



Intuit Small Business Employment Index

White Paper

September 2010

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ABOUT THE INDEX

The Intuit Small Business Employment Index is a measure of small business employment, based on aggregated and anonymous payroll data that represents data from approximately more than 57,000 of Intuit's Online Payroll customers with fewer than 20 employees.

The Index was developed to help fill a critical gap in the reporting of economic data about small business employment. The Bureau of Labor Statistics (BLS) reports aggregate employment data gathered from the household and establishment surveys each month in its *National Employment Situation Report*. This report does not break out specific small business employment data. The Intuit Small Business Employment Index does.

In addition, the Intuit data is read directly from Online Payroll records, and does not depend on someone transcribing payroll data onto a survey form. An added advantage of the *Intuit Small Business Employment Index* data is that because it is electronically generated, it is available sooner than other employment indices.

Supplementary data is also included to provide a more comprehensive view of small business employment, particularly in the areas of hours worked and total employee compensation. Since August 2010, the Index has also included a geographic view showing the most recent monthly percentage change in small business employment for several states and all nine census divisions.

Index Publication Schedule

Generally, the *Intuit Small Business Employment Index* will be released at the beginning of each month, reporting on the employment trends of the prior month. Each release will represent a full month of data, from the 24th of the previous calendar month to the 23rd of the current calendar month. This data will be extracted on the 24th of the current calendar month.

BACKGROUND

According to the Bureau of Labor Statistics, small businesses with fewer than 20 employees continue to be the largest set of employers in the United States. As of 2009, these small business employers equaled 4.3 million employer firms or 87 percent of the

total U.S. employer base. They employ approximately 20 million people, nearly 19 percent of all persons employed in the U.S.¹

It's therefore clear that these smallest of small businesses have a large impact on the economy. However, there is still a critical gap in the timely reporting of economic data about small business employment. The BLS reports aggregate employment data each month in its National Employment Situation Report, but this report does not break out specific small business employment data. The Quarterly Census of Employment and Wages does report small business employment annually, but with a long lag—that data is available about nine months after the end of the year.

To fill the gap in a lack of timely small business employment reporting, Intuit created the *Small Business Employment Index*. It is designed to provide statistically-sound insight into small business employment trends and behavior and show how these small businesses play a key role in the economy that is different in interesting ways from that of larger businesses. Because the Index is created with online data from Intuit Online Payroll, it is available close to real time at the beginning of each month, faster than most other employment indices.

WHAT THE INDEX MEASURES

The *Intuit Small Business Employment Index* is a set of three, related measures, all tracking relevant changes in national small business employment data. Each is reported as a seasonally adjusted trend and is based on a set of approximately more than 57,000 small businesses. Unlike survey data, the Intuit Online Payroll data is electronically generated from payroll records in near real-time.

The *Small Business Employment Index* is the flagship index, as it provides a top-level view of change in employment at small businesses. The other two measures shed light into other aspects of small business employment: hours worked and monthly total compensation per employee. Together, they give a rich view of small business employment activity on a monthly basis.

- **Small Business Employment Index** represents the monthly level of employment in small businesses.
- **Small Business Employee Hours Worked** represents the level in monthly hours worked per employee (utilization) in small businesses.

¹ Bureau of Labor Statistics 2009 Data on U.S. Private Sector Firms

- **Small Business Employee Hours Compensation** represents the monthly levels of compensation per employee in small business.

METHODOLOGY

All three measures are reported as seasonally-adjusted trends.

Small Business Employment Index

The Employment Index data is constructed to reflect employment activity in small businesses, after controlling for the changes in the composition of the Intuit Online Payroll customer base.

The percent change is measured monthly using the change in employment for extant (or existing) Intuit Online Payroll customers from one month to the next. The set of customers changes each month (the data set has roughly four times as many customers as it did four years ago), so the measurement is the change, for each pair of months, for customers who are present in both the earlier and the later month. The percentage changes in employment thus reflect the conditions of the economy, not the conditions of Intuit Online Payroll itself.

The current trend is as follows: Employment for Intuit Online Payroll customers is growing much faster than employment at the average small business. Moreover, employment at the average small business is growing more slowly than employment at large businesses. Thus, we adjust the series of changes in employment with Intuit Online Payroll customers by regressing these changes on national employment changes and subtracting a constant; thereby, controlling for the supernormal growth at these businesses. This leaves us with a series that reflects the fluctuations in employment with Intuit Online Payroll customers and isolates the macroeconomic piece of their fluctuations.

The resulting series is then adjusted for seasonality and reported as a trend. The seasonal adjustment and trend calculations are done using X-12 ARIMA (auto-regressive integrated moving average), software developed and maintained by the U.S. Census. The Intuit data for employment changes exhibits strong seasonal effects very similar to those seen in non-farm national employment data. Particularly, there is a sharp drop in employment each January (roughly 2 percent), rising employment through the spring, and another drop, though not quite as sharp, in late summer.

For the geographic view of employment changes, the Index offers data by division and state. For the division view, the data reflects the change in small business employment

across the U.S. according to the nine U.S. Census Divisions. It's based on aggregate and anonymous payroll data from approximately more than 57,000 small business employers who use Intuit Online Payroll. The month-to-month changes are seasonally-adjusted and informative about the overall economy.

For the state view, the data measures the change in small business employment for the states in which Intuit Online Payroll has more than 1,000 small business firms represented. The month-to-month changes are seasonally-adjusted and informative about the overall economy

Small Business Employee Hours Worked

For the hours per employee series, we divide total monthly hours for hourly employees by the total number of such employees. This series has a clear relation to the economy overall.

Small Business Employee Hours Compensation

For monthly compensation per employee, we divide the total compensation for all employees, including the business owners themselves, by the number of employees. The result is not adjusted for inflation. Again, this series has a clear relation to overall economic activity.

RELATIONSHIP TO BUREAU OF LABOR STATISTICS

Quoting from the BLS web site, the establishment survey that is used in their monthly Employment Situation Report provides, “information on the employment, hours, and earnings of workers on nonfarm payrolls.... The sample includes about 160,000 businesses and government agencies covering approximately 400,000 individual worksites.” By way of comparison, the Intuit data includes approximately more than 57,000 businesses, all of which have fewer than 20 employees.

While the Intuit data is not a random sample of small businesses, it is notably different from the BLS survey data. In particular, the data is read directly from electronic payroll records and does not depend on someone transcribing payroll data onto a survey form or reporting over the phone. An added advantage of the Intuit data is that because it is electronically generated, it is available sooner after the conclusion of a month than BLS data and provides valuable insight into BLS data.

ABOUT THE ECONOMIST

The *Intuit Small Business Employment Index* has been constructed from Intuit payroll data by nationally-recognized financial economist, Susan Woodward.

Susan Woodward is the founder of Sand Hill Econometrics, which publishes the Sand Hill Index, an index of value for venture-capital-funded companies. She has licensed this index to Dow Jones, which began publishing it as the Dow Jones Index of Venture Capital in the fall of 2009. Sand Hill Econometrics also provides measurement of risk and performance for alternative assets to institutional investors.

Woodward has a Ph.D. in Financial Economics from UCLA. She taught finance for the first ten years of her career. She then served 10 years (1985-1995) in the government in Washington D.C., including four years as chief economist at U.S. Department of Housing and Urban Development, and four years as chief economist at the U.S. Securities and Exchange Commission. She now lives in Menlo Park, California, and works on issues in both mortgage lending and securities.

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