

The Wage Cycle and Shadow Labor Supply

By Troy Davig and José Mustre-del-Río

Wage growth has been subdued throughout the recovery. However, evaluated relative to different measures of labor market slack, even including measures of the “shadow” labor supply, wage growth is currently running at a pace consistent with the last expansion. Further labor market improvements, either through lower unemployment or higher job vacancies, would be consistent with rising wage growth at this stage of the business cycle.

Over the first half of 2014, unemployment has fallen substantially and the number of job openings has surged, yet wage growth has remained subdued. Based on the number of unemployed individuals per job opening—a measure of firms’ difficulty in finding workers—the current pace of wage gains is consistent with the last expansion. Despite this similarity, some aspects of the labor market look different today. For example, the share of the long-term unemployed (i.e. unemployed longer than 26 weeks) is larger, as is the number of individuals who are not in the labor force but want a job—that is, the “shadow” supply of labor. Even after taking these differences into account, the current pace of wage growth is consistent with the last expansion when firms faced similar conditions in finding workers.

Chart 1: The wage cycle



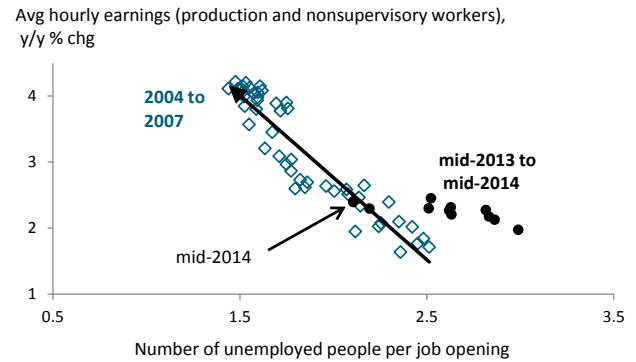
Source: Bureau of Labor Statistics

The relationship between labor market slack and wages varies over time. Chart 1 shows the relationship between nominal wage growth and the number of unemployed individuals per job opening. The relationship has cycled through three distinct phases over the past ten years. The phase from 2004 to 2007 captures the dynamics during the mature phase of the cycle. As the ratio of unemployed individuals to vacancies declined, firms faced greater difficulty in attracting workers and wages rose. The recessionary phase from 2008 to mid-2009 showed a rapid increase in slack as firms pulled back on hiring and increased firing. Wage growth, however, declined only modestly. This modest decline could reflect persistence in the wage setting process, but could also reflect a changing composition of workers: as those with below average wages were laid off, the average wage would rise. Workers who kept their jobs were thus not necessarily seeing wage gains during this phase. Wage growth declined further in the early phase of the recovery, from mid-2009 to mid-2013, even as measured slack continued to decline. Compositional changes could also be at play during this phase. New workers may have been hired at wages below existing workers, which again would pull down the average wage. The apparent decline in slack could also reflect declining labor force participation. Although the participation trend is decreasing due to demographic reasons, some of the decline was likely related to the business cycle. As a result, the fall in the number of unemployed individuals per vacancy may be overstating the reduction in labor market slack, at least to the extent it is driven by discouraged workers exiting the labor force.

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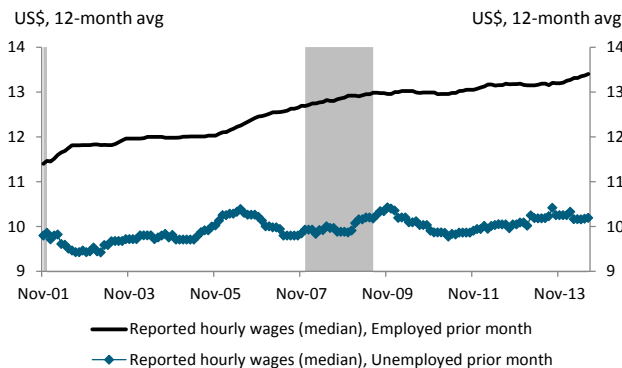
More recently, the pace of wage growth has realigned with the last expansion as seen in Chart 2. Today, however, a larger share of the unemployed has been out of work for longer than 26 weeks. For example, 33% of the unemployed are now long-term unemployed, compared with 18% in early 2007. In addition, the shadow supply is about 1.75 million larger today than it was at the end of 2007. To the extent these populations exert downward pressure on wages, the future pace of wage growth may differ from the last expansion. If they exert little influence on wages, however, then wage growth may accelerate if the labor market continues to improve.

Chart 2: Wage growth realignment



Source: Bureau of Labor Statistics

Chart 3: The wage gap

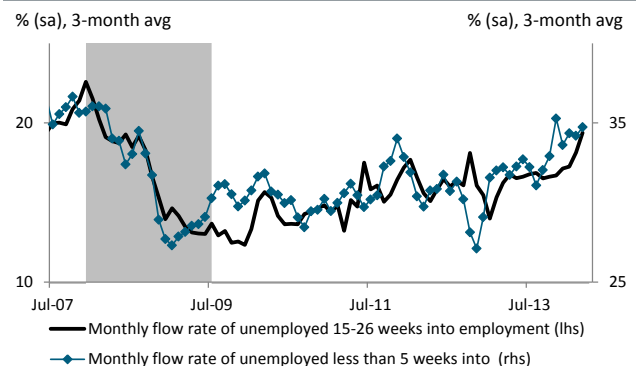


Sources: Bureau of Labor Statistics, Authors' calculations

of employed individuals were also employed in the previous month, which indicates the black line in Chart 3 is a close approximation of median wages. However, an increase in the job-finding rate for the unemployed may be a near-term headwind for wage growth. As Chart 4 shows, the monthly flow rates from unemployment into employment are rising not only for the short-term unemployed, but also for the medium-term unemployed (15-26 weeks). Job-finding rates for the longer-term unemployed and for those out of the labor force who want a job have moved only slightly higher. Nevertheless, the compositional effect on average wages due to an increased flow into new employment is likely to be modest. For example, if 5% of workers are newly employed, rather than 4%, then this 1-percentage-point

Labor market slack can exert downward pressure on wages through different mechanisms. For example, Chart 3 shows that wages for workers who were unemployed in the previous month are below wages for those who were previously employed. Part of this difference may be due to tenure effects, where on-the-job experience leads to higher productivity and wages. As the unemployed find work, their below-average wages pull down overall measures of wage growth. These compositional effects, however, are likely to be quite small as a recovery matures, simply because the employed population is so much larger than the unemployed. For example, currently almost 96%

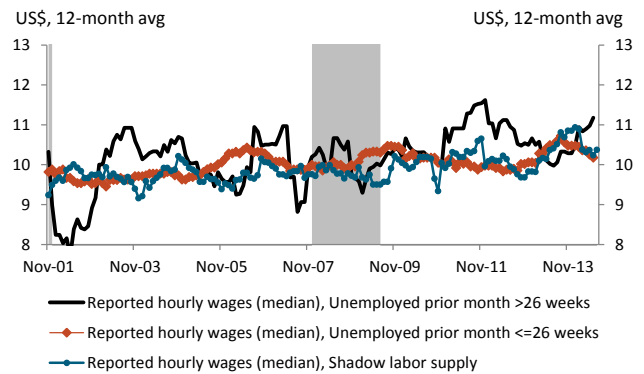
Chart 4: Rising job finding rates



Sources: Bureau of Labor Statistics, Authors' calculations

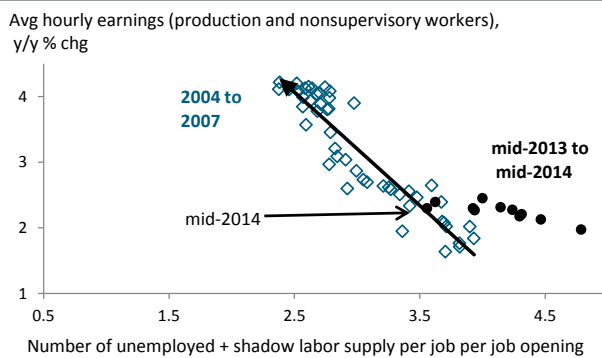
shift would lower wages by about 0.25 percentage point due to the compositional effect alone. However, if the longer-term unemployed or shadow labor supply were willing to accept substantially lower wages, then the effect could be larger. Chart 5 shows that wages of newly employed workers are not that different for the short- and long-term unemployed, or from a newly employed person who was previously out of the labor force but wanted a job. As a result, the compositional effect at this stage of the cycle appears unlikely to be a persistent headwind to wage growth.

Chart 5: Initial wages for the unemployed



Sources: Bureau of Labor Statistics, Authors' calculations

Chart 6: The shadow labor supply and wages



Source: Bureau of Labor Statistics

plots growth in average wages against a broader measure of labor market slack today and compared to the prior cycle. Relative to Chart 2, the relationship shifts to the right, but is otherwise intact. Based on this expanded measure of slack, wage growth is running even a bit ahead of its pace during the last wage cycle under similar conditions.

What do the results imply about wages going forward? If the pattern from the last wage cycle is an indication, then declining labor market slack—whether measured narrowly, using only the unemployed population, or broadly, using measures of the shadow labor supply—will likely be met with faster wage growth. Unexpected changes in economic conditions can certainly create different outcomes for the labor market, but at this stage of the business cycle, more job vacancies and a further decline in unemployment would be consistent with stronger wage growth.

**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.*