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Assessing Labor Market Conditions:
The level of activity and the speed of improvement

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One challenge in assessing labor market conditions is that each month a variety of data are released that may yield mixed signals on the health of the labor market. Using a broad set of data, we construct two key measures of labor market conditions that gauge the level of labor market activity and the speed of improvement. Together, these measures show there has been notable improvement, but two more years of similar improvement will be required to return labor market conditions to historical averages.

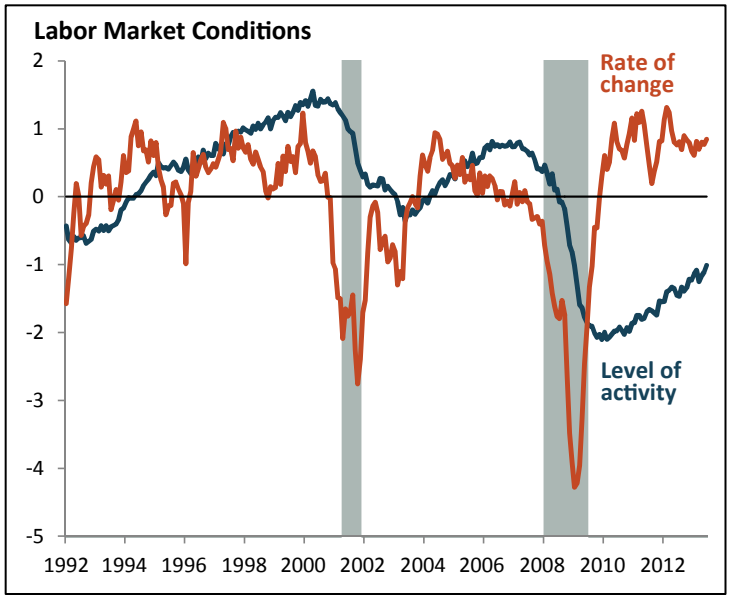
The Federal Open Market Committee has said its program of quantitative easing through asset purchases will continue "until the outlook for the labor market has improved substantially in a context of price stability." To assess improvement across a number of dimensions, we consolidate the information from 23 labor market variables into two key measures that capture the level of labor market activity and the speed of improvement.[1] The measures show that labor market conditions have improved and have recently been improving at a more rapid pace.

To create these measures, we focus on an array of labor market data that fall within the following two categories:

Level of activity: How far are labor market conditions from historical averages? Variables that fall into this category include various measures of unemployment, such as the traditional rate and measures related to marginally attached workers and the long-term unemployed.

Rate of change: How rapidly are conditions changing compared with the past? Variables in this category include the growth rates of private employment, total hours worked, and average hourly earnings, among others.

We also include surveys of economists, businesses, and consumers concerning labor market conditions.



To construct the two measures, we use a statistical technique called principal components analysis to consolidate information from all 23 labor market variables into a few indicators, or "factors." The analysis shows that two of the factors account for 82 percent of the movement

across the labor market variables. These two factors become our two key indicators. To offer an economic interpretation, we assess each indicator's correlation with the 23 variables. We find the first indicator is highly correlated with variables pertaining to the *level of activity*, and the second indicator is most correlated with variables pertaining to the *rate of change* of labor market conditions.

The chart shows the two indicators from January 1992 to June 2013, with periods of recession indicated by the shaded areas. Each indicator is constructed to have a mean equal to zero and a standard deviation equal to one. Thus by construction, each indicator will be outside the range of (-1, +1) about one-third of the time and will be outside the range of (-2, +2) about five percent of the time. A value of zero represents the historical average for each indicator over the period shown in the chart.

As the chart shows, the labor market's *level of activity* has been steadily improving since late 2009. Since reaching its minimum in December 2009, the measure of the level of activity has risen at an average monthly rate of 0.026. Since September 2012, it has been increasing at a faster average monthly rate of 0.042. Despite these steady gains, the level is still about one standard deviation below its historical average. Over the prior two decades, the level was higher than it is now 79 percent of the time.

In contrast to the level of activity, the measure capturing the *rate of change* in labor market conditions has been well above average for some time. This measure has had an average value of 0.77 since September 2012. Prior to September 2012, the speed of improvement in the labor market exceeded this level only 14 percent of the time.

For the level of labor market activity to reach its historical average, the speed of improvement needs to remain well above average. A regression of the change in the level of activity measure on the rate of change measure suggests that, for every month in which the rate of change measure is one standard deviation above its historical average, the level of activity measure rises by 0.05. Thus if the rate of change remains at its post-September 2012 average pace, the level of activity will reach its historical average in about 27 months, or in September 2015. In an alternative calculation focusing only on the level of activity measure, if that measure continues to rise at its average rate of increase since September 2012, it will reach its historical average in about 24 months, or in June 2015. By either method, the level of activity measure is likely to reach its historical average during the summer of 2015 if recent trends continue.

[1] The 23 variables used in this analysis include the unemployment rate, the U-6 unemployment rate, the Blue Chip forecast for unemployment, the employment-to-population ratio, job flows, the quits rate, part-time employment for economic reasons, job leavers, unemployed for 27 weeks or more, the Conference Board survey of job availability, the NFIB notable hires index, job losers, the hires rate, the NFIB increase index, initial claims, aggregate weekly hours, private nonfarm employment, temporary help employment, Challenger Gray job cuts, average hourly earnings, the University of Michigan survey of job availability, the Conference Board index of job availability and the ISM manufacturing employment index. More detailed information is available from the authors upon request.