Quarterly Workforce Indicators:
Data Notices

Local Employment Dynamics

United States Census Bureau

QWI20140106

Background

Data Notices

The Longitudinal Employer-Household Dynamics (LEHD) program is continually working to improve and refine the Quarterly Workforce Indicators (QWI). This Data Notices document provides information to users on important updates to QWI data and specific data issues that affect certain states. General data issues that affect the QWI are posted at the top of the document; further below, state-specific notices highlight major data features or issues that affect individual states. These Data Notices are designed to inform users of large-scale updates and issues, and this document will be revised as processes are improved or new data quality issues are uncovered.

The Quarterly Workforce Indicators

The Quarterly Workforce Indicators (QWI) is an innovative data product that provides detailed local labor market statistics by industry, worker demographics and employer characteristics. By using unique job-level data that link workers to their employers, labor market data in the QWI is available by worker age, sex, educational attainment, race, and ethnicity. This allows for many interesting analyses – for instance, users can identify and study industries with aging workforces. Further, links between workers and firms allow the QWI to identify worker flows – including hires, separations, and turnover. Data on worker flows enables researchers to examine which industries are hiring workers and the characteristics of new hires. QWI is a powerful tool for understanding trends and dynamics in local labor markets.

The source data for the QWI is the Longitudinal Employer-Household Dynamics (LEHD) linked employer-employee microdata. The LEHD data is massive longitudinal database covering over 95% of U.S. private sector jobs. Much of this data is collected via a unique federal-state data sharing collaboration, the Local Employment Dynamics (LED) partnership. LED is a cooperative venture between the LEHD program at the U.S. Census Bureau and state agencies of all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. By integrating data used to administer public programs with existing records and surveys, a new national jobs database is generated at very low cost and with no additional respondent burden. More information on the QWI can be found here: http://lehd.ces.census.gov/doc/QWI_101.pdf.

Important Note on Quarterly Recalculations

The complete QWI time series is updated with every quarterly data release. Measures across the time series may change between releases for a number of reasons, including:
- raw data inputs are updated;
- algorithms to develop estimates are revised;
- random draws that are used to generate missing data may change.

Regular users should be aware that fluctuations may be observed in historic data, and we generally advise that users do not combine data from different QWI releases .

General Notices

October 2013 (R2013Q4)

Residential Address Revisions
The methodology for identifying worker residence information has been modified this quarter to further improve the correspondence to the place of work (this is a follow-up to the enhancement made in 2012Q3). Residence information is used as an input to the unit-to-worker (U2W) process, which imputes establishments to jobs at multi-establishment firms. These improvements may result in some shifts in the reported employment within states.

Employment Shifts in NAICS 6241 and 8141 (home-based services)
Beginning with 2013Q1 data, the Bureau of Labor Statistics (BLS) has implemented a nationwide administrative change in coding establishments that provide non-medical, home-based services for the elderly and people with disabilities (see http://www.bls.gov/news.release/cewbd.nr0.htm). To better classify such establishments, many states have switched such coding schemes from NAICS 814110 - Private Households, to NAICS 624120 - Services for the Elderly and Persons with Disabilities. This change has had a corresponding impact on the QWI. Users should generally expect to see an increase in NAICS 6241 jobs, coupled with a decrease in NAICS 8141 jobs. Employment shifts between 2012Q4 and 2013Q1 are particularly prominent in Florida, Kansas, Missouri, Nebraska, Oklahoma, Rhode Island, Texas, and Utah.

States not included in R2013Q4
The following states were not available for QWI production in this cycle because of delays in provision of input files or issues with input data received from Census state partners:

- California
- New Jersey
- New Mexico
- Wyoming
- Massachusetts, Puerto Rico, Virgin Islands *(experimental production, pending initial release)*

July 2013 (R2013Q3)

Geocode Revisions
The Geocoded Address List (GAL) is the process that adds and updates geographic information to administrative data during the production of QWI data. In 2013, LEHD updated its GAL processing. The new GAL process reduces geographic reporting errors based on its improved resolution and processing of address data, improved geographic confidence and certainty, and updated data structure. These geographic improvements may lead to shifts in the intrastate distribution of employment, such as county-level employment totals.

QWI Time Series Adjustments

A general review of the QWI data series identified several states and quarters that contained significant data quality issues, primarily related to unemployment insurance wage record reporting in the earlier part of the time series. As these data do not meet current quality standards, QWI time series for the following states will begin in the quarter noted:

- Florida: 1997Q4
- Illinois: 1993Q2
- Virginia: 1998Q3

Research in-progress on data imputation methodologies may permit QWI release of expanded time series in a future quarter.

States not included in R2013Q3

The following states were skipped in this production cycle because of delays in provision of input files or issues with input data received from Census state partners:

- Louisiana
- New Mexico
- California
- Massachusetts, Puerto Rico, Virgin Islands (experimental production, pending initial release)

July 2012 (R2012Q3)

Improvement to Longitudinal Residential Address

LEHD has incorporated an improvement to the residential address data used to impute place of work to jobs, as part of the unit-to-worker (U2W) process. The expanded address data should generally improve the accuracy of employment estimates for multi-establishment firms. Users may observe some shifts in the geographic distribution of employment within states.

January 2012 (R2012Q1)

Worker-Establishment Assignment

In processing the QWI, an imputation method is used to impute establishments to jobs at multi-establishment firms. This process, referred to as unit-to-worker (or U2W), was found to have difficulty processing data for firms that experience significant changes in establishment structure. In response, the U2W process has been revised to improve processing and create more reliable estimates. This may result in some shifts in the geographic distribution of employment within states.

October 2008 (R2008Q4)

Successor-Predecessor Adjustment, Calculation of Average Earnings for Full Quarter Separations

The methodology for adjusting employment flows for successor-predecessor transitions has been improved, which has had the greatest impact on the calculation of full quarter employment flows. In addition, we have corrected an error in the calculation of average earnings from full quarter separations. All current and historical QWI have been adjusted. For more information on this update, please visit: http://lehd.ces.census.gov/doc/QWI_Update_081020.pdf .

State-Specific Notices

California

Public sector worker reporting
A large share of public sector workers are not reported prior to 2000. This reporting change has a particular impact on the education, health care, and public administration industries (NAICS 61, 62, 92).

Industry reporting
We have noted issues with the 1997-2002 transition of NAICS codes for several sectors, especially NAICS sector 55 (Management of Companies), resulting in large fluctuations in employment estimates during this period. Researchers are currently investigating methods to develop estimates with improved consistency.

Delaware
A legislative change in Delaware brought a large number of nonprofit firms into the UI system. As the universe of QWI is UI-covered employment, this change increased the universe of workers in Delaware's QWI by a significant margin, particularly in the health care and education sectors, starting in 2004Q2.

Hawaii
A large portion of public sector workers are not included in the data for the entire time series.

Iowa
There are unusual shifts in the firm age time series between 2008 and 20012, particularly in the youngest and oldest firms. We are researching the inconsistences in the longitudinal assignment of firm age, and expect to have a corrected time series in a later release.

Missouri
There is an unusually high mismatch rate between firm identifiers on the unemployment insurance wage records and corresponding employers in the QCEW. This results in higher imputations in industry and geography for jobs that cannot be matched to employer records. While the mismatch is not sufficiently severe to preclude publication of the data, users should be aware of the issue. Research staff are currently investigating edits to improve the match rate across the job and employer data.

Mississippi
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