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Economic Watch

US

20 October 2011
Economic Analysis

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Under Pressure?

Wages, Inflation and the Federal Reserve

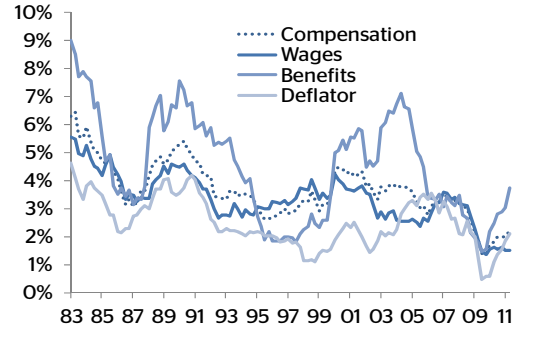
- **Wages do not reliably predict inflation, but may confirm expectations**
- **FOMC monitors wages to validate if a feedback loop is occurring**
- **Average hourly earnings will creep upwards in 2013**

When to Check-in on Wage Pressures?

Amongst the many variables closely watched by the Federal Reserve for purposes of estimating the future evolution of inflation, wage pressures have presented a unique history for Federal Open Market Committee (FOMC) policymaking over the past few decades. During the 1970's, the US economy was said to have slipped into a wage-price spiral of higher inflation, resulting in a stinging policy mistake for the Federal Reserve which had underestimated the level of the nonaccelerating inflation rate of unemployment (NAIRU) at the time. As such, the Federal Reserve now maintains a watchful eye on the evolution of wages in the economy. However, the purpose of this vigilance is slightly more nuanced than generally perceived by the public.

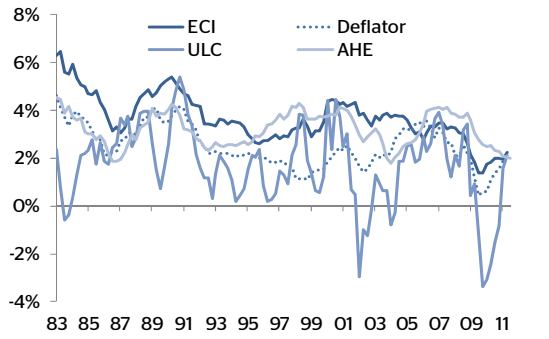
This nuance is due to the fact that measures of wage growth are not very good predictors of inflation. In contrast, wage growth is a good measure to confirm the solidification of inflationary expectations. Once expectations of inflation coalesce around higher levels, it leads to higher wage demands and a wage-price spiral – the case of wages chasing prices – begins to emerge. The means of establishing causality between two variables is best tested through a method designed by Granger: we check if lags of one variable are a significant predictor of another variable. We apply Granger tests between components of the Employment Cost Index and different measures of core inflation (Core CPI, Core PCE, Trimmed-Mean and Median CPI) and the GDP deflator. Previous analyses have generally neglected the newer alternative measures of underlying inflation in Granger causality tests between inflation and wages. We also examine cross-correlation statistics between these indicators over different time period samples and reveal some of the intuition of the Granger tests. As in previous research, wages are a poor predictor of inflation. However, inflation is a good predictor of wages and thus we develop a monthly model of the average hourly earnings measure of wage growth. In general, wage growth can be viewed as a validation that inflation expectations are rising. In an environment of uncertainty over the natural rate of unemployment, wages can also offer a signal of the extent of structural unemployment in the economy.

Chart 1
Employment Cost Index and GDP Deflator, YoY %



Source: BLS and BBVA Research

Chart 2
Wage Metrics and Inflation, YoY %



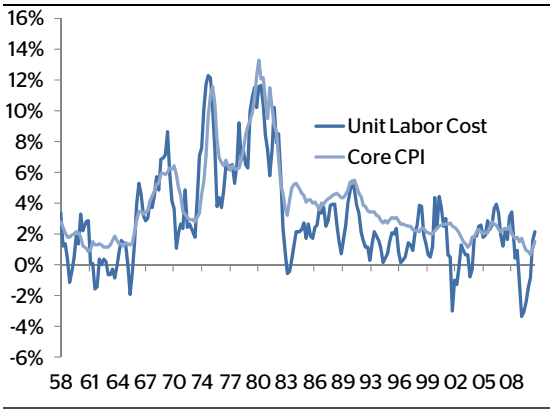
Source: Haver Analytics and BBVA Research

We focus specifically on three different sources of wages and compensation, which includes both benefits and wages. Average hourly earnings (AHE) of nonsupervisory production workers is one of the longest data series on wage growth and is available on a monthly basis. The main problem with AHE is that it includes only a narrow set of workers and does not apply fixed industry weights. As such, a shift from low-paying occupations to high-paying occupations could be interpreted as wage inflation in this indicator. The quarterly Employment Compensation Index (ECI) uses fixed industry weights and includes data on wages and different measures of benefits. Benefits generally include items like vacation days or other paid leave, legally-required benefits, retirement plans, and health insurance. Lastly, unit labor cost (ULC) is a measure of wages that is adjusted for productivity. As a result, this indicator is more volatile than ECI, but still shows a relationship with Core CPI. Most of the measures analysed here are nominal measures, so the ULC measure can tell us if compensation is offset by increases in productivity. Alternatively, during times of wide profit margins, employers can more easily accept increases in labor costs without passing them on to consumers via higher prices, therefore translating into higher real wages.

Our Granger causality tests broadly confirmed the established consensus that wages are not influential in predicting inflation, even when including the Trimmed-Mean and Median CPI measures (previous research did include an error-correction term in the tests, which we omitted). Our cross-correlations similarly confirm that a structural break in the economy occurred after the 1970s, which embodies the view that the chase between wages and prices was successfully broken by the Volcker Federal Reserve. The data does suggest, however, that inflation may be used to forecast wages using deterministic linear trends.

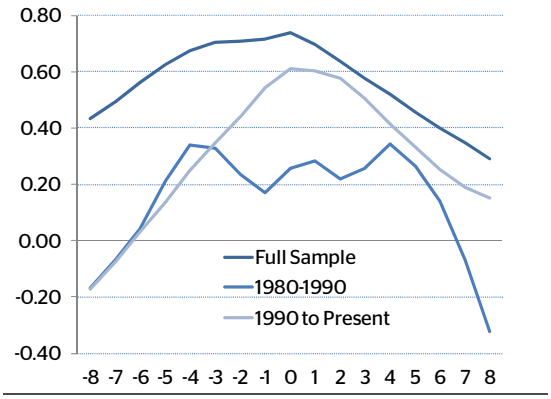
In order to assess wage pressures, we developed a forecasting model using historical monthly data on nominal AHE. The amount of excess resource slack in the economy is one of the main drivers. In our model, we used the capacity utilization rate to represent the output gap and measure changes in labor market demand. We also included the consumer price index (CPI), including food and energy costs, as the primary measure of price inflation to emphasize that inflation expectations have a direct impact on wage pressures. Although deflationary concerns were on the rise a few months ago, recent data have suggested higher-than-expected inflation. Rising food and energy prices have driven inflation throughout the summer months, but the Fed has stressed that prices will eventually settle within their comfort zone. While there continue to be uncertainties regarding the growth and inflation outlook, we do not expect prices to deviate much from the Fed's projected path. In addition to CPI data, our model also included relative import prices, calculated as the ratio between the implicit import price deflator and the GNP deflator, in order to account for supply side shocks in the economy. Finally, we included the OECD manufacturing confidence indicator to signal expectations for the business environment.

Chart 3
Unit Labor Cost and Core CPI, YoY%



Source: Haver Analytics

Chart 4
Correlation YoY Core CPI on YoY ECI Wage Index

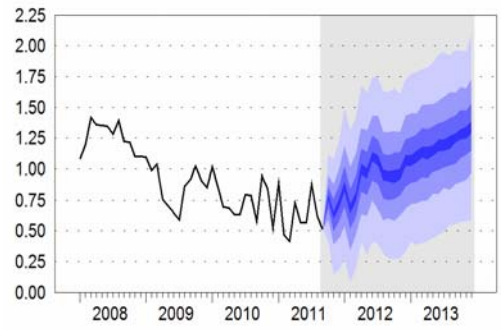


Source: BBVA Research; Note: Horizontal Axis is Quarter Lag or Lead

Bottom line: Check Back in with Wages in 2013

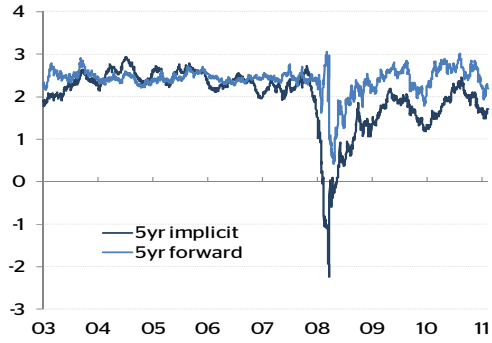
Wage pressures represent a confirmation of inflation expectations. The Federal Reserve will monitor various wage metrics (AHE, ULC and ECI) in order to check for a feedback loop between expectations and demands for higher compensation. Overall, wages are not a strong predictor of inflation. Based on AHE, at the present time wage pressures are very low, but we expect them to increase over the next two years. Although inflation will remain subdued, wage growth will not be notable until 2013. However, even in 2013 we expect wages to settle at a growth rate lower than that achieved in 2006 and 2007. With steady financial markets, middling economic growth and elevated unemployment will be capped, but wage pressures will creep upwards given the cumulative stabilization and price increases.

Chart 5
Monthly Average Hourly Earnings, YoY%



Source: BBVA Research

Chart 6
TIPS-Derived Inflation Expectations, %



Source: Federal Reserve