Will a Surge in Labor Force Participation Impede Unemployment Rate Improvement?

By Andreas Hornstein and Karl Rhodes

The labor force participation rate has been falling since 2000, a trend that accelerated somewhat during the 2007–09 recession. Some economists and journalists have questioned whether recent improvements in the labor market will cause non-participants to re-enter the labor force at a faster rate, thus offsetting job growth and impeding further declines in the unemployment rate. But recent worker-flow research suggests that this scenario is unlikely.

Following the recession of 2007–09, the unemployment rate peaked at 10 percent and remained above 8 percent for three years. During this time, economists and journalists pointed out that the persistently high unemployment rate would have been even higher if the labor force participation (LFP) rate had not been decreasing substantially. (Workers who leave the labor force are not included in unemployment rate calculations.)

Anecdotal evidence seemed to confirm that the high unemployment rate was making unemployed workers more likely to leave the labor force while making non-participants less likely to join the labor force. Journalists, for example, interviewed discouraged workers—people who had quit the labor force because finding a suitable job seemed increasingly unlikely to them. News coverage also highlighted college graduates going directly to graduate schools and parents staying home to raise children.[1]

This perceived cyclical pattern of transition rates between unemployment and non-participation also seems to provide an intuitive interpretation of the observed negative correlation between the LFP rate and the unemployment rate. Based on this interpretation, some economists and journalists have raised concerns recently over what will happen when this mechanism runs in reverse. In other words, as the job market improves, will non-participants return to the labor force at a faster rate, thus offsetting job growth and impeding further declines in the unemployment rate?[2]

Recent research confirms a negative short-term correlation between the LFP rate and the unemployment rate, but it contradicts the interpretation that this negative correlation is caused by transition rates between non-participation and unemployment.

Worker-Flow Analysis
The LFP rate is the percentage of the non-institutionalized civilian population—age 16 and over— that is employed or actively seeking employment. From the late 1940s to the mid-1960s, the LFP rate was relatively flat, ranging narrowly between 58 percent and 60 percent.

(See Figure 1.) Beginning in 1964, however, the rate began to increase steadily as baby boomers and large numbers of women entered the labor force. The LFP rate leveled off at about 67 percent in the late 1990s when the percentage of women in the labor force stopped growing and the oldest of the baby boomers started taking early retirement. Since 2000, the rate has declined steadily as more baby boomers retire and as more workers age 16 through 54 exit the labor force.[3] This trend accelerated somewhat during the recession of 2007–09.
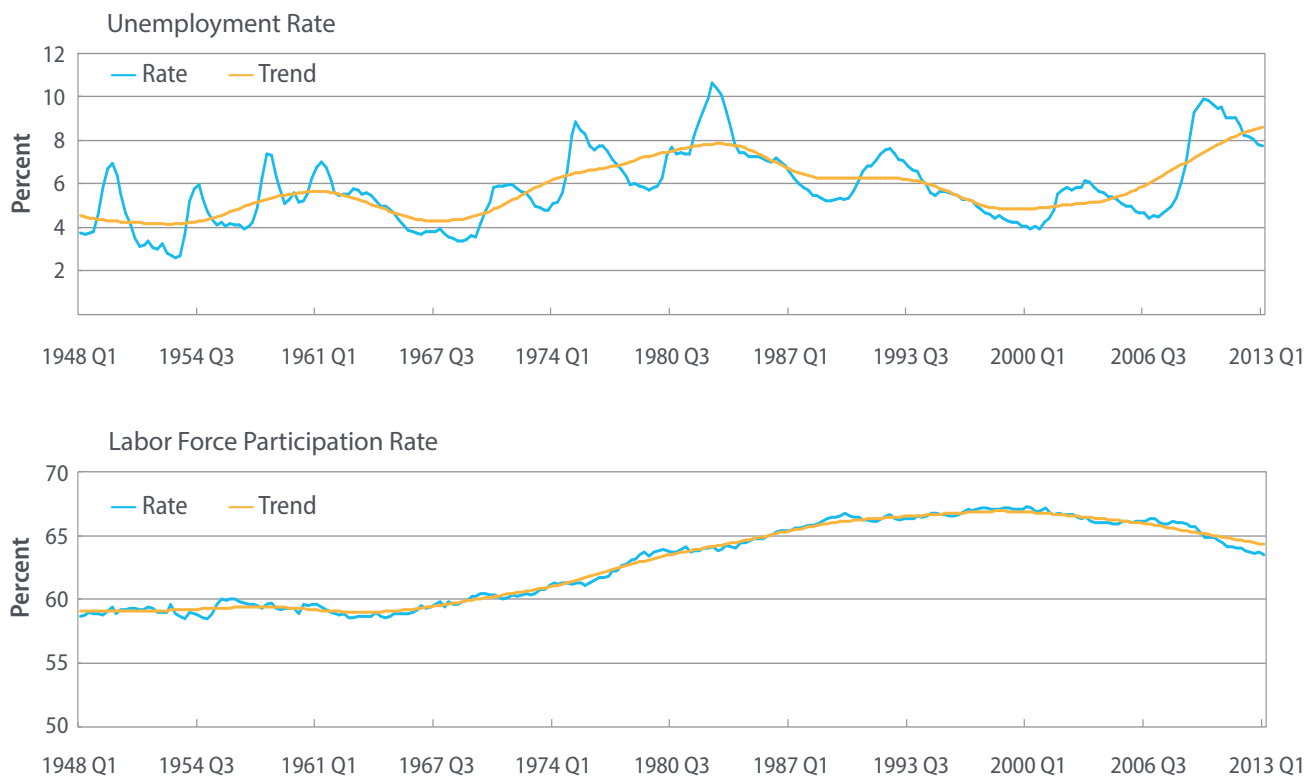
Since the unemployment rate is the percentage of labor force participants who do not hold jobs, studying worker flows between the two labor force categories—employment and unemployment—is a good starting point for analyzing the unemployment rate.[4] But economists increasingly have recognized the importance of studying worker flows not only within the labor force, but also in and out of the labor force.[5]

For example, if a company lays off a worker who begins looking for a job elsewhere, he transitions from employment to unemployment, but if he retires, he moves from employment to non-participation. Collectively, these worker flows determine the unemployment rate.

Unlike the LFP rate, the unemployment rate is characterized more by short-term business cycles than long-term demographic trends. There does not appear to be any long-run relationship between the unemployment rate and the LFP rate in the post-World War II era. As the LFP rate was increasing from the mid-1960s to the late 1990s, average unemployment was first increasing and then decreasing.

To filter out long-term trends and focus on short-run correlations, one of the authors of this *Economic Brief* (Hornstein) compares deviations from long-run trends for both the unemployment rate and the LFP

Figure 1: Unemployment Rate Compared with Labor Force Participation Rate

Note: The labor force participation rate is the percentage of the non-institutionalized civilian population age 16 and over that is employed or actively seeking employment. The unemployment rate is the percentage of labor force participants (employed or actively seeking employment) who do not hold jobs. All percentages are quarterly averages.
Source: U.S. Bureau of Labor Statistics, Haver Analytics

rate.[6] In this detrended data, he finds a negative correlation that supports the view that recent job growth could bring large numbers of non-participants back into the labor force. A common interpretation of this cyclical pattern is that non-participants are more likely to enter the labor force and unemployed participants are less likely to exit the labor force when the labor market improves.

Hornstein's worker-flow observations, however, do not support this interpretation. Data from 1990 to early 2013 show that when the labor market improved, non-participants became less likely to rejoin the labor force and unemployed participants became more likely to leave the labor force. This result seems counterintuitive, but it is consistent with recent research by Michael Elsby of the University of Edinburgh, Bart Hobijn of the San Francisco Fed, and Aysegul Sahin of the New York Fed. In a 2013 working paper that quantifies the relative contributions of transition-rate volatilities to unemployment rate volatility, they point out that observed worker flows between non-participation and unemployment contradict the view that non-participants returning to the labor force will impede improvement in the unemployment rate.[7]

If worker flows between unemployment and non-participation were the only factors, then Hornstein's observations would suggest a positive correlation between the unemployment rate and the LFP rate. But Hornstein explains how his worker-flow observations can coexist with a negative short-term correlation between the unemployment rate and the LFP rate. He finds two countervailing forces that more than offset the effects of worker flows between unemployment and non-participation. First, unemployed participants (in any scenario) are much more likely to leave the labor force than employed participants. Any decline in the unemployment rate will reduce the number of unemployed participants, thereby reducing the overall exit rate from the labor force and allowing for a higher LFP rate. The second countervailing force involves worker transitions from non-participation to employment without passing through an intervening unemployment spell. Job growth increases the likelihood of these transitions, further

strengthening the negative correlation between the unemployment rate and the LFP rate.

Conclusion

Hornstein's research confirms that the LFP rate and the unemployment rate are negatively correlated in the short run, with movements of the LFP rate lagging about six months behind movements of the unemployment rate. But worker flows between non-participation and unemployment are not the underlying reasons for this negative correlation. In fact, all else equal, Hornstein's observations of transition rates between non-participation and unemployment would indicate a positive correlation between the unemployment rate and the LFP rate. The negative correlation then stems from the fact that unemployed participants are far more likely to leave the labor force than employed participants and that transition rates between non-participation and employment, without an intervening unemployment spell, are strongly pro-cyclical.

The six-month lag in the negative correlation suggests that a lower unemployment rate induces a higher LFP rate. It does not indicate, however, that the currently low LFP rate will induce a higher unemployment rate in the future. ∎

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Endnotes

[1] Examples include Schoen, John W., "Discouraged Workers Face Tough Road Back to Employment," NBCNews.com, October 4, 2012; Miller, Rich, "Discouraged Workers Stop Fed from Taking Comfort in Jobless Fall," Bloomberg.com, April 11, 2011; and Ruiz, Rebecca R., "Recession Spurs Interest in Graduate, Law Schools," *New York Times*, January 10, 2010.

[2] For example, see Daly, Mary, Early Elias, Bart Hobijn, and Òscar Jordà, "Will the Jobless Rate Drop Take a Break?" Federal Reserve Bank of San Francisco *Economic Letter*, December 2012.

[3] For a graphic analysis of long-term trends in LFP, see Toossi, Mitra, "Projections of the Labor Force to 2050: A Visual Essay," Bureau of Labor Statistics *Monthly Labor Review*, October 2012, pp. 3–16.

[4] Early worker-flow analysis focused mostly on transitions between employment and unemployment. For example,

see Shimer, Robert, "Reassessing the Ins and Outs of Unemployment," *Review of Economic Dynamics*, April 2012, vol. 15, no. 2, pp. 127–148; Fujita, Shigeru, and Garey Ramey, "The Cyclicality of Separation and Job Finding Rates," *International Economic Review*, May 2009, vol. 50, no. 2, pp. 415–430; and Elsby, Michael W.L., Ryan Michaels, and Gary Solon, "The Ins and Outs of Cyclical Unemployment," *American Economic Journal: Macroeconomics*, January 2009, vol. 1, no. 1, pp. 84–110.

[5] See Kudlyak, Marianna, and Felipe Schwartzman, "Accounting for Unemployment in the Great Recession: Nonparticipation Matters," Federal Reserve Bank of Richmond Working Paper No. 12-04, June 2012.

[6] See Hornstein, Andreas, "The Cyclicality of the Labor Force Participation Rate," Manuscript, Federal Reserve Bank of Richmond, May 2013.

[7] Elsby, Michael W.L., Bart Hobijn, and Aysegul Sahin, "On the Importance of the Participation Margin for Labor Market Fluctuations," Federal Reserve Bank of San Francisco Working Paper 2013-05, February 2013.

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