Employment Surveys Are Telling the Same (Sad) Story

By Mark Schweitzer and Guhan Venkatu

Two government surveys are used to gather information about employment in the U.S. economy, but the employment levels calculated from the surveys seem to provide conflicting pictures of the labor market. The surveys are very different, but when the differences are taken into account and the survey results are compared with their respective business-cycle patterns, the conflict disappears.

By most measures, the labor market has not performed as well as would be expected at this point in a recovery. But the degree to which the labor market has underperformed is a matter of some debate, and one's opinion seems to depend on which of the two major government employment surveys one uses.

One survey—the household survey—assesses the employment picture by asking individuals about their current job status. The other—the establishment survey—comes at the question from the perspective of employers, asking them about the number of people they currently employ.

Some observers have suggested that the household survey may be providing more reliable estimates of employment patterns. Late last year, economist Alan Meltzer observed that, "While … most analysts continue to discuss the loss of millions of manufacturing jobs since the Bush Administration took office, the Labor Department household survey shows such claims to be either wrong or greatly exaggerated."

Other observers, however, believe that the establishment survey provides the most accurate estimates of employment patterns. In his testimony before Congress in February of this year, Federal Reserve Chairman Alan Greenspan noted that, "Having looked at both sets of data … it's our judgment that as much as we would like the household data to be the more accurate, regrettably that turns out not to be the case."

In this *Economic Commentary*, we argue that both the household and establishment surveys, if used appropriately, paint essentially the same qualitative picture of labor market performance during this recovery. Specifically, we believe that both surveys show that employment has performed poorly in this recovery relative to the usual post-World War II experience.

Survey Differences

To understand the issues driving this debate, it is necessary to understand broadly the differences in the way the surveys are constructed.

One important way in which the surveys differ is their scope. The household survey (officially known as the Current Population Survey) limits its sample to individuals over the age of 16 in the civilian, noninstitutional population (that is, those not in the military, prisons, or long-term care or nursing-home facilities). The establishment survey (known officially as the Current Employment Survey and often unofficially as the payroll survey), by contrast, surveys a sample of nonagricultural work sites each month. The household survey thus includes agricultural workers, the self-employed, and paid and unpaid family workers, whereas the establishment survey does not.

Sample sizes also differ for the two surveys. The household survey's monthly sample (of individuals in about 60,000 households) constitutes approximately one person for every 3700 people in the population it is attempting to measure and draws its sample so as to be representative of the total population's demographic characteristics. The establishment survey's monthly sample (about 400,000 worksites) covers approximately one-third of all of the workers in the population that it attempts to cover. All firms with 1000 employees or more are required to participate in the survey, as is a sample of firms across all employment sizes. The survey's broad coverage of its target population is a key advantage of its approach.

Revisions to the establishment survey data are made annually; this information includes employment data at approximately 97 percent of the establishments in the total population of establishments. Previous employment estimates are revised according to this nearly complete count of employment at U.S. establishments. By contrast, household survey data are generally not revised retrospectively.

Another difference in the surveys is the way they handle workers who hold more than one job. While those conducting the household survey have asked individuals for years whether they hold multiple jobs, the number of jobs an employed person holds is not incorporated into any of the statistics that are derived from this survey's data. Individuals are either counted as employed or unemployed.

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The establishment survey, on the other hand, counts multiple jobs held by a single individual. Persons on the payroll of more than one establishment during the sample period are counted in each establishment that reports them.

The most frequently cited statistics calculated from the household survey are the unemployment rate and the labor force participation rate. To produce estimates of these statistics and others from the survey for the entire population, the sample data are adjusted using data on the total population provided by the U.S. Census Bureau. The Census Bureau, in its decennial census, provides the official count of the U.S. population, and between censuses it estimates changes to this count. This information is applied to the data from the household survey, scaling up each survey response to represent its share of the nation.

The establishment survey is used to calculate measures of employment, hours worked, and earnings.

■ Comparing the Surveys' Employment Estimates

The estimate of the number of people employed according to the household survey was approximately 138.5 million individuals as of April 2004, about 7.5 million more than estimated by the establishment survey. Why do these two employment measures give such different estimates of the employment situation?

The survey differences just described—of scope and the way workers with more than one job are handled—can explain much of the discrepancy. The surveys differ in methodology, too, and some suggest these differences make one survey or the other the better one. For instance, some critics of the household survey point out that it uses a small sample relative to the total population it is attempting to estimate, especially when compared with the establishment survey, which covers approximately a third of its total population. In addition, there are concerns about the accuracy of the population counts that are produced by the census and of the revisions of population estimates that are made between the censuses. Because the household survey's estimates of total employment rely on the population estimates, some analysts distrust the accuracy of this survey's employment estimates.

Critics of the establishment survey, by contrast, contend that it may be misestimating employment, particularly at the so-called turning points in the business cycle, by not accurately accounting for firm births and deaths in its initial estimates of employment. Firm births and deaths imply an inherent undercount in the survey. The Bureau of Labor Statistics (BLS), the agency that produces both the household and establishment surveys, recently altered the adjustments it uses to account for this dynamic, so at issue is how well these adjustments have performed in the past few years.

■ Adjusting for Survey Differences

The difference in scope between the two surveys has tended to manifest itself as a more or less constant differential between the two employment series over time. However, in recent years, the gap between the two series has grown. Indeed, since the most recent recession began in March 2001, the two series have trended in opposite directions, with the household survey's series showing net employment *gains* since then and the establishment survey's series showing net employment *losses* until this year. Given the current concerns about the labor market and the unusually low levels of job creation that we have seen throughout this recovery, many observers have begun to wonder again about which of the two employment estimates is the more accurate measure of actual labor market activity.

One of the ways to address this question is to make the two estimates of employment more directly comparable. First, we can attempt to correct for the differences in survey scope. This cannot be done completely, but it can be approached, in large part, by paring back the scope of the household survey. Specifically, the household survey can be made more like the establishment survey by removing from its count of employment workers who are in the agricultural sector, those who are self-employed, or those who are employed by households with or without pay. In addition, to reconcile the two employment estimates' differing treatment of multiple jobholders, individuals identified as such in the household survey must be counted more than once and added again to the household survey's initial estimate of total employment.

Finally, population adjustments are necessary to create a consistent time series of employment from the household survey. Slight discontinuities in the typical time series arise because of the way the series is updated to reflect new estimates of the population. When population updates are provided, all historical data are not revised, so discreet jumps in series such as the employment level are sometimes evident.

Once these adjustments are made, there is a decided improvement in the correspondence of the two surveys: for many periods throughout the last 10 years, the two time series of employment show very similar levels (see figure 1). Nevertheless, at the peak of economic activity in March 2001, the establishment survey showed employment in the United Stares to be about 2.5 million jobs higher than the household survey.

Since that time, the two series have converged, closing the gap, but they have converged from opposite directions: The household survey—even after adjustments—shows that the economy gained about 700 thousand jobs since the start of the 2001 recession, while the establishment survey shows a loss in employment over this period of more than 1.5 million jobs.

■ Population Count Problems

Despite adjustments for differences in survey scope and other comparability concerns, the employment pattern presented by the household survey still offers a more hopeful assessment of the labor market than does the employment pattern presented by the establishment survey. And we are not any closer to determining which picture of the labor market is more accurate or appropriate. One concern that some critics point to, which may help with this determination, relates to problems with population counts and how these can affect the household survey's employment estimates.

As mentioned, the household survey uses the population counts produced by the decennial census to estimate total employment in the U.S. These counts are adjusted annually by the U.S. Department of Census to reflect additional information about changes in the population. Clearly, any problems with the population count from the census will affect the accuracy of employment estimates from the household survey. According to the BLS, the

FIGURE 1 EMPLOYMENT: HOUSEHOLD AND ESTABLISHMENT SURVEYS

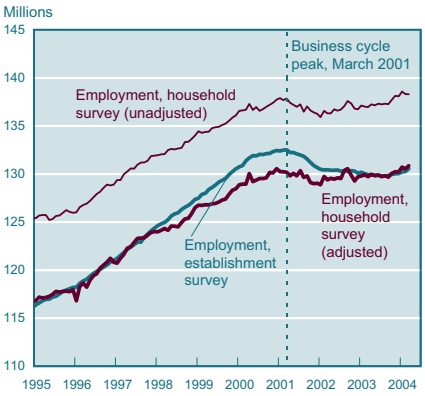


FIGURE 2 BUSINESS CYCLE PATTERN, ESTABLISHMENT SURVEY EMPLOYMENT

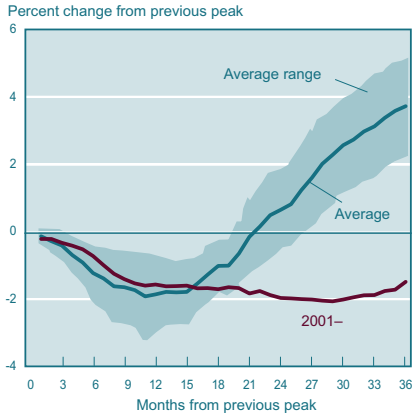
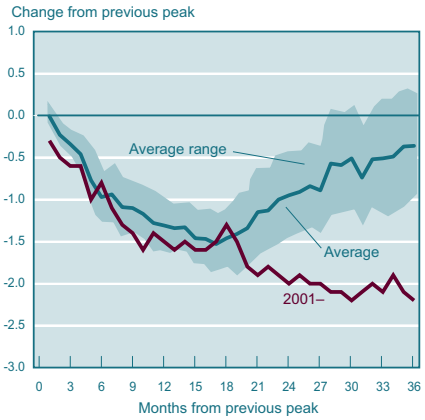


FIGURE 3 BUSINESS CYCLE PATTERN, HOUSEHOLD EMPLOYMENT-TO-POPULATION RATIO



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

population estimates used to calculate the household survey's estimate of employment "contributed significantly to the discrepancy" between the two surveys' employment estimates in the 1980s and 1990s.

In its most recent review of the population, the U.S. Department of Census determined that it had overestimated the U.S. population for the period from 2000 to 2003 primarily because of unanticipated changes in net international migration patterns. As a result, the BLS notes that the upward trend in the employment estimates produced by the household survey since the end of the 2001 recession is largely a function of this overestimate.

In fact, through the end of 2003, the accumulated overcount of the estimate of employment in the household survey was nearly half a million workers. By contrast, the agency notes that the total unemployment rate, the labor force participation rate, and the employment-to-population ratio—other statistics produced by the household survey—were unaffected by these adjustments.

Sensible Labor Market Measures from Both Surveys

Given these issues with the household survey, how can the information gathered from it be best put to use? The fact that the total unemployment rate, labor force participation rate, and employment-to-population ratio were not affected by recent adjustments to the population estimates provides a clue. These measures are ratios that have estimates of the population embedded in both the numerator and denominator. Consequently, any errors in the population count are cancelled out to a considerable degree by these statistics. Rather than using the estimates of the employment level produced by the household survey, it is more informative and less problematic to consider the employment ratios that come out of the survey.

In addition, many have sought to directly compare the employment estimates produced by both of the major government surveys throughout the recovery, but a more sensible comparison might be to evaluate the performance of a measure during this recovery relative to its performance in previous recoveries, which is a more internally consistent comparison. In this way, we can see more clearly how a given employment measure tends to behave over a business cycle and how much the current performance of the labor market deviates from the historical pattern.

Figures 2 and 3 present such a comparison for measures derived from each of the two surveys. Figure 2 shows the employment estimate from the establishment survey, and figure 3 shows the employment-to-population ratio derived from the household survey. The figures show the performance of each measure over the course of the recent recovery relative to its average performance over the previous nine post-World War II business cycles. The comparisons show the change in employment at a point subsequent to the peak, relative to the peak, either in percentage or percentage point terms. Starting from the peak suggests that the scale of the losses in the recession is relevant for the recovery.

The averages that have been constructed are for all of the recession and recovery periods in the post-World War II era, with the exception of the current episode, which is shown separately. A standard error band for the employment variable is also plotted to represent the range of experiences that have occurred in each of the expansions in the post-World War II period. These bands should be viewed as a narrow conception of "normal," as they imply that the observations within the range are statistically indistinguishable from the average.

While some have argued that the data from the household survey shows that employment creation during this recovery has proceeded at a reasonable pace, the picture of the employment-to-population ratio in this recovery relative to others shows otherwise.

In the "normal" experience, since the end of the Second World War, the employment-to-population ratio has tended to return to where it was when the previous expansion peaked within about three years. Through the first year-and-a-half following the business cycle peak in this episode, changes in the employment-to-population ratio didn't diverge much from the usual historical experience. However, it is at about this point that the current business cycle starts to look somewhat different from its predecessors. From this point, changes in the employment-to-population ratio for the current cycle begin to drift more decidedly downward, rather than turning up as has been the pattern on average in the past.

This picture is strikingly similar to the comparison of the establishment survey's estimate of employment over recent business cycles, shown in figure 3: Namely, about 18 months after the expansion's peak, the percent change in employment from the peak continues to drift downward for the current episode, and out of the range of the "normal" historical experience in the post-World War II period. Said somewhat differently, both measures—when viewed in this way—show a surprisingly similar picture of the weak labor market performance that has prevailed during this recovery relative to previous business-cycle periods.

Consistent Stories

The recent debate over the state of the labor market during this recovery has centered on the question of whether the employment estimates from the household survey or the establishment survey are the more accurate. There seem to be good arguments for concluding that—for various reasons, ranging from the scope of revisions to concerns about Census population counts—the employment estimates produced by the establishment survey are more accurate than those produced from its counterpart, the household survey.

Having acknowledged this, however, it is not necessary to disregard the household survey altogether. When used appropriately, there is much that it can tell us. And, moreover, when used in a way that minimizes the role of population estimates, it tends to paint a picture of the labor market that is very much in keeping with that presented by the establishment survey.

Recommended Reading

Mark Schweitzer and Jennifer Ransom. 1999. "Measuring Total Employment: Are a Few Million Workers Important?" Federal Reserve Bank of Cleveland, *Economic Commentary* (June).

Chinhui Juhn and Simon Potter. 1999. "Explaining the Recent Divergence in Payroll and Household Employment Growth," Federal Reserve Bank of New York, *Current Issues in Economics and Finance*.

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