

Jobs and Earnings by Industry and Gender Data Sources and Limitations

Background

Starting with the first quarter of 2016, The Vermont Department of Labor is publishing a new data product: Earnings and Jobs by Gender. This data is based on quarterly wage records and will be published concurrent with publication of each Quarterly Census of Employment and Wages (QCEW) report. Quarterly historical data from 2005 forward is also available. All historical data is subject to revision.

A wage record is a mandatory report of persons being employed by a firm under the Unemployment Insurance (UI) program. Wage records are submitted quarterly and contain total wages paid to each employee during the quarter as well as the gender of the employee. Because firms are organized by Unemployment Insurance account number, results are organized at the firm level. For firms with multiple individual establishments employment is recorded at the firm's primary location and in the industry of that location's primary business activity.

The Economic & Labor Market Information Division will publish this data aggregated by industry sector and gender. This will replace the "female counts" in our Quarterly Census of Employment and Wages publication. The QCEW program has ceased publishing data specific to female counts. The following section provides additional detail about wage records and explains some important conceptual differences between QCEW employment counts and wage records.

This change is being made to improve gender-related data quality. The use of wage records creates opportunities for more aggregate analysis into research topics such as multiple job holders, tenure and career paths. Wage record counts are also far more efficient to process, thereby relieving our staff of a significant data production burden.

Differences in Employment Concepts and Data Collected

QCEW employment counts are a census of all employment covered by unemployment insurance (UI) during the reference week of a given month, typically the week that includes the 12th. That data is published as monthly counts and quarterly averages. Female counts are only collected for the final month of each quarter. That information is used to produce quarterly and annual female count estimates

Aggregated wage records provide a count of individuals employed by a firm and covered by UI during the referenced quarter. Each instance of a person being employed by a firm creates a single count of employment regardless of the length or dates of that employment. A person who works at more than one firm over the course of a quarter will create more than one wage record. Wage records contain a gender field. In the past two years over 99% of all records included a reported gender.

This distinction is important to understanding a comparison of the data each produces. An example might better demonstrate the conceptual difference: A firm hires a different person each month for two months during a quarter to complete a one-week project. Those two hirings coincide with the QCEW reference week. The monthly QCEW data would report this as 1 job in each of two months during the quarter. Quarterly QCEW data would report this as .66 average employment over the quarter. The wage record analysis would report this as 2 employment instances over the quarter.

In addition, any employment that does not extend over a period of time including a QCEW reference week will not appear as employment in QCEW, whereas the same would appear as an employment instance in a wage records analysis. A person hired for a short-term project during the last week of a month would be reported as one count of employment in wage records and zero counts of employment in QCEW. A person hired by the same firm for two separate projects on two separate occasions over a quarter would be reflected as one count in wage records; if the firm had instead hired a different person for each occasion it would be reflected as two counts in wage records.

The net effect of these differences is that wage records produce larger absolute counts.

Comparison of Results

While the counts are larger in wage records, the share of employment held by females is similar using both methods. Using first quarter 2015 as a representative example we find that the share held by females is 51.2% in wage records and 50.6% in QCEW. Reviewing the data by industry, most industries show a discrepancy of three percentage points or less and the largest three industries show discrepancies of two percentage points or less.

Limitations and Known Issues

Unidentified Gender

A small portion of wage records do not record gender. In the most recent four years this accounted for less than one percent of all records. This is a significant improvement from a decade ago when approximately nine percent of all records failed to record gender. Records that do not include gender are currently removed from any analysis.

We reduce the number of records with unidentified genders by comparing identifiable information across quarters and worksites.

Zero-Wage Records

Each quarter, a few dozen records indicate total wages of zero. These records are excluded.

Seasonal Factors

No attempt is made to seasonally adjust wage record data. As with QCEW, the data is collected and published without regard to expected seasonal movements.

For questions and more information, please contact:

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