Economic Watch

US

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Economic Analysis

US
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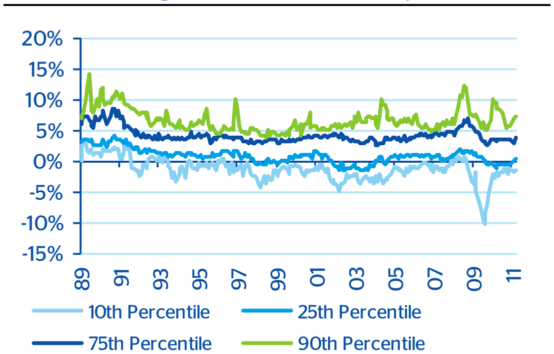
Deciphering the components of inflation

- **Commodities impart limited pass-through to overall inflation**
- **Lower inflation expected in 2012 than 2011 given a decline in commodities**
- **We do not expect a stagflation outcome in the US**

During the most recent financial crisis, the headline consumer price index (CPI) faced deflationary pressures from declining home and commodity prices. The shelter component of the CPI is derived from rental rates and home prices, both of which declined markedly during the crisis. Crude oil prices reached a record high in 2008 given a booming global economy. A sudden financial shock to the economy alongside a serious downturn in the business cycle created a sharp reversal in these CPI categories. The declines in the CPI alongside negative GDP growth sparked fears of sustained deflation. In response to these fears, the Federal Reserve embarked on two rounds of large-scale asset purchases in 2009-2010. With the economy growing at a moderate pace in 2011, the combination of high liquidity and rising food and energy prices are causing expectations to shift from deflation to high inflation.

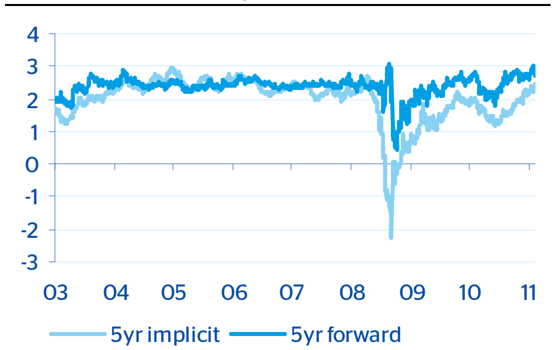
One way to approach the analysis of this shift in the outlook for inflation is to examine the YoY change in each component of the CPI and then determine the distribution of prices over time. In other words, for each month we line up the YoY change for each component from smallest to largest and determine the 10th, 25th, 75th and 90th percentiles. The resultant graphic illustrates movements in the central tendency of price changes in the CPI. At the present time, while we see some upward movement in the central tendency, we do not yet see a sustained upward shift that would imply more widespread changes in inflation across components.

Chart 1
CPI Price Change YoY % Distribution by Percentile



Source: BBVA Research

Chart 2
Breakeven Inflation Expectations, %

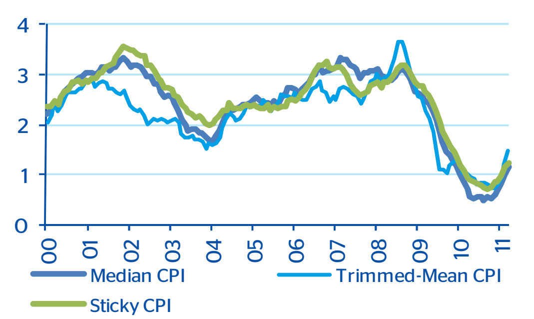


Source: Haver Analytics

The upward movement in headline inflation illustrated above is the result of higher oil and food prices. In the last three months, the energy aggregate CPI increased YoY on average by 11.4%, while the food at home index component increased YoY on average by 2.9%. These two components together represent roughly 16.8% of a typical household's expenditures. A notable trigger of food increases also relates to increases in oil, as fertilizer and other petroleum products represent an input into the production and transportation of food. As a result, the food index may continue to increase as oil prices decline. On the whole, we expect these increases in commodity prices to be temporary. Moreover, until now the pass-through from increases in energy prices to underlying inflation or core prices remains limited.

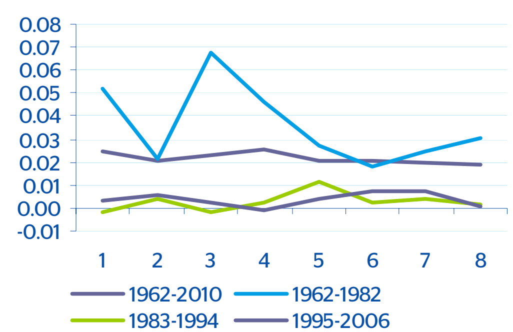
The next issue is the degree to which this pass-through will remain limited. Historically, the pass-through from commodity prices to core inflation in the United States has been low. If one investigates the data since 1980, a structural break in the series is evident that leads to an era of stable inflation. One simple way of estimating the pass-through of energy to price increases is to look the past changes in energy prices on the change in underlying inflation. Using data based on personal consumption expenditure price index, we employed a distributed lag model to examine the pass-through effect of energy prices to underlying inflation. According to our results, the pass-through effect in recent years is minimal and has declined relative to the 1970s and 1980s. This is one motivation for the fact that core inflation has remained low in the face of commodity price increases.

Chart 3
Trimmed-mean, Median and Stick Price Indices YoY% Change



Source: Haver Analytics

Chart 4
Distributed Lag Estimates



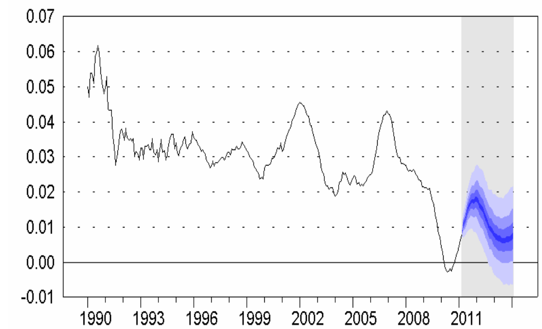
Source: BBVA Research

Core inflation offers us a perspective on inflation based on long-term structural drivers and inflation expectations rather than short-term volatility in commodity markets. As such, core inflation can be conceived of in various ways: sticky or infrequently-changing prices, the median price change, and the inflation trimmed of extreme price changes. All of these measures of core inflation indicate a recent upturn in inflation, but from extremely low levels. Shelter price comprise 40% of the core inflation measure, suggesting that the trend in shelter prices will impart a strong effect on the future path of trend inflation. This boils down to rent and owner's equivalent rent (OER), both of which are affected by home prices. Due to the ongoing problems in the housing market, people today are somewhat reluctant to purchase homes and are favoring renting, which supports increases in the rental component. Owner's equivalent rent, partially calculated from prevailing regional rental rates, is also increasing on a YoY basis, although from low levels. Overall, these trends are likely to continue throughout the year. In order to capture the future path of shelter, energy and food indices, we forecast the data using models that relate each index to commodity or housing price measures. For example, we relate the food index to prices of agricultural products such as corn and cattle. Conditional on stabilizing home prices and declining commodity prices in the second half of 2011, we expect these three components of inflation to contribute less strongly to core inflation by 2012.

Chart 5
Baseline Headline and Core Inflation Forecast

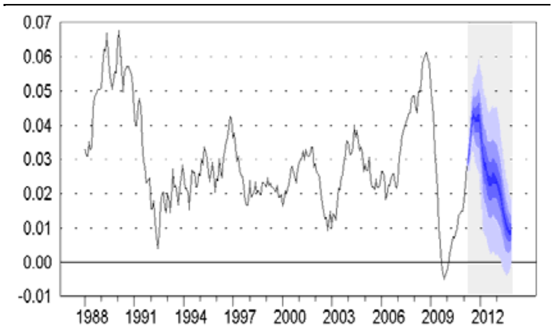
Source: BBVA Research

Chart 6
Unconditional Forecast of OER, In YoY %



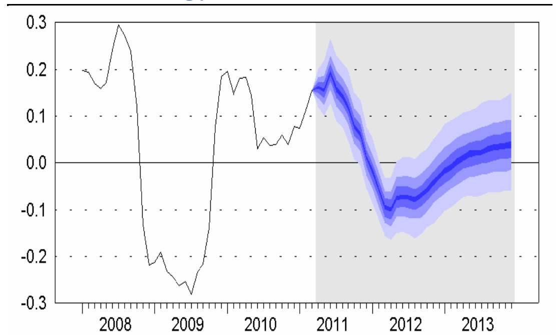
Source: BBVA Research

Chart 7
Conditional Food Index Forecast, In YoY %



Source: BBVA Research

Chart 8
Conditional Energy Index Forecast, In YoY %



Source: BBVA Research

Bottom line: No imminent indications of stagflation

We currently expect a slowdown in inflation during the second half of 2012. Sudden increases in commodity prices triggered an upward revision to our previous inflation forecast, but we remain strident that these commodity price increases are transitory. As a result, we anticipate lower inflation in 2012 than in 2011. Our 2012 inflation forecast is influenced by not only declines in commodity prices, but also remaining resource slack in the economy (although less resource slack than in 2011). We also believe that longer-term inflationary expectations will remain low. At the present time we do not see appreciable risk of a stagflation event, which would involve unhinged inflation expectations and higher wage pressures. In particular, the average hourly earnings of production and nonsupervisory employees on private nonfarm payrolls are currently growing at an extremely low YoY rate. Higher wage pressures may arise from either a significant increase in inflation expectations or long-term unemployment. However, we do not see any imminent indication of stagflation in the United States.