

Does the Unemployment Rate Really Overstate Labor Market Recovery?

By Andreas Hornstein, Marianna Kudlyak, Fabian Lange, and Tim Sablik

Unemployment rose dramatically during the 2007–09 recession, peaking at 10 percent in October 2009. It has fallen steadily since then, at times outpacing economists' forecasts. In April, unemployment reached 6.3 percent, about two-thirds of the way back to its prerecession level. Such progress is often a sign of recovery, but some observers question whether the unemployment rate accurately measures resource utilization in the current labor market.

Since the recovery from the 2007–09 recession began, economists have wondered whether the declining unemployment rate reflects improvements in the job market or declining labor force participation. Unemployment has fallen nearly 4 percentage points from its post-recession peak in 2009, but labor force participation also fell by about 2 percentage points during the same period. Participation has declined steadily since 2000, but it accelerated following the 2007–09 recession. While the long-run trend is largely accounted for by an increase in workers exiting the labor force due to retirement or disability, about 30 percent of the decline between 2007 and 2011 was due to an increase in the number of qualified and willing job seekers who stopped looking for work.¹

These “discouraged workers” are not included in the standard unemployment measure, but they do factor into labor force utilization. Economic research has shown that discouraged workers are not as distinct from those counted as unemployed as they might first appear. They return to work at rates similar to those who have been unemployed for longer than 26 weeks. By not including them or similar groups classified as “out of the labor force,” the standard unem-

ployment measure may overstate the degree to which resources in the labor market are utilized.

Obtaining a reliable measure of labor resource utilization is of particular interest to policymakers. To the extent that labor resources are underutilized, fiscal and monetary policy may be effective in boosting the economy to improve demand for labor. Fed Chair Janet Yellen has discussed the value of looking at additional metrics beyond the unemployment rate to assess labor market conditions.² This *Economic Brief* reviews extended measures of unemployment that attempt to capture discouraged individuals not usually counted as unemployed. It also presents an alternative measure of labor force utilization that accounts for the potential “employability” of all non-employed members of the working-age population.³

Classifications of Non-Employment

The Bureau of Labor Statistics (BLS) collects monthly survey data on the shares of the working-age population currently employed, unemployed, and out of the labor force. The standard unemployment rate counts individuals who actively looked for work during the previous month. These unemployed people can be subdivided based on the length of their unemploy-

ment. Short-term unemployment covers those who have been unemployed for 26 or fewer weeks, while long-term unemployment encompasses those who have been unemployed for more than 26 weeks.

In addition to the standard unemployment rate, the BLS also provides extended unemployment measures that include people who are out of the labor force, meaning they are neither employed nor actively looking for work.⁴ This group is divided between surveyed individuals who say they want a job and those who say they don't. Individuals out of the labor force who do not want jobs are categorized as retired, disabled, currently in school, or neither retired, nor disabled, nor in school. Among individuals who want a job, those who are available to work and searched for work within the last year but not during the month prior to the survey week are classified as marginally attached. These marginally attached individuals are classified as discouraged if they did not search for a job because they were discouraged over job prospects.

As mentioned previously, economic research has shown that individuals who are out of the labor force still have important ties to the labor market.⁵ Both

the long-term unemployed and individuals out of the labor force who want a job are about half as likely to become employed as the short-term unemployed, and those who do not want a job but are neither retired nor disabled are about one-fourth as likely to become employed. Finally, the retired and disabled are less than one-tenth as likely to become employed as the short-term unemployed. These probabilities decline for all groups during a recession, but their ranking remains largely the same, as can be seen during the 2007–09 recession. (See Table 1.)

The BLS also catalogues individuals who would prefer to work full time but are working part time because of economic conditions. While these individuals are employed, they are sometimes considered an underutilized resource since, according to their stated intentions, they would prefer to be employed full time. For this reason, the BLS includes them in its extended unemployment measures.

The extended unemployment measures are naturally higher than the standard measure because they include more individuals. For purposes of measuring changes in resource utilization, it is therefore important to compare cyclical variations in each measure

Table 1: Probabilities of Transitioning to Employment

| | Probabilities | | | Percent of Working-Age Population | | |
|--|---------------|-------|-----------|-----------------------------------|------|-----------|
| | 2007 | 2010 | 1994-2013 | 2007 | 2010 | 1994-2013 |
| Unemployed | | | | | | |
| Short-term | 0.297 | 0.217 | 0.281 | 2.5 | 3.5 | 2.9 |
| Long-term | 0.155 | 0.103 | 0.144 | 0.5 | 2.7 | 1.0 |
| Out of labor force, want a job | | | | | | |
| Marginally attached, discouraged | 0.165 | 0.107 | 0.131 | 0.1 | 0.5 | 0.2 |
| Marginally attached, other | 0.149 | 0.102 | 0.127 | 0.3 | 0.3 | 0.4 |
| Other | 0.157 | 0.121 | 0.145 | 1.5 | 1.7 | 1.8 |
| Out of labor force, do not want a job | | | | | | |
| Other, in school | 0.082 | 0.062 | 0.085 | 4.5 | 5.0 | 4.1 |
| Other, not in school | 0.080 | 0.069 | 0.075 | 7.2 | 7.0 | 7.4 |
| Retired | 0.015 | 0.014 | 0.014 | 15.5 | 15.5 | 15.6 |
| Disabled | 0.017 | 0.014 | 0.017 | 4.7 | 5.1 | 4.5 |

Sources: Bureau of Labor Statistics, authors' calculations

to some benchmark. Options include the long-run mean or the unemployment trough prior to each economic downturn. By either benchmark, the cyclical behavior of each BLS unemployment measure largely mirrors the movement of the standard unemployment rate over the past 20 years. (See Figure 1.)

Constructing a Non-Employment Index

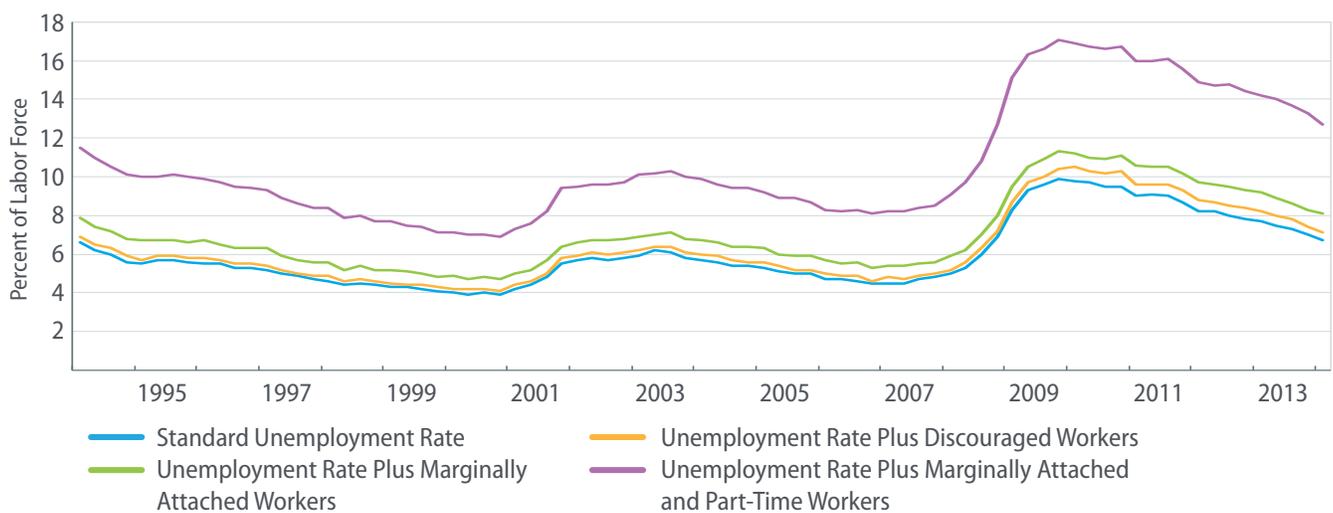
The extended measures of unemployment reported by the BLS provide a fuller picture with which to assess labor market resource utilization. However, the BLS assigns the same weight to each group included in the extended measures. For example, the measure that includes marginally attached workers treats them the same as the short-term unemployed. As shown previously, these groups have significantly different probabilities of returning to work. While there are many more individuals out of the labor force than unemployed, most do not want a job and are retired or disabled, reducing the relative impact they have on the labor market. Nevertheless, those out of the labor force do contribute to gross flows into employment, warranting their inclusion in any study of labor force resource utilization.

Drawing on these insights, three of the authors of this *Economic Brief* (Hornstein, Kudlyak, and Lange) constructed a more comprehensive non-employment index.⁶ The index is a weighted average of the

various subgroups of the unemployed and those out of the labor force. The weight of each subgroup is the sample average of its job-finding rate relative to the job-finding rate of the short-term unemployed. Thus, the index measures the total availability of labor in terms of the short-term unemployed. (See Table 1.) The relative job-finding probabilities are suitable weights because they are persistent throughout business cycles. In this way, the non-employment index provides a “quality-adjusted” measure of labor resources for employment.⁷

Hornstein, Kudlyak, and Lange then compare the non-employment index and unemployment as shares of the working-age population. (See Figure 2 on the following page.) The working-age population is everyone over the age of 16, including those who are out of the labor force; thus, unemployment appears lower in this analysis than the standard measure, which expresses unemployment as a share of the labor force. The alternative index behaves qualitatively the same as the standard unemployment measure. Both rise and fall together during the two most recent recessions. Following the recession of 2007–09, both indexes have returned about halfway to their respective troughs in 2007; however, the non-employment index is smoother than the unemployment measure. Hornstein, Kudlyak, and Lange also incorporate into their index people working

Figure 1: Unemployment Measures



Sources: Bureau of Labor Statistics, Haver Analytics
 Note: All numbers are seasonally adjusted.

part time for economic reasons. Since these workers already are employed, it is not possible to use their probability of becoming employed as a weight, so the authors choose a weight of 50 percent.⁸ Including these part-time workers creates a larger increase in the index after 2007 and a slower recovery after 2010. This is consistent with the BLS's unemployment measure that includes such part-time workers.

If the larger increase in the non-employment index from the inclusion of part-time workers only occurred in the 2007–09 recession, it would suggest that resource utilization in the labor market had changed. To explore this possibility, Hornstein, Kudlyak, and Lange expand the index to include earlier business cycles. Prior to 1994, the BLS asked individuals about their desire to work only twice during the survey period. This requires the authors to use a different method to calculate the job-finding rates of people out of the labor force for years prior to 1994. They draw on work by Kudlyak and Lange, who constructed labor market segments based on survey respondents' status as employed, unemployed, or out of the labor force in the previous three months.⁹ This allows Hornstein, Kudlyak, and Lange to calculate the job-finding probabilities for these segments and construct a weighted non-employment index using the sample average of the relative employment probabilities of each segment, similar to the previous index. They incorporate part-time workers using the

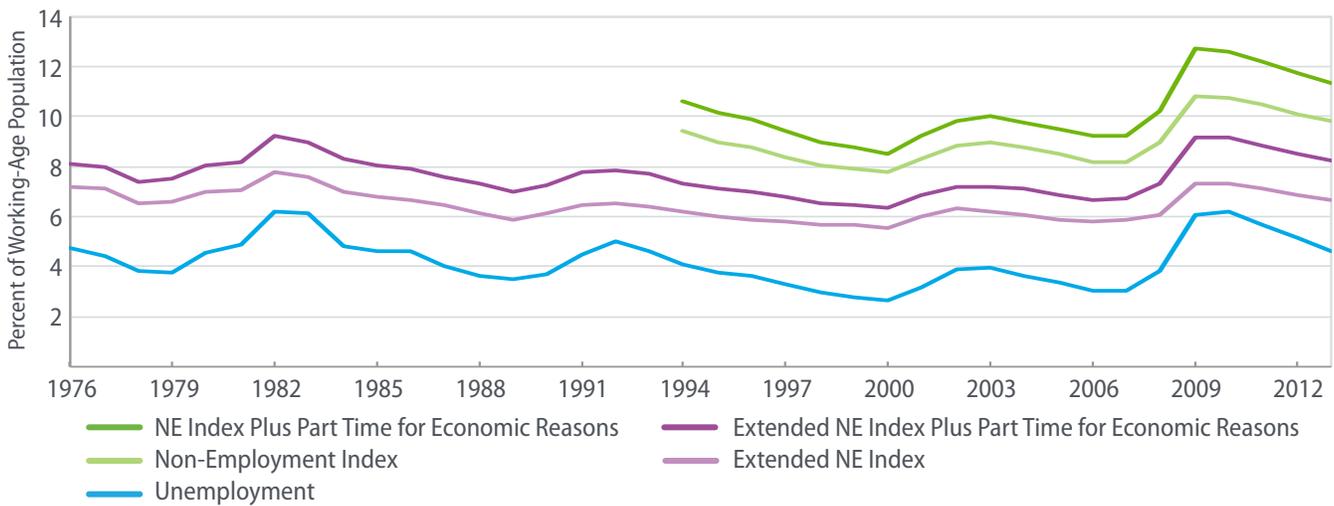
same 50 percent weight as before and find that this makes the index more volatile in all recessions. (See Figure 2.) Thus, the impact of individuals working part time for economic reasons was not unusual in the 2007–09 recession.

Implications for Measuring Labor Market Recovery

Incorporating additional segments of non-employed individuals and accounting for the differences in their employability results in qualitatively very similar findings to the standard unemployment rate. The standard unemployment measure and the non-employment index both indicate that labor force utilization is still at a lower level than prior to the 2007–09 recession. The two measures also tell similar stories about labor market recovery. In both cases, labor market resource utilization is about halfway back to prerecession levels. The similarities between the more comprehensive non-employment index and the standard unemployment measure suggest that the standard measure does not overstate the degree of resource utilization in the current labor market. ■

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Figure 2: Expanded Non-Employment Measures Track Cyclical Unemployment Movements



Sources: Bureau of Labor Statistics, authors' calculations

Endnotes

¹ See Fujita, Shigeru, "On the Causes of Declines in the Labor Force Participation Rate," Federal Reserve Bank of Philadelphia *Research Rap*, February 2014.

² See Yellen, Janet L., "What the Federal Reserve Is Doing to Promote a Stronger Job Market," Speech at the 2014 National Interagency Community Reinvestment Conference, Chicago, March 31, 2014.

³ Similar measures of labor market resource utilization were constructed for the United Kingdom. See Jones, Jerry, Michael Joyce, and Jonathan Thomas, "Non-Employment and Labour Availability," Bank of England *Quarterly Bulletin*, Autumn 2003, pp. 291–303.

⁴ For a short history of the extended measures of unemployment constructed by the BLS, see Bregger, John E., and Steven E. Haugen, "BLS Introduces New Range of Alternative Unemployment Measures," *Monthly Labor Review*, October 1995, pp. 19–26.

⁵ For literature on the distinctions between unemployment and being out of the labor force, see Flinn, Christopher J., and James J. Heckman, "Are Unemployment and Out of the Labor Force Behaviorally Distinct Labor Force States?" *Journal of Labor Economics*, January 1983, vol. 1, no. 1, pp. 28–42; and Elsby, Michael W.L., Bart Hobijn, and Aysegül Sahin, "On the Importance of the Participation Margin for Labor Market Fluctuations," Federal Reserve Bank of San Francisco Working Paper 2013-05, February 2013. For analysis of the long-term unemployed, see Krueger, Alan B., Judd Cramer, and David Cho, "Are the Long-Term Unemployed on the Margins of the Labor Market?" *Brookings Papers on Economic Activity*, Spring 2014.

⁶ Hornstein, Andreas, Marianna Kudlyak, and Fabian Lange, "A New Measure of Resource Utilization in the Labor Market," Federal Reserve Bank of Richmond, mimeo, April 2014. http://www.richmondfed.org/research/economists/bios/pdfs/hornstein_new_measure_resource_utilization.pdf.

⁷ The non-employment index is similar to other quality-adjusted employment measures, which use relative wages as a measure of relative labor efficiency. Such indexes have a long tradition in economics. For example, see Katz, Lawrence F., and Kevin M. Murphy, "Changes in Relative Wages, 1963–1987: Supply and Demand Factors," *Quarterly Journal of Economics*, February 1992, vol. 107, no. 1, pp. 35–78.

⁸ This weighting choice follows the pre-1995 BLS definition of the extended unemployment rate that includes people working part time for economic reasons; see Bregger and Haugen cited in footnote 4. According to the U.S. Census, in 2011 the average hours worked by part-time workers were about two-thirds those of full-time workers. Furthermore, for the period 1994–2013, the average monthly transition probability from working part time for economic reasons to working full time was about one-third. Thus, one could argue that the weight of one-half for those working part time for economic reasons represents an upper bound. In fact, it would not be unreasonable to assign a weight of one-ninth to this group.

⁹ Kudlyak, Marianna, and Fabian Lange, "Measuring Heterogeneity in Job Finding Rates among Those Out of the Labor Force," mimeo, 2014.

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