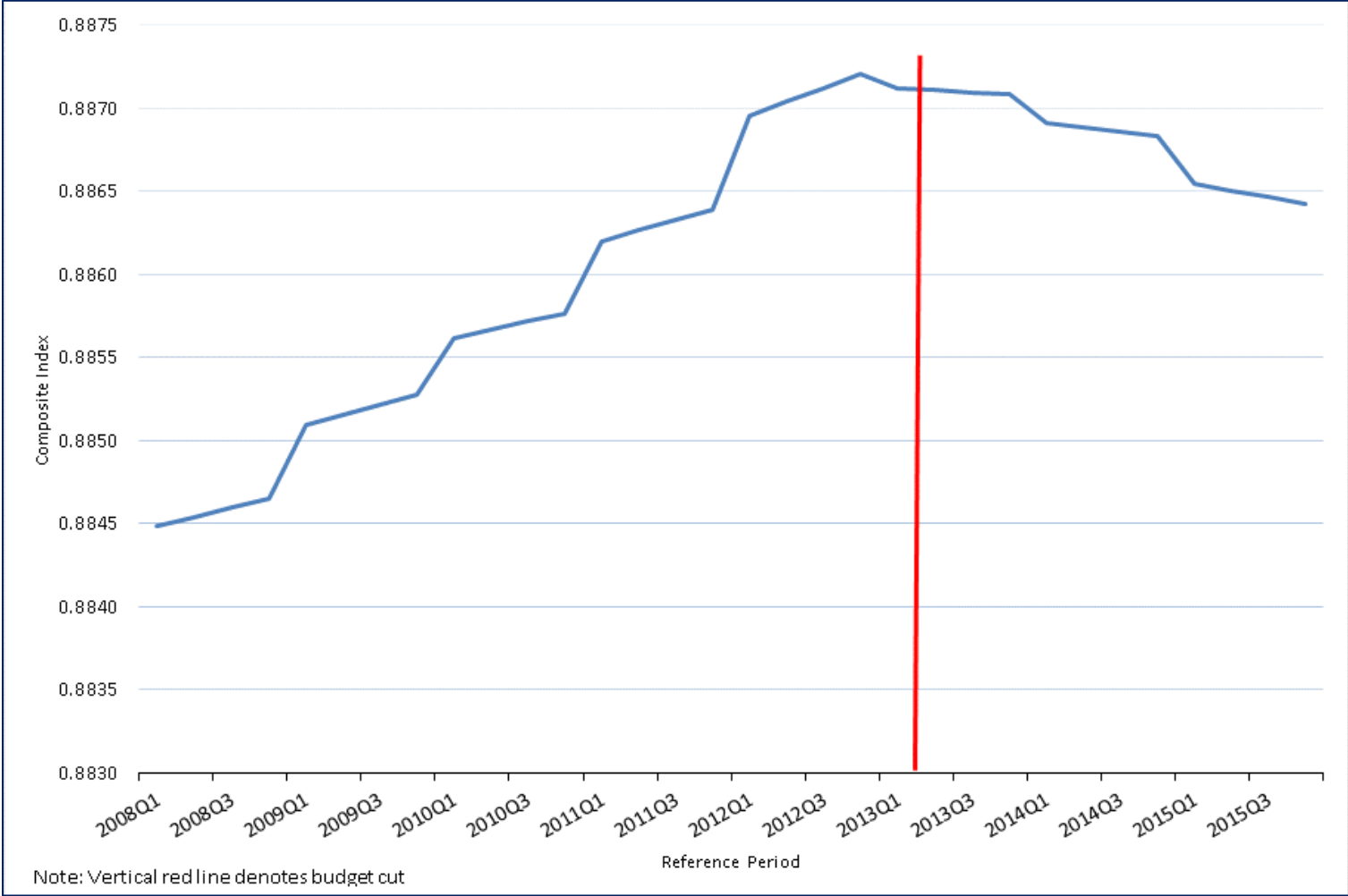


Findings

The general level of quality, which was on the rise prior to the budget cut, has been on a downward trend since then



Small, but noticeable decline in data quality



Findings

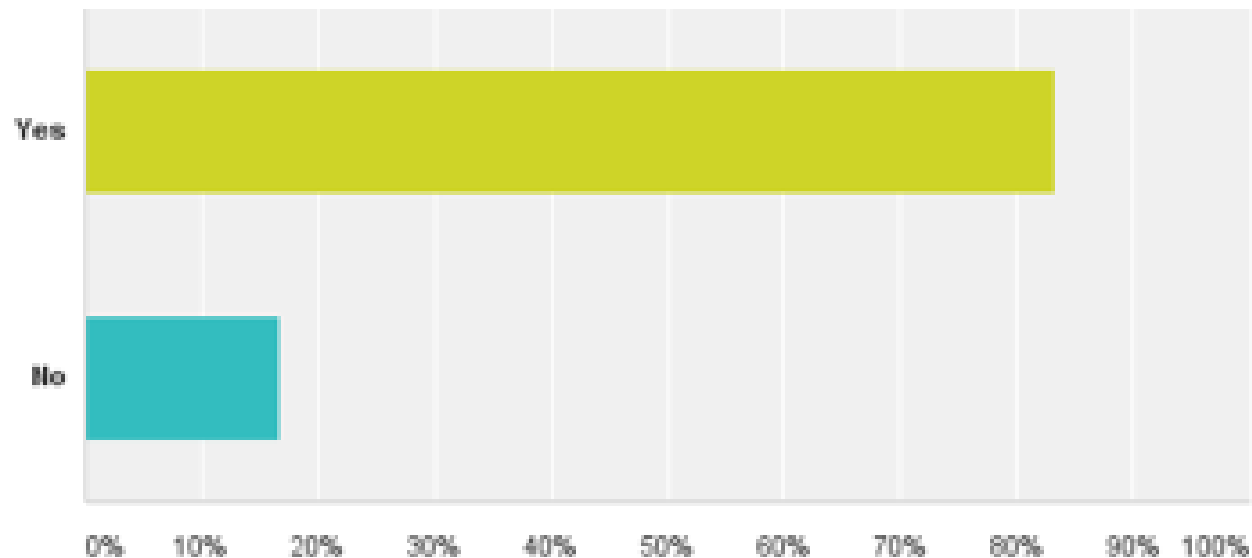
- Declines were evident at the regional level as well as the national level
- When broken down by size, declines in data quality are evident across small, medium, and large states
- QCEW revisions remained fairly consistent over the examined time period



Findings

Q1: Do you think the reduced level of funding has affected QCEW data quality in your state?

Answered: 42 Skipped: 0



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Conclusion

- Concerns exist about long-term data quality and most states indicate they have already seen negative impacts associated with the QCEW budget cut.
- The 2014 budget cut may result in some future, yet unknown, degradation to QCEW data quality.



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