

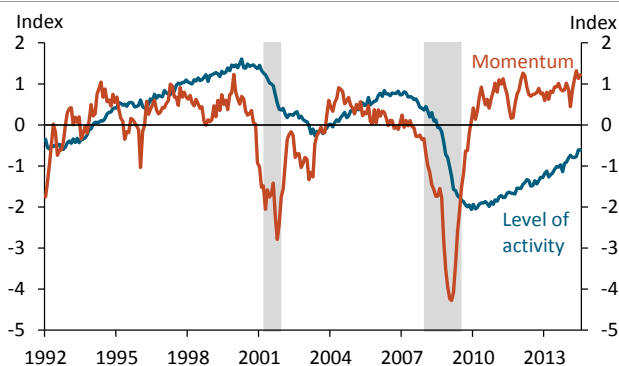
Kansas City Fed's Labor Market Conditions Indicators (LMCI)

By Craig S. Hakkio and Jonathan L. Willis

In the aftermath of a severe recession featuring significant shifts in employment, relying on one or two traditional labor market variables may not be sufficient to assess underlying labor market conditions. The Kansas City Fed's Labor Market Conditions Indicators (LMCI) are constructed as a weighted average of 24 labor market variables to provide a broader gauge of activity. The LMCI suggest the level of labor market activity has improved substantially since early 2010 and labor market momentum has been near historically high levels over the past four months. The indicators also suggest the level of labor market activity will return to its historical average level in the second half of 2015.

Labor market conditions play an important role in monetary policy. In its most recent monetary policy statement, the Federal Open Market Committee stated it will take into account a wide range of information—including measures of labor market conditions—in determining the appropriate stance of monetary policy.¹ To assess improvement across a number of dimensions, we consolidate the information from 24 labor market variables into two key measures that conveniently summarize labor market conditions.² To offer an economic interpretation, we assess each indicator's correlation with the 24 variables. As Hakkio and Willis (2013) previously described, 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 *momentum* of labor market conditions.

Chart 1: LMCI



Source: Authors' calculations.

Chart 1 shows these two indicators from January 1992 to July 2014, with shaded areas indicating recessions. 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.

The *level of activity* indicator has improved significantly over the past four and a half years of economic recovery. Chart 1 shows that the level of activity has risen from -2 in early 2010 to its current level of -0.6. Despite the steady improvement in this indicator following the recent recession, the current level of labor market activity remains below levels for the entire sample prior to 2008. Over the past six months, the level of activity has increased by 0.2. The first column of Table 1 lists the five labor market variables that have provided the greatest contribution to the change in the level of activity between January 2014 and July 2014. The strongest contribution has come from an increase in the quits rate.

Table 1: Largest contributions to LMCI

Largest contributors to the change in the level of activity indicator over the last 6 months (ranked in order)	Largest contributors to the momentum indicator in July 2014 (ranked in order)
Quits rate	ISM manufacturing employment index
Job leavers	Claims (as a share of the labor force)
Blue Chip forecast for unemployment	Labor Force Participation Rate
Job losers	University of Michigan survey of expected job availability
Unemployed for 27 weeks or more	Conference Board index of expected job availability

Source: Authors' calculations.

Based on the historical relationship between the LMCI and the unemployment rate, recent declines in the unemployment rate have overstated improvements in labor market conditions. A simple regression of the unemployment rate on the activity and momentum indicators provides the unemployment rate that would be consistent with the overall state of labor market conditions represented by our two indicators.³ Chart 2 shows that the recent decline in the published unemployment rate is much larger than the decline that the LMCI would predict. In fact, the unemployment rate predicted by the LMCI is currently 7.1 percent, rather than the published estimate of 6.2 percent. The increase in the unemployment rate during the Great Recession also overstated the deterioration in labor market conditions as measured by the LMCI.

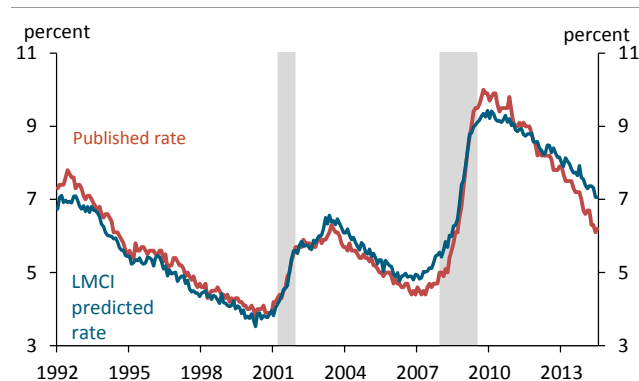
Finally, we use these indicators to forecast when the activity index will return to its historical average. One method exploits the observation that when momentum is above average we would expect the level of activity to improve. More specifically, we regress the change in the level of activity indicator on the momentum indicator using the entire sample. Assuming momentum in the future equals its average value over the last 12 months, we can predict future values of the activity index. A second method simply extrapolates the trend in the activity index we have observed over the last 12 months. Both methods suggest that the activity index will return to its historical average in the second half of 2015.

References

Chung, Hess, Bruce Fallick, Christopher Nekarda, and David Ratner, 2014. "Assessing the Change in Labor Market Conditions," FEDS Notes, Board of Governors of the Federal Reserve System, May 22.

In contrast to the level of activity, the *momentum* indicator has been well above average for some time. This indicator has had an average value of 1.2 over the past four months. Between January 1992 and March 2014, the momentum indicator exceeded this recent average in only three months (1 percent of the time). The second column of Table 1 lists the five labor market variables contributing most to the July 2014 momentum indicator. The largest contributor to current labor market momentum is the ISM manufacturing employment index.

Chart 2: Unemployment rate



Sources: Bureau of Labor Statistics and authors' calculations.

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Yellen, Janet L. "Labor Market Dynamics and Monetary Policy." Speech delivered at the Federal Reserve Bank of Kansas City Economic Symposium in Jackson Hole, Wyoming, August 11, 2014.

**The views expressed are those of the authors and do not necessarily reflect the positions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.*

¹ In her [speech](#) on Aug. 22, 2014, in Jackson Hole, Fed Chair Janet Yellen cited Hakkio and Willis's 2013 research on labor market indicators.

² The 24 variables used in this analysis are the unemployment rate, the U-6 unemployment rate, the Blue Chip forecast for unemployment, the employment-to-population ratio, the labor force participation rate, 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 on the labor market variables and the construction of the LMCI is available in a [background document](#).

³ The relationship between the unemployment rate and the LMCI is very strong over the sample period, as indicated by an OLS regression with an R^2 of 0.95.