

Measuring Job Creation

The job situation is moving to the forefront of economic issues in this election year, yet data from the government's two major surveys paint completely different pictures of employment. The Household Survey suggests that a weak job recovery is in progress while the Payroll Survey indicates almost no job recovery at all.

After looking at the design of the reports, we conclude that the Household Survey's estimate of job creation is unreliable and that the Payroll Survey captures underlying trends more precisely. We also find that the Payroll Survey trends are corroborated by a larger, more detailed study that counts over 90% of the workforce.

Two Surveys and a Problem

A controversy has erupted over the two monthly labor surveys prepared by the Bureau of Labor Statistics (BLS). One of these, the Household Survey (officially called the Current Population Survey), provides numerous employment statistics about the working age population, including the closely-watched unemployment rate; its data is compiled from about 60,000 individual households.

The other, the Payroll Survey (officially called the Current Employment Statistics or the Establishment Survey), estimates the number of jobs gained or lost in the last month; its data comes from about 400,000 business establishments. In other words, the Household Survey collects data from the workforce population while the Payroll Survey collects data from the employer population.

Here's the problem: measured from the official end of the recession in November 2001, the Household Survey suggests a significant increase in jobs while the Establishment Survey shows a significant decrease. Specifically, the Household Survey's estimate of the number of people employed at the end of 2003 is about 1.3 million more than at the end of 2002. However, adding up the Establishment Survey's monthly estimate of jobs

gained or lost during 2003 shows over 300,000 jobs lost. If we include all of 2002, the difference grows to over three million jobs. They both can't be right.

The Right Survey for the Job

Since both surveys can't be right, we need to find which one is more accurate. First we will look at what each survey tries to measure and how it does this. Then we will look at how survey data is built up into estimates about the much larger workforce population.

Each survey gathers its data from different sources and classifies it in different ways. The Household Survey interviews households to classify the workforce along age, work status (employed, unemployed, looking for work, etc.), gender, race, and ethnic lines. Its goal is to measure the proportion of the population which falls into these various categories.

The Payroll Survey, on the other hand, counts workers on the payrolls of many different industries and in many different locations. The Household Survey estimates the percentage of the workforce that falls into various categories while the Payroll Survey estimates the number of people that work in various industries.

Each of the surveys also extrapolates its monthly sample data to the whole workforce, resulting in the Household Survey's estimate of the unemployment rate and the Payroll Survey's estimate of jobs gained or lost. To do this, each survey needs a stable reference point (called a benchmark). As a reference point, the Payroll Survey has an annual count of almost all (98%) payroll employees, while the Household Survey has the Census Bureau estimates of the U.S. Population.

The statistical techniques that each survey uses are not controversial so the real issue becomes the benchmark. Of the two, the Payroll Survey has the better benchmarking process, getting new data each year. The Household Survey, on the other hand, has serious benchmarking issues caused by the Census Bureau's revision process. In the next section, we will look at how these distortions occur.

The Weakest Link

Because the census data is subject to continuous, large-scale revisions, it becomes the weakest link in the Household Survey. Revisions are based on factors such as: the 10 year census, yearly adjustments for births and deaths, and estimates of net immigration. Unfortunately, the Census Bureau simply lumps into one month the net increase or decrease in estimated population, without smoothing that revision over the time period affected.

For example, in January 2003, the Census Bureau added about one million people to the population; of this million, the Household Survey allocated 600,000 to the employed category. The Census Bureau has merely revised its previous estimate of the population and, as a result, the Household Survey has to portion out the change to the categories used in the Survey. This does not mean that 600,000 new jobs were created in one month any more than it means one million people were created in that month.

The BLS itself is well aware that Census revisions create discontinuities in the number of people that are classified as employed, etc.. The tables in the Household Survey carry a footnote stating that comparisons of data before and after any revision are not comparable. In spite of this, the BLS and others have tried to modify the Survey data to make it more like the Payroll Survey. However, no one has yet successfully squared this circle. The most recent attempt was not a great success: it brought the difference down to about 1 million jobs. Yet the exercise of adjusting one survey to match it better with another is pointless when the surveys are designed for quite different purposes.

Estimating the Number of Self-Employed

One area covered in the Household Survey but not in the Payroll Survey is self-employment. This is important because some analysts argue that rapidly growing self-employment explains the big increase in job creation that the Household Survey seems to imply. It is possible that self-employment has grown quite a bit since companies use more independent contractors than in the past.

However, the jump in the number of self-employed would have to be very large to reconcile estimates of job creation between the Household and Payroll Surveys (1.5 million jobs for 2003). The self-employed are such a small percentage of the workforce that even a small shift would be evident in the statistics. But we see no sign of that. The percentage of nonagricultural self-employed workers was 6.91% in January 2003 and 6.96% in December 2003 - a meaningless difference.

Other Evidence

We can see that the Household Survey does not really track job gains or losses over time because of its dependence on the Census estimates. On the other hand, how can we know that the Payroll Survey is on the right track? To do so we need a study which monitors a much larger portion of the workforce, and does so on a regular basis.

Fortunately, the BLS has such a program, the Business Employment Dynamics data series, or BED. Gathering and collating the information for such a large survey takes many months and the latest data extend only through the end of June 2003. But the advantage is that the data is quite extensive: it covers about 6.4 million business

locations, compared to 400,000 in the Payroll Survey. Most importantly, the survey results are not an estimate but a true count of jobs at the business locations surveyed. The BED survey does, in fact, confirm the Payroll Survey results: persistent weakness in the labor market as well as the approximate size of estimated job losses for 2002 and the first half of 2003.

The BED shows approximately 1 million jobs lost over this time while the Payroll Survey shows approximately 800,000 jobs lost. The survey results are similar despite each having somewhat different methodologies and employer coverage (though both look at payroll data). The fact that the BED survey confirms the trend in the Payroll Survey data give us confidence that the Payroll Survey has captured the underlying trend in job creation over the last several years. It also strengthens the view that estimates of job creation extracted from the Household Survey are unreliable.