

Phantom jobs and job losses

TIM KANE

AMERICANS are working. But how many of them? The answer to that question can have profound political consequences. Employment was a big issue in the 2004 presidential campaign, as George W. Bush and John Kerry sparred over how many jobs had been created or lost, and how to create more, and better, jobs in the future.

Yet as the contenders traded barbs over outsourcing and tax increases, hardly anyone except for a handful of economists paid much attention to trying to answer the most basic question of all—how many Americans *are* working right now? It sounds like a simple question, and there are certainly many possible answers floating around in the media, such as payroll statistics or the unemployment rate. But measuring employment and unemployment turns out to be a ticklish business, and only becomes more so once the experts turn their attention from statistical questions of samples and methods and start seeking explanations for

the numbers they have counted.

So perhaps it shouldn't be surprising that many of these experts have developed methods and models that are incomplete. There is one statistic in particular that fueled the economic pessimism that marked the presidential campaign—total non-farm employment as measured by the government's payroll survey. But cracks have been appearing in this statistic's facade. The method used to produce the number has not kept pace with the rapidly changing American economy. It is high time to reconsider the faith politicians and policy makers place in current payroll data.

Yesterday's methods in today's labor market

Employment is measured by the government's Bureau of Labor Statistics (BLS), a division of the Department of Labor. The BLS produces two different numbers intended to paint a picture of the overall labor market—the payroll survey and the household survey. The payroll survey yields data on the actual number of jobs gained and lost in the survey period (which is one month for both numbers). The household survey produces an unemployment rate that captures the percentage of the labor force that is out of work, as well as an overall employment estimate.

Conducting two different surveys might seem redundant, but the payroll and household numbers are produced in very different ways. The payroll survey has a larger sample size, and tabulates roughly 400,000 employer records (although usually only about half of the surveyed employers return the questionnaire in time to be tallied in the preliminary release on the first Friday of every month). Certainly, the large sample size—it aspires to capture about one third of the work force—is one of the payroll survey's assets. And yet this vast sample lulls economists into a false sense of confidence about payroll sample quality.

For starters, job growth estimates in the payroll survey have a potential margin of error of 200,000. Over 15 percent of preliminary payroll job growth estimates—the ones that garner the most media attention and are most quickly available to policy makers—are incorrect. This is

partly a result of employer foot-dragging, but is significantly tied to a second, even more significant, structural limitation of the survey itself.

The payroll survey only measures traditional jobs, where a worker is hired onto a formal payroll. The survey involves an indirect sample of employment records from the unemployment insurance system. It was a smart way to measure employment in the age of "organization man," when the labor market was more rigid, most people who worked did so full time, and people tended to stay at one job for a long time. But payrolls are not so adept at measuring employment in today's labor force of flexible moms, part-time students, and early retirees. Consultants are not counted, nor are the self-employed, nor many partners in the new breed of limited liability corporation (LLC), nor real estate agents. So, for example, the rise of working parents who are flexibly or marginally attached to the labor force is largely missed by the payroll method of measuring employment.

There is yet a third quirk of the payroll survey that is worth noting: It asks employers how many people have been on the payroll *at any time* during the survey period, which can lead to double-counting. Consider a worker who quits her job at the end of the second week of January to start in a better position at a different firm. She will be counted on the questionnaire submitted by her former employer, since she was on the payroll for at least part of the survey period. She will also be counted by her new employer, for the same reason. Considering that, on average, up to 3 percent of workers changed jobs every month during the late 1990s, it is easy to see how this methodological flaw can significantly skew perceptions of the size of the job market. In a work force of 130 million people, roughly four million people were being counted on two payrolls per month due to turnover. In general, the payroll survey will overstate employment during times of high job turnover in the labor market, making employment seem smaller by comparison during periods of relative stability.

The household survey offers a marked contrast. It is based on personal contact with 60,000 individuals, and

provides demographic details by gender, education, and race. By interviewing respondents, it seeks to differentiate between people who are “in” and “out” of the labor force, and calculates an unemployment statistic representing the percentage of people in the labor force who are unable to find work.

Household data have their own set of problems, and controversies have flared up periodically over the mechanics of the survey—when phone calls are made, and to whom, for example—as well as over more fundamental issues. But it seems fair to say that these biases have been largely static over much of the life of the survey. The methodology of the payroll survey, by contrast, is unable to compensate for a new economy in which people have a plethora of employment options.

A tale of two (and more) surveys

The evidence that something is amiss in the payroll data lies in a phenomenon that astute economists have noticed in recent years: The payroll and household surveys have been diverging widely in the views they present of the American labor market.

The payroll survey indicated that 800,000 jobs were lost between President Bush’s inauguration and the 2004 election. At its low point, 2.7 million jobs had been lost relative to the peak level of March 2001. After August 2003, payrolls expanded every month leading up to the election, adding 1.9 million jobs in just over one year—a strong showing, but not enough to create net job gains. The sluggish recovery of payrolls fueled the media’s “jobless recovery” story line in 2003, and allowed candidate Kerry to call Bush’s the worst presidential record on jobs since Herbert Hoover.

And yet, this labor market crisis only seemed to be appearing in the payroll survey data. Other official government measures signaled net job growth during the first Bush term, especially the household survey, which indicated that the number of American workers grew by 1.6 million under Bush. Other labor data confirm the positive view: Initial jobless claims were 10 percent below their

historical average during 2004, and private-sector hiring indexes were setting records. As Andrew Sum, Paul Harrington, and Ishwar Khatiwada put it in a November 2003 paper for the Center of Labor Market Studies at Northeastern University,

Total employment in the U.S. has increased much more markedly since the end of the recession than indicated by findings of the [Current Employment Statistics] payroll survey.... Since most of these sources of employment gains have occurred outside the formal employment system, total hours of labor input in the U.S. economy are likely being underestimated, thus exaggerating part of the rise in labor productivity since the end of the recession.

If all the other indicators suggest that the labor market is keeping up with other signs of economic improvement, where did all those “lost jobs” go? The most obvious answer is that they didn’t go anywhere. Or to be more precise, more workers stayed put in their current jobs, thus depriving the payroll survey an opportunity to double count them.

Aggregate data from the Census Bureau show that job-changing from one employer to another, which had averaged 3 percent per month in the 1990s, declined by about 0.2 percentage points per year after 2001, settling at 2.4 percent in 2003, where it remains today. This seemingly small change meant that during the campaign season, roughly one million fewer workers were changing jobs each month. The result was that roughly one million fewer workers were being double counted on payrolls, a statistical change that the payroll survey registered as one million “lost” jobs.

Given the obvious flaw in the payroll methodology, the only curious thing is that this effect was not quantified this neatly before 2004. The BLS had noticed the divergence between the payroll and household surveys, and had even started publishing a “reconciliation” each month in an effort to explain the gap. But when it began issuing this report, the bureau initially neglected to mention job-changing as one of the possible causes. Only in August 2004, after pressure from outside economists, did the BLS

issue a paper discussing the issue. This despite ample anecdotal evidence that the economy was experiencing decreased turnover.

Not only that, but the BLS itself produced a new data set that, in hindsight, clearly points to a sharp drop-off in turnover after September 11. In 2003, the bureau launched a new quarterly report intended to go beyond the static snapshot methodology of the payroll and household surveys and look at the internal dynamics of employment. The report, called "Business Employment Dynamics" (BED), measures the gross flows of new jobs created and new job losses every quarter, and has been calculated as far back as 1992. This study provides a stark image of the slowdown in turnover after 2001.

A measure of gross job flows can be instructive because it provides a clue to the degree to which the demand side in the labor market—the employer—is providing opportunities for the "churn" that causes turnover and the resulting double counting on the payroll survey. BED demonstrates that 8.2 percent of all jobs were created anew each quarter in the 1990s, while roughly 7.5 percent were destroyed. In other words, in any given month 7.5 percent of American jobs would be lost, while a number equal to 8 percent would be created. So the net job creation (jobs created minus jobs destroyed) might have appeared modest, but it was masking a much greater amount of movement in the job market—movement that also had the potential to exacerbate the payroll survey's double-counting problem. The rate of job gain started to drop in 2000, then rebounded in the second half of 2001 before dropping again throughout 2002 and 2003, when it settled at 7 percent. Yet while the rate of job losses spiked during the 2001 recession, reaching 8.4 percent in the third quarter of that year, it dropped after the September 11 attacks. The job loss rate remained lower in the second half of 2003 than at any other time in the previous decade. In other words, the labor market is in a period of relative stability, with a much smaller amount of churn than was seen in the 1990s, and thus much less potential for payroll double counting. This provides a demand-side

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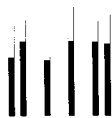
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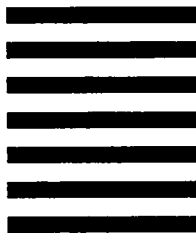
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explanation for the divergence between the payroll and household surveys.

What do all these percentages mean in terms of real numbers of jobs? In August 2004, in the same paper in which the BLS admitted that payroll double counting was a problem, it released a new payroll employment time series that tried to correct for this methodological flaw. To give just one example, in March 2001 the BLS had estimated the total number of jobs to be 132.51 million. But after subtracting its estimate of double-counted job-changers, the BLS now says the true figure was 130.85 million.

The change does not represent nearly two million jobs that we now know were lost. Rather, it signifies the purging from the record of nearly two million jobs that never existed to begin with, that appeared only as the result of a statistical fluke. And there may be more such “phantoms.” It is worth noting that these phantoms are still included in official payroll employment estimates every month. Even though its acknowledgment of sample problems is a vital first step, the BLS still uses overly cautious assumptions when trying to correct the error, presuming that only a fraction of job-changers are double counted.

Companies track their payrolls on several schedules, the most common options being monthly, biweekly, or weekly. Therefore, on the payroll survey questionnaire the BLS phrases the question in terms of how many people have been on the payroll during the company’s reference period. For monthly, or even biweekly, tallies it is easy to see how double-counting would occur—so easy to see that even the BLS is now conceding the point. But the bureau still holds that a worker who leaves a weekly payroll job for another weekly one cannot be counted twice. This neglects the use of “terminal leave,” when an employee overlaps two paychecks. Such real-world complications are likely to amplify the turnover effect.

This statistical evidence is made all the more compelling by the existence of an obvious theoretical explanation for the sudden, and recent, drop in turnover: terrorism. On reflection, it is hard to imagine that the September 11 attacks are not the main rationale driving lower job turn-

over. In the aftermath of the attacks on the World Trade Center and Pentagon, conventional wisdom held that Americans would re-orient their priorities toward family and away from work, and seek security wherever they could find it. They would see the big picture about what mattered in their personal lives, and act accordingly. “Cocooning” is the phrase market researchers coined to describe this tendency for families to stay closer to home for dining, entertaining, and working, and all these trends were developing before September 11, but accelerated after the attacks. The hospitality industry can certainly attest to this, having witnessed a precipitous decline in leisure (and even business) travel in the wake of September 11. It does not take a great leap of imagination to suppose that the impact of terrorism concerns would extend from questions of where to vacation into questions of whether or not to change jobs. If the overall trend has been for people to display more risk aversion, we should not be surprised that they are not changing jobs as frequently as they did in the go-go 1990s, thus preventing the BLS from over-counting them in the payroll survey.

The mythical discouraged worker

All of these theoretical and practical problems with the payroll survey are convincing a growing number of economists that the survey needs revision. But there remains a still significant number who find these arguments unpersuasive. These academics and pundits allow that there is an unusual divergence between the results of the payroll and household surveys, and that this divergence is serious enough that it warrants reevaluating one of the surveys.

However, they take aim at the household survey. While they offer several interesting arguments, two key points surface most often in the media. First, these critics contend that the way the survey defines “unemployment” systematically undercounts people whom any non-economist would recognize as unemployed. Second, they argue that, again thanks to the survey’s definition of the “labor force,” it is possible for a negative trend in the economy to

appear as a positive trend in the unemployment rate. Both of these are long-standing charges against the household survey, and both have some theoretical merit. But a look at empirical results shows that neither of these forces is at work in the current economy. At the end of the day, a flaw with the payroll survey is the only satisfactory explanation for the divergence between household and payroll.

Arguing that today's rosy unemployment figures actually conceal bad economic news might seem counterintuitive. The unemployment rate today is lower than the average of the 1990s. Most people remember that decade as a pretty good time, economically, but the unemployment rate averaged 5.76 percent. By comparison, after a recession and all the economic uncertainty created by the September 11 attacks, the unemployment rate peaked at only 6.3 percent in June 2003 before starting to decline, settling at 5.4 percent in October 2004, one month before the election. Liberals hoping to use economic malaise to unseat President Bush needed an explanation. One obvious option was to ridicule the household survey. They would start with the way the survey calculates the unemployment rate—dividing the number of jobless by the total number of people in the labor force—and would attack the way the survey defines the labor force—counting only those with jobs or those who have actively sought employment in the 30 days leading up to the survey date.

New York Times columnist Paul Krugman launched just such a salvo in a column on December 30, 2003, that would become the Democratic mantra:

The measured unemployment rate of 5.9 percent isn't that high by historical standards, but there's something funny about that number. An unusually large number of people have given up looking for work, so they are no longer counted as unemployed, and many of those who say they have jobs seem to be only marginally employed.

In other words, the economy had deteriorated so much that a lot of people were not even trying to work anymore. In this view, there were a lot of "discouraged workers" whom a normal person would consider unemployed,

but whom an economist would not count as part of the labor force when measuring the unemployment rate. The theme was amplified by the left-leaning Economic Policy Institute (EPI) in March 2004. In a press release that month, the EPI asserted that “persistently weak job growth” was leading to “labor force contraction.”

The problem with the critique offered by Krugman, the EPI, and others is that it is not supported empirically. The BLS itself has been collecting data on the number of discouraged workers since 1994, and even includes this group in calculating its alternative “underemployment rate.” This statistic, known as “U-4,” has followed the same trend as the traditional unemployment rate, suggesting that an increase in underemployment has not been fueling the decrease in full-blown unemployment. On the contrary, BLS data show that there were fewer discouraged workers as a percentage of the labor force in 2004 than in 1994. The labor force (the denominator in the unemployment rate) grew by 200,000 the same month that the EPI issued its press release, having grown by 1.2 million over the year leading up to EPI’s announcement. Between the 2000 and 2004 elections the labor force grew by four million people. Given that the denominator was increasing at this pace, it is a simple mathematical fact that the only way the unemployment rate could have stayed as low as it did through the recession and the aftermath of terrorism was if the number of people with jobs grew, too.

The second line of attack on the household survey claims that even if the absolute size of the labor force was increasing, it was not keeping pace with population growth. The labor force participation rate (the percentage of all working-age people who are defined as being in the labor force) declined slightly during the recession, from a peak of 67.2 percent in January 2001 to 66.8 percent in October 2001, and has hovered at 66 percent for most of the past three years.

But again, a closer look at the demographic breakdown of labor force participation statistics reveals a simple explanation: Fewer teenagers are working. The decline in total participation rates since 2001 is largely driven by the unprecedented dropoff in teenagers aged between 16

and 19, from 52 percent in 2000 to 44 percent in 2004. One way to put this in perspective is to look at the gap between the participation rate of all civilians versus the rate for teens. This gap averaged 10.8 percentage points between 1950 and 2000, before climbing to 20.7 points in the months after September 11, 2001.

The decline in teen participation is a surprising puzzle, given that conventional theory holds that the improvement in the overall unemployment rate should lead to a steeper jump in the number of teens willing to work. But, as troubling as it is for theorists, is the decline really bad news on its own? Clearly, the teenagers of 2004 are generally not heads of households, and they have certainly not lost jobs and become discouraged. Rather, these are young adults who chose not to enter the labor force in the first place, or were restricted from doing so by their parents.

Whether or not the dropoff is bad news for teens, it is bad news for proponents of the discouraged worker hypothesis who intend to create doubts about the integrity of the household survey. In the end, the household survey provides clarity on the labor force, clarity on discouraged workers, and clarity on demographic trends that are not available elsewhere.

None of this is to say that the household survey is perfect. Like any survey, it has structural limitations and uncertainty. That is not the question. The question is, which survey has a methodological flaw that explains the divergence of measures of total employment growth over the past three years? The limitations of the household survey proposed by critics are either non-existent or well-known and irrelevant to the question at hand. Although it is possible some new flaws will be discovered in the household survey, odds are that a different set of economic factors explains the household-payroll divergence.

A survey under duress

Deep cracks are starting to show in the current payroll survey methodology. It has fallen seriously out of synch with the other major measure of American employment,

the household survey. Empirical evidence suggests that the household survey is currently the more reliable picture of how many Americans are actually working. And this empirical evidence is backed up by a theory that easily accounts for the available statistical findings by positing a serious flaw in the payroll survey's method, a flaw so serious that even the survey's "parent," the BLS, is now admitting that there is a problem (even if the BLS is still understating the scale).

Perhaps the biggest problem with the payroll survey, though, is that even as economists find more and more evidence that it is unreliable, policy makers, politicians, and the public continue to take it so seriously. Even luminaries such as Federal Reserve Chairman Alan Greenspan have defended the payroll survey. (Greenspan did so in early 2003, as the divergence between household and payroll surveys first came to light; his argument rested mainly on the larger sample size.) In the just-concluded presidential campaign, bombast about the million or more jobs "lost" in the Bush administration was a standard part of the stump speech of Democratic nominee John Kerry and running mate John Edwards.

Fortunately, in this election voters seem to have looked beyond this faulty statistic, making their decision to reelect Bush based on other factors. But the economy will certainly dominate campaigns in the future, and will consume the attention of policy makers in perpetuity. It is vital, therefore, that everyone understand which statistics offer a more accurate picture of the economy and which do not. The payroll survey in its current form does not pass that test.