



National Economic Trends



Did Employment Rise or Fall?

The two most prominent data series on U.S. employment (see pages 5 and 6) come from different sources. The monthly household survey covers about 60,000 households containing about 113,000 adults. The monthly establishment or payroll survey gathers information on employees at more than 370,000 workplaces. As the lower part of the chart shows, the surveys frequently disagree on a month-to-month basis, sometimes dramatically. Why?

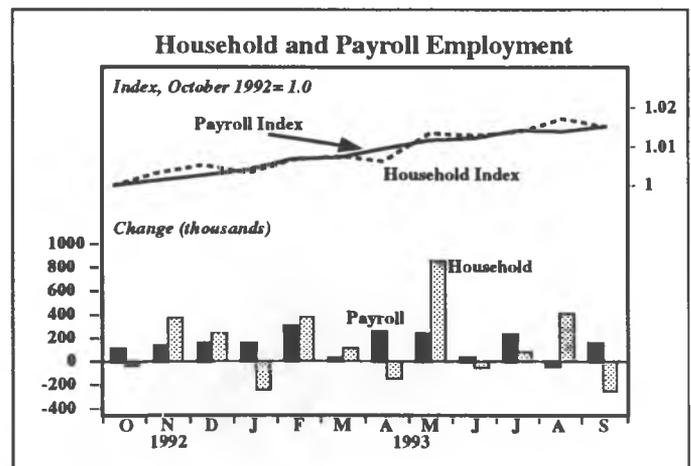
One reason is that the payroll survey does not cover about 13 million self-employed, agricultural, household and unpaid family workers, all of whom are included in the household survey. In months when the two surveys disagree, much of the difference can sometimes be traced to changes in these excluded categories. The November 1992 household survey, for example, reports that employment had increased by 377,000 persons while the payroll survey reports an increase of only 132,000. Excluding the four categories mentioned above, household employment rose by only 157,000, roughly consistent with the results of the payroll survey.

In September 1993 by contrast, household survey employment fell by 253,000 while payroll employment rose by 156,000. This time the same four categories collectively accounted for only 22,000 of the difference. Much of the difference can be attributed to a second factor that statisticians call sampling variation. In September 1993, 61.58 percent of adults in the household survey were employed. Statisticians can show that if a *different* 113,000 people were surveyed, about a third of the time that percentage

would be more than 61.72 or less than 61.44. This small variation in the estimated fraction of the population employed means that there is about a one-third probability that the actual number of people employed is more than about 300,000 higher or lower than the published figure. These approximate calculations do not incorporate detailed information about sampling procedures, but they give some idea of the reliability of the household survey's employment estimates.

The payroll survey reports information on about 45 million employees (compared to only about 113,000 in the household survey), which means there is far less sampling variability, though there are other potential sources of error. Consequently, employment as recorded by the payroll survey is much smoother than household (civilian) employment (compare pages 5 and 6). Over a longer period sampling variation in the household survey tends to cancel out, as shown in the upper half of the chart, so that the two employment measures usually show similar trends.

— Joseph A. Ritter



Views expressed do not necessarily reflect official positions of the Federal Reserve System.

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