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Economic Research Note

US: Now is the wrong time to give up on wage growth

- **The curve relating wage growth and unemployment has been kinked in recent decades.**
- **Unemployment has only recently fallen far enough to put us back on the steep part of the curve.**
- **Weak productivity growth and wage momentum will likely hold wage growth in the 2 to 3% range in 2015.**
- **But for every additional p.p. decline in unemployment, we expect 0.5 to 0.75 p.p. more wage growth in 2016.**

Over the last five years, JPMorgan economics has consistently downplayed inflation risks in the US. Ongoing tightening in the labor market, however, has led to an evolution in that view.

The fact that wages haven't accelerated yet is not a puzzle: until recently there was considerable slack in the labor market, and an acceleration in wages was not to be expected. Only now, with the unemployment rate below 6%, are we near the point where we expect wage growth to start rising.

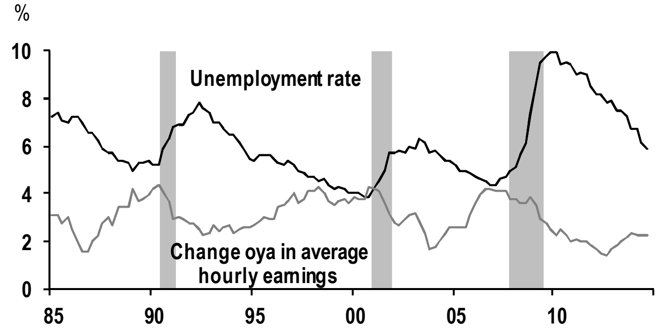
To be sure, an increase in wage growth doesn't necessarily mean a sharp pick-up in inflation risk; the links between wage and price and inflation are loose in the short- and medium-term. Nonetheless, rising wage growth would be the signal the Fed needs to verify that it is getting closer to achieving its employment mandate.

Known knowns

Before diving into the details, we discuss a few things we can say for certain.

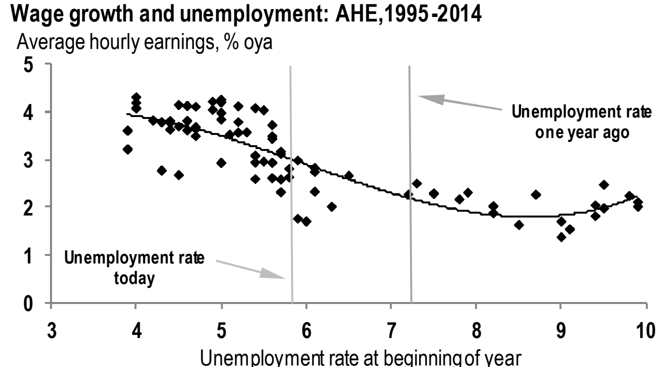
- First, there is strong evidence that a wage Phillips curve exists. That is, there is a clear inverse relationship between wage inflation and the unemployment rate. Although this might sound uncontroversial, some economic theories would suggest that the relationship between unemployment and inflation should moderate in an era of well-anchored inflation expectations like the last 30 years. Indeed, the relationship between unemployment and consumer price inflation has been quite weak. But our first chart shows that unemployment and wage inflation have been robustly negatively correlated throughout the last three decades of anchored inflation expectations.

Unemployment and wage inflation



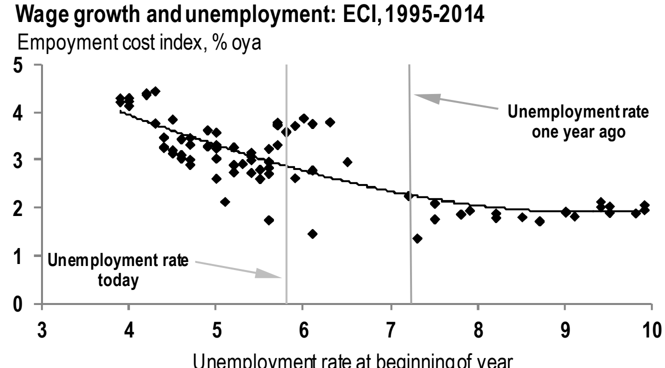
Source: BLS, J.P. Morgan

Wage growth and unemployment: AHE, 1995-2014



Source: BLS, J.P. Morgan

Wage growth and unemployment: ECI, 1995-2014



Source: BLS, J.P. Morgan

- Second, we know that this relationship has been "bent" in the very high unemployment years following the Great Recession. The second chart shows the same data from the first one in a scatter plot (excluding the first ten years when the NAIRU was likely higher). Among the observations where the unemployment rate was below 7%, there is a clear downward relationship, with wages growing faster when the unemployment rate is lower. Above 7%, however, the relationship flattens off – a fact almost certainly related to so-called "downward nominal wage rigidity" (See the discussion in Getting a grip on the surprising strength of US wage growth"). A cubic polynomial curve fit to the data confirms the visual evidence, and the third chart shows that a similar relationship holds in the Employment

Cost Index data, which we have found before are the most useful wage data for predicting price inflation (See the discussion in "A field guide to wage-watching").

- Third, while we don't have a precise understanding of where this relationship bends, we are likely getting close to the point where the story gets interesting. The vertical lines on the last two charts suggest that the past year of rapid declines in the unemployment rate have made striking progress in moving from the flat part of the wage Phillips curve to the steeper part. While the four years from 2009 to 2013 moved us steadily along the flat part, over the last year we jumped quickly back to a place where the curve has historically been both higher and steeper.

What you don't know can't hurt you?

We fit wage inflation to a "piecewise-linear" function of the unemployment gap, which allows the slope of the Phillips curve to have different values when the gap is above or below a given breakpoint. We measure the unemployment gap as the difference between the unemployment rate and the CBO estimate of the natural rate, which is currently at 5.5%. We can choose the breakpoint to maximize the fit of the model or we can choose it ourselves. We focus on results with a breakpoint of 1.0 p.p. for the unemployment gap (equivalent to 6.5% for the current unemployment rate), which falls between the values that maximize model fit for average hourly earnings (6.7%) and the employment cost index (5.6%). Results are similar if we use other nearby breakpoints, a polynomial function of the unemployment gap as in the charts, or a Tobit model that treats the underlying rate of wage inflation as censored due to downward wage rigidity.

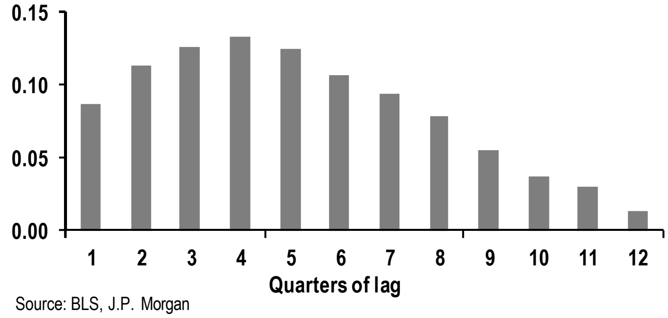
We also include other variables that aid in predicting wage growth on the right-hand-side. We include year-ahead inflation expectations from the Survey of Professional Forecasters, along with lagged wage inflation to capture wage momentum that has been shown to aid in forecasting inflation. Finally, we include productivity growth, which can potentially be passed to workers through higher wages.

The bottom line

The model finds large and statistically significant effects of the unemployment rate on future wage growth. Importantly, the unemployment rate affects wage growth with some lag. As shown in the last chart, the impulse to wages builds over time, with about half of the cumulative effect occurring in the first year and 90% within two years. This is helpful in understanding why wages have yet to accelerate. It was just a year ago when the unemployment rate was a lofty 7.2%.

Response of quarterly wage growth to 1 p.p. decline in unemployment

p.p. of q/q ECI



Source: BLS, J.P. Morgan

For 2015, the model forecasts 3.1% growth for average hourly earnings and 2.3% for the employment cost index. While the AHE forecast is a step up over recent gains, the ECI forecast is close to its recent history. Particularly for the ECI, low productivity growth and weak wage momentum are pushing back against the tighter labor market and holding the model forecast down.

More encouragingly, the models find a significant increase in the slope of the Phillips curve between the flat and steep parts. For forecasting ECI inflation (our preferred measure) over the next year, we find a slope of -0.1 in the flat part and -0.5 in the steep part; for AHE, we find -0.2 and -0.75. Because we are now in the steep part of the curve, every additional 1 percentage point decline in the unemployment rate will lead the model to expect additional gains of 0.5 p.p. in the ECI and 0.75 in AHE within a year (compared to 0.1 p.p. and 0.2 p.p. over most of the recovery).

Thus, while some people have been surprised by wages' failure to accelerate thus far in the recovery, we caution that now is not the time to throw in the towel. We think we have only recently gotten to the part of the curve where labor market tightening will drive wage gains. But given the loose connection between wage and price inflation, we still see little risk of a sharp pick-up in inflation in the short- and medium-term.