



## Employment Revision Asymmetries

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One of the Federal Reserve's mandates is to "promote...maximum employment"; so the Fed typically considers labor market variables—such as employment growth, the unemployment rate, and labor force participation—when it sets policy. One important employment indicator is nonfarm payroll employment, which is compiled by the Bureau of Labor Statistics (BLS) using multi-industry firm-level survey data. These data are released and revised multiple times over the next year. For example, the first nonfarm payroll employment numbers are released three Fridays after the week containing the 12th of the month. These preliminary numbers are subsequently revised and re-released once or even twice in the following months as new and more-accurate employment data become available. These numbers are also revised every April during an annual benchmark revision. Despite these revisions, the Fed often sets policy using the initial employment release, which, according to the academic literature, has been shown to move asset prices.

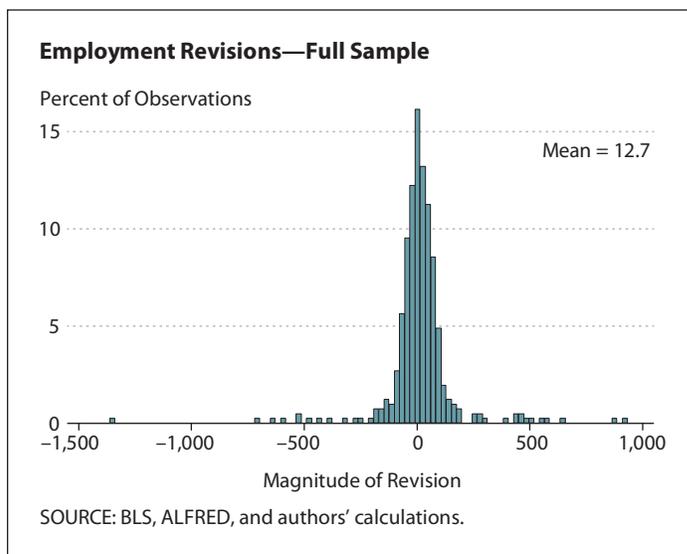
The preliminary nature of the data and any systematic bias—or pattern—could affect how policymakers use these data to set policy. For example, suppose that the revisions to the payroll employment release during recessions are systematically negative—that is, the revised employment number is more often lower than the initial release. In this case, policymakers might use this information to lower their short-term interest rate target more aggressively to stimulate the economy. The converse would be true if the revisions during expansions (especially soon after the end of a recession) are systematically positive. In this case, the economy might be growing faster than portrayed by the initial release, leading policymakers to set interest rates that are too stimulative. In short, revisions to the monthly payroll employment estimates may be useful guides to the near-term strength or weakness of the economy.

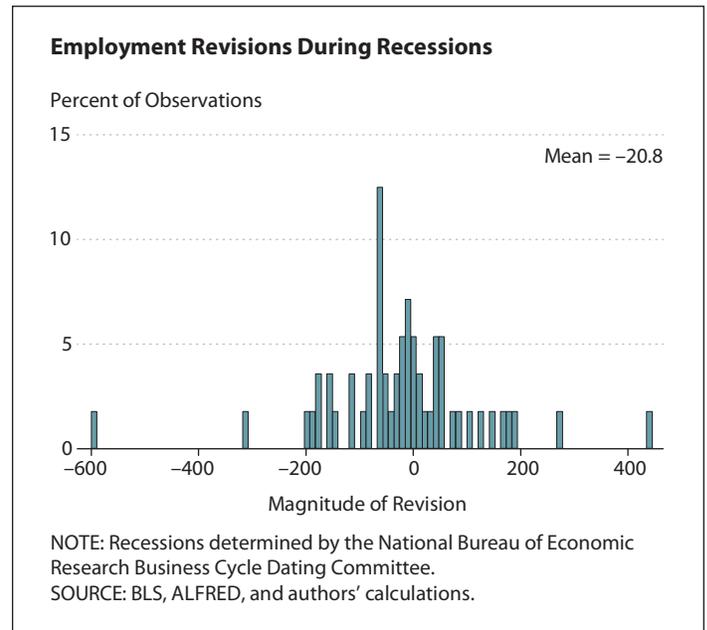
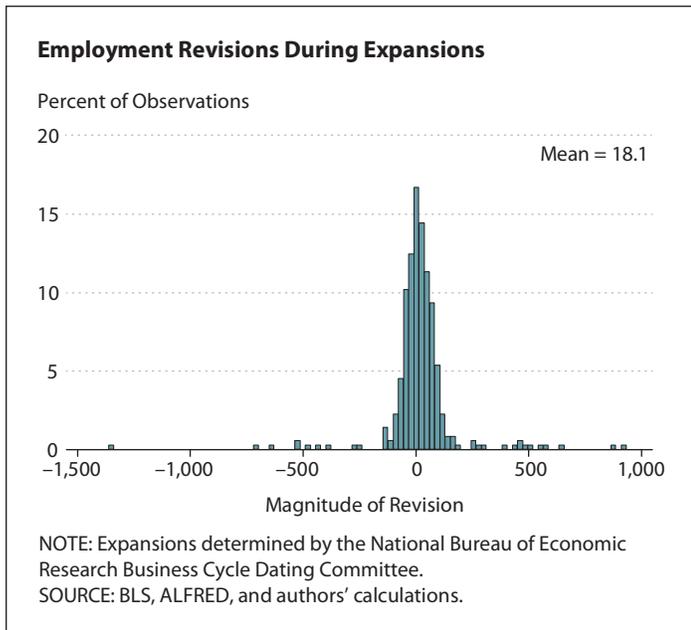
Since January 2013, 9 of the past 13 revisions to payroll employment (69 percent) have been positive, indicating the labor market and overall economy might be stronger than the initial release suggests. Including releases since

the second quarter of 2012 raises the number of positive revisions to 13 of 19 (falling only slightly, to 68 percent). Moreover, the past 6 revisions (August 2013–January 2014) have been positive.

**If employment revisions are systematically biased, they could affect how policy is conducted.**

If the initial release of payroll employment data is to be viewed as a good forecast of the true employment figure, the data should be unbiased. In other words, the initial releases may vary from the revised releases, but those deviations (on the high side and low side) should average out to zero over time. This condition applies especially to periods of expansion and recession, and so we examine the revisions to the initial release during those periods to check for any bias. Specifically, we consider the distributions of the first revision to nonfarm payroll employment starting in January 1980. The first chart plots the unconditional distribution





of those revisions. While there are a few large outliers, the distribution appears normal, with a mean of 12.7, which shows that the initial numbers underestimate the change in employment by an average of 12,700 jobs.

The second and third charts show the distributions of the revisions during periods of expansion and recession, respectively. During expansions, the distribution appears normal but is centered around 18.1, implying that the initial numbers during expansions, on average, underestimate the change in employment by 18,100 jobs. Unlike the distribution in the first two charts, the distribution in the third chart is dramatically different, with a mean of -20.8, implying that during a recession, the initial employment numbers are likely to be overestimated by approximately 20,800 jobs.<sup>1</sup>

While these simple “eyeball” comparisons are by no means definitive, they do suggest there may be a small but potentially important systematic bias in the revisions of the nonfarm payroll employment data. ■

**NOTE**

<sup>1</sup> Our calculations were performed without accounting for the annual benchmark revisions that occur in April. As such, the April release can cause large revisions. For example, 19 of 23 large revisions with a magnitude greater than 300 jobs (83 percent) occur in April. When the April revisions are excluded from our analysis, the unconditional mean of the revisions is 10.5, the mean of the revisions during expansions is 16.0, and the mean of the revisions during recessions is -24.7.