CAPITAL MARKETS RESEARCH

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Special Report:
U.S. Inflation Readings Give The Green Light For QE3

- **The U.S. inflation picture is currently similar to the conditions that existed when Federal Reserve Chairman Ben Bernanke strongly hinted at QE2 at the Jackson Hole, Wyoming central bankers' conference in August 2010. This gives the Fed the last piece of the puzzle to justify introducing additional stimulus including QE3 to which we attach 40% odds at the upcoming FOMC meeting and 65% odds at the September meeting.**

While challenges to the Fed's full employment mandate are fairly clear by way of renewed disappointment to GDP (1.5% in Q2) and sub-100k monthly employment growth, it is often suggested that any policy response by the Fed may be constrained by the fact that its price stability mandate is not itself being disappointed. Inflation risk, it is surmised, is not what it was when QE2 was introduced and the Fed must therefore wait it out to see if further inflation downsides — particularly deflation risks — emerge. This isn't really true on two counts: one is that there are already strong parallels between inflation readings now versus when QE2 was factored into market expectations; the other is that the Fed could well decide that inflation is well behaved enough, allowing it to focus upon deeper disappointments to its full employment mandate. In other words, sharp disappointment on one half of its dual mandate and less so on the other may well prove to be sufficient to motivate a move toward providing additional stimulus. We back up this view by surveying a number of the inflation metrics that the Fed pays heed to.

1. Headline Inflation Back To QE2 Levels

First, on actual inflation trends to date, we offer charts 1 and 2. There are two principal ways of looking at headline (ie: all-items) inflation (chart 1). The first is the way the market and general public more commonly consider movements in broad prices by way of the year-over-year percentage change in headline CPI. The second is the Fed's preferred metric which is the headline price deflator for total personal consumption expenditures (PCE). Why the Fed prefers the PCE deflator over CPI is captured in the following explanation dating back to when the Fed initially shifted its focus:

> "Since February 2000, the Federal Reserve Board's semiannual monetary policy reports to Congress have described the Board's outlook for inflation in terms of the PCE. Prior to that, the inflation outlook was presented in terms of the CPI. In explaining its preference for the PCE, the Board stated: The chain-type price index for PCE draws extensively on data from the consumer price index but, while not entirely free of measurement problems, has several advantages relative to the CPI. The PCE chain-type index is constructed from a formula that reflects the changing composition of spending and thereby avoids some of the upward bias associated with the fixed-weight nature of the CPI. In addition, the weights are based on a more comprehensive measure of expenditures. Finally, historical data used in the PCE price index can be revised to account for newly available information and for improvements in measurement techniques, including those that affect source data from the CPI; the result is a more consistent series over time."
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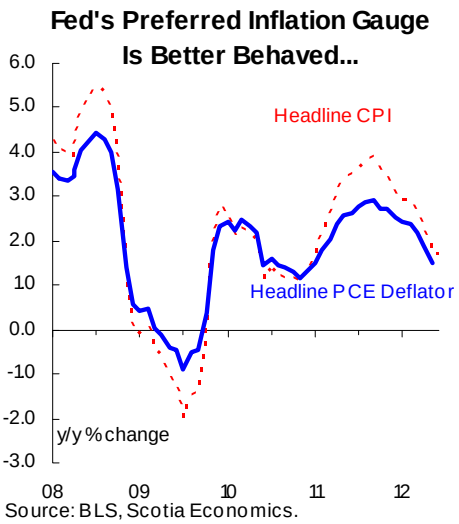
> *Monetary Policy Report to the Congress, Federal Reserve Board of Governors, Feb. 17, 2000*

Chart 1



Source: BLS, Scotia Economics.

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These two measures offer materially different perspectives at present. Headline CPI stood at 1.7% y/y in June, and has run within a wide band with a lower trough in 2008 and a higher peak last summer. The headline PCE price deflator sat at 1.5% y/y in the May reading with the June reading due one day before next week's FOMC statement and which has run within a more stable interval since 2008. Thus, at 1.5% using the Fed's preferred measure, headline price inflation is already operating below the long-run 2% inflation target set by the Fed and comfortably within the Fed's 1.2% to 1.7% central tendency forecast range for headline PCE inflation in 2012.

2. Core Inflation Higher Than When QE2 Was Introduced, But Give It Time

Second, there are also two ways of looking at actual core inflation excluding more volatile food and energy items (chart 2). Core CPI currently sits at 2.2% y/y and has only leveled off into the June reading, while core PCE sits at 1.8% as of May and is dropping in recent months. This makes for a nearly half-point spread between core CPI and core PCE measures of inflation. Like the headline inflation PCE measure, core PCE has tended to float within a tighter band than core CPI. Core PCE inflation already sits comfortably within the Fed's central tendency forecast range from the June FOMC meeting which ran from 1.7% to 2%. The current reading remains, however, just under a half percentage point above the levels of core PCE inflation that existed around the time of Jackson Hole in August 2010 when it stood at 1.4% y/y, and we think that by late summer we will have returned to the levels of core PCE inflation that existed in August 2010.

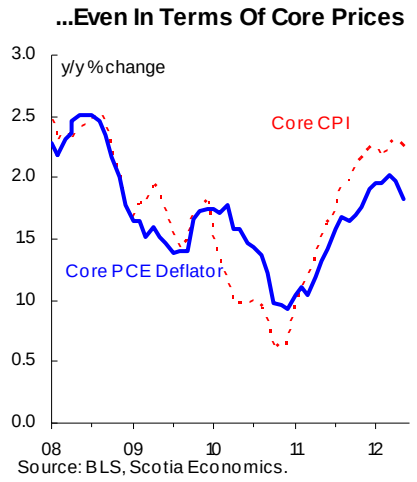
3. Market-Based Expectations Also Back To QE2 Levels

The Fed also pays heed to market based measures of inflation expectations which have been mixed but generally benign. The Fed's preferred market-based measure of inflation expectations is the five-year five-year forward breakeven rate, which is based on determining the simple average of the 5-year breakeven yield and solving for the average yield during the subsequent 5-years that would be required in order to produce the present 10-year breakeven yield.[1] The Fed likes this measure because it gives a pure view of medium/long term inflation prospects.[2] It is a less volatile measure that is less susceptible to swings in liquidity distortions compared to other measures we provide below. At 2.4% presently, this market-based measure of expectations is just a hair above the 2.2% levels of August 2010 and lies toward the lower end of readings incurred over the crisis period since 2008 (chart 3). Interestingly, this measure of longer run inflation expectations has been remarkably stable for a very long period of time and within a roughly 2-3% band since the start of the last decade.

Alternative measures of market inflation expectations are offered by break even rates defined as the real yield on a nominal Treasury bond minus the real yield of the inflation-linked maturity curve of corresponding maturity drawn from the Treasury Inflation Protected Securities market (chart 4). A cautionary note is that break evens are not pure measures of market inflation expectations as they mix into the fray a liquidity premium when safe haven flows are more distorted into the nominal benchmarks than real bonds. As evidence, the premium in cash TIPS is sufficiently large as to have the entire term structure below four years pricing extreme disinflation (see chart 5). With this caveat in mind, inflation break-evens have drifted to nearly nothing in the case of the 1 year rate and are thus similar to August 2010, 1.1% for the 2 year which remains above the roughly 0.5% level around August 2010, and 1.8% for the five year compared to a trough of about 1.2% in August 2010 — all of which are sharply lower than their recent peaks in March and on balance within the ballpark

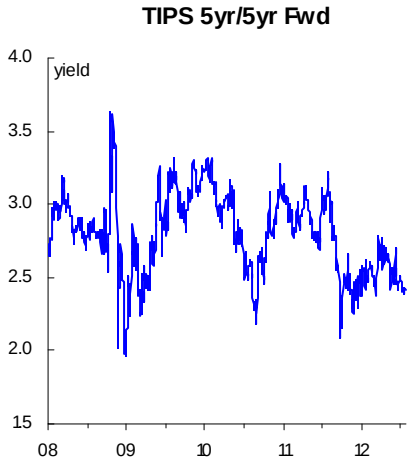
1. While there are numerous ways of calculating this based on the different ways in which one might construct constant maturity time series and thus yield curves both for nominal bonds and TIPS, the Fed's preferred method is found in Gurkaynak, Sack, and Wright, *The TIPS Yield Curve and Inflation Compensation*, 2008.
2. See Kwan, *Inflation Expectations: How the Market Speaks*, 2005.

Chart 2



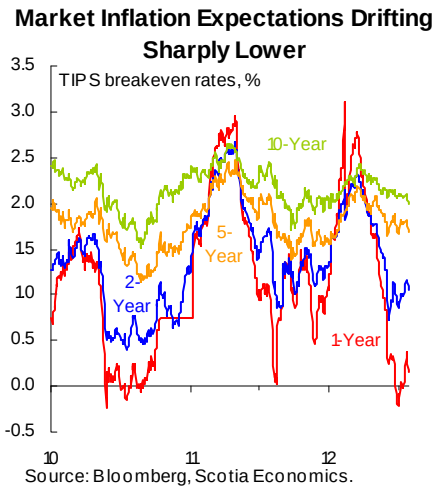
Source: BLS, Scotia Economics.

Chart 3



Source: Bloomberg, Fed, Scotia Economics

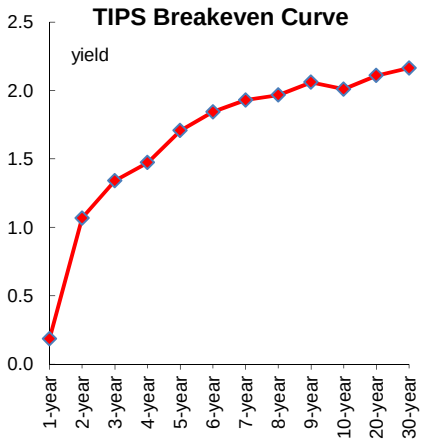
Chart 4



Source: Bloomberg, Scotia Economics.

of readings that were registered around the time that QE2 was first expected by the markets in August 2010. Even 10 year TIPS breakevens have dropped from a peak of 2.44% in March to 2.1% today and remain well behaved if albeit higher than the 1.60% range around the time of Bernanke's August 2010 Jackson Hole speech or even the 1.8% range of last September that motivated 'operation twist'.

Chart 5



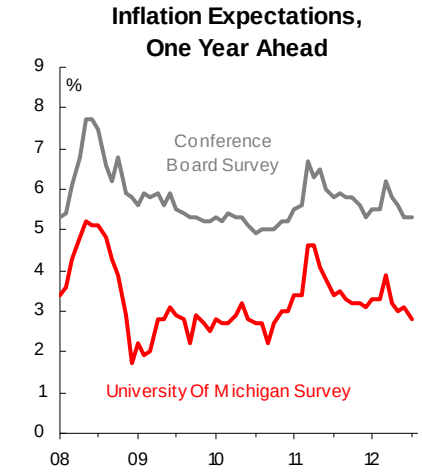
Note: Not a constant maturity series; notches calculated fromt nearest maturity bonds.
Source: Bloomberg, Scotia Economics

4. Softer Inflation Surveys, But They're Not Terribly Useful

Apart from market expectations, the Fed also considers a variety of surveys of household and business inflation expectations that are conducted on a monthly basis. These do not show that there has been a meaningful change in inflation expectations this year although expectations have fallen in the past month or two. The caveat here is that the information derived from these surveys is somewhat better as a gauge of business and consumer attitudes regarding propensities to spend than as a measure of the likely future path of inflation. In fact, the surveys are almost useless as a tool for forecasting short-term moves in inflation and say very little about swings in prices except when there are very wild changes.

How so? The University of Michigan's survey of inflation expectations one year ahead shows that inflation fears have fallen of late, however consumers are still expecting 2.8% price growth — a full percentage point higher than inflation at present (chart 6). The UofM's 5-year inflation expectations survey shows inflation expectations fairly anchored in a 2.7-3% range. The problem with using the UofM expectations metrics as a forecasting tool is that they seldom leave that narrow band except during periods of paradigm shift, e.g. the commodities shock in mid-2008 or the inflation during the early 1980s. That said, the one year and five year inflation expectations gauges are close to levels witnessed around Jackson Hole 2010.

Chart 6



Source: Bloomberg, Scotia Economics

The information offered by the Conference Board's survey of consumers conducted as part of the more widely followed 'Consumer Confidence' survey is even less useful: inflation expectations 12-month hence are for 5.3% price growth and have been in that neighborhood since 2005 (also in chart 6). It's therefore unlikely that the Fed pays too much heed to this metric. This measure had been trending upward along a volatile path since the end of the 1990s but most of that upward movement had been booked until just prior to the crisis.

The most interesting information that can be derived from these types of surveys is about paradigm shifts in consumer attitudes towards price growth, and indeed, the surveys might be better looked at as gauges of how price changes are impacting consumer attitudes than as a way of forecasting developments in prices. For what it's worth, consumer attitudes remain moored within the range of what has been normal over the past few years, which implies that changes in inflation are not impacting consumer attitudes one way or the other.

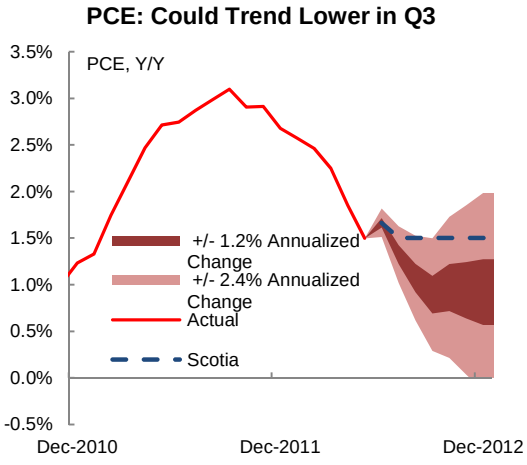
6. Inflation Outlook

We now turn to our final point, and one which we think that markets are generally ignoring at their own peril. Our scenarios for US PCE inflation (using the Fed's preferred measure) imply very weak year-on-year inflation prints through to at least year-end 2012. Chart 7 depicts our forecast as well as what we think are upper and lower bands to a reasonable outlook. One set of bands assumes an annualized 1.2% sustained pace of inflation and the other scenario doubles that; in both cases, recall that base effects also motivate movements in future inflation. Within this outlook, various influences like downward gasoline price base effects versus upsides to (some) food prices trade off.

Indeed, it remains our view that we've held throughout the crisis period that commodity shocks ultimately prove to be disinflationary in their consequences upon fully tracing through to the final equilibrium impact upon all prices. This occurs through demand destruction. Tight household budget constraints result in consumers spending more on what they have to (ie: food) even after adjusting for some substitution effects (say toward cheaper cuts of meat), and less on everything else in a manner that saps pricing power from the rest of the economy and constrains core CPI inflation. Indeed, we've seen that materialize in 2012 as the energy price surge of 2011 has crowded out other price growth and as its effects wane this has handed off to the current disinflationary environment.

Our bottom line is that inflation across a variety of measures is anchored at stable and low levels. The outlook is skewed particularly toward lower readings going forward that may have markets incrementally concerned about deflation risk. If judged by the same standards that motivated the introduction of QE2, then today's inflation picture would at least not impede stimulus targeting the Fed's full employment mandate, and could possibly justify stimulus to mitigate deflation risk.

Chart 7



Source: Scotia Economics, BEA