

SLB Brief, April 11, 2016

Price Anxiety

Even during the depths of the Great Recession, some economists and a considerable number of politicians worried more about inflation than lost jobs. Now that labor conditions – the unemployment rate, wage increases, and labor participation rate – are all moving in a positive direction, pressure is building for the FOMC to normalize its Federal Funds target interest rate. At and following its March meeting seven FOMC members and non-voting Federal Reserve Bank presidents differed from the majority by voicing a preference for either three or four rate target increases during 2016 rather than the two favored by Chair Yellen.

Certainly a desire to “restock” the Fed’s policy arsenal to provide ammunition for the next time the economy flounders is a legitimate reason for favoring a timely normalization of the fed funds rate, but the fear of future inflation motivates most of the Fed’s policy Hawks. So, the question is “Are inflation fears justified at this time?”

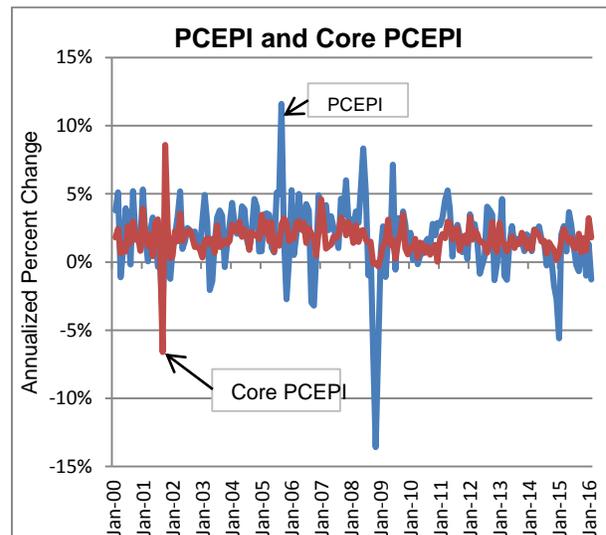
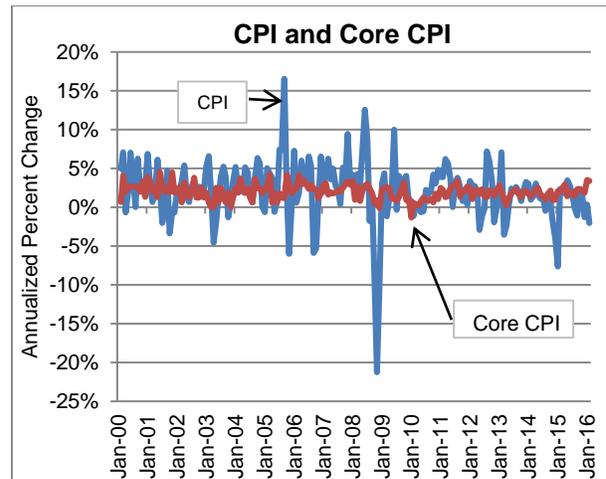
Conventional wisdom holds that it is best to begin fighting inflation before it has legs, but beginning to fight inflation when it does not appear to have yet even risen to one knee would be counterproductive. So, how can one gage to what extent future inflation poses a serious risk to the economy?

Inflation Measures

There are numerous measures of inflation. The most commonly cited measure is the Consumer Price Index (CPI) prepared by the Bureau of Labor Statistics (BLS). This index measures changes in expenditures by urban households for a fixed basket of goods and services. Since 2000 the FOMC has preferred an alternative measure, the Personal Consumption Expenditure Price Index (PCEPI) prepared by the Bureau of

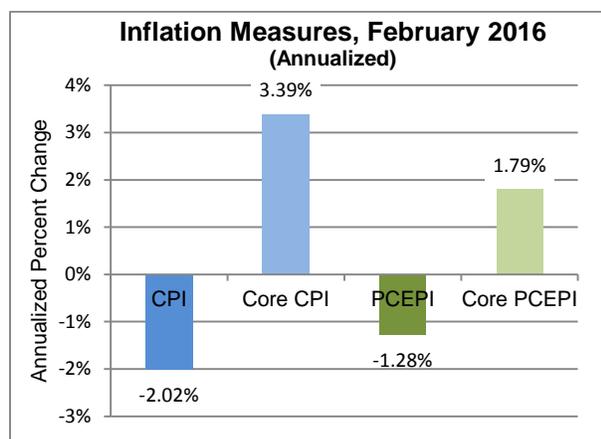
Economic Analysis (BEA). The PCEPI measures price changes on a broader range of consumer goods and services by including expenditures made on behalf of households by third parties. Also, the PCEPI better reflects changes over time in the mix of consumer expenditures than does the CPI.

Both the CPI and the PCEPI exhibit a considerable amount of volatility attributed mostly to price changes for food and energy. Therefore, the BLS and BEA prepare core measures for the CPI and PCEPI that exclude these most volatile components. The following two charts show the relationships between the overall (blue) and core (red) measures for the CPI and PCEPI since 2000.



Each month the BLS and BEA publish their respective price indices and the corresponding month-to-month percentage change for each. During February 2016 the month-to-month changes in the overall CPI and PCEPI equaled -0.17% and -0.11%, respectively. The corresponding core CPI and core PCEPI month-to-month changes equaled 0.28% and 0.15%.

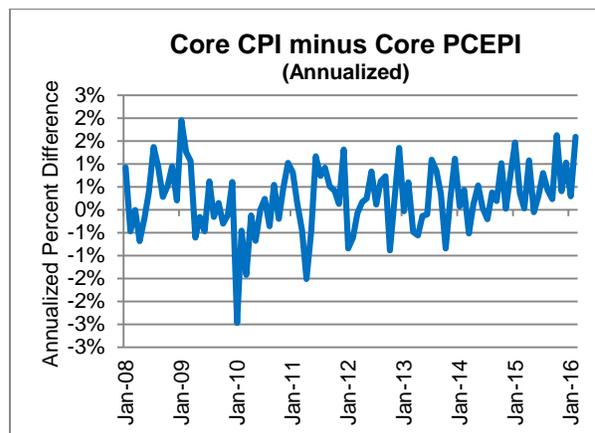
Given that most people relate more comfortably to inflation measured on an annual basis, the following chart presents the four monthly inflation measures on an annualized basis.



The differences between the overall and core annualized inflation measures for February clearly illustrate the impact of food and energy costs. The overall measures both decreased during February, while the core measures increased. Furthermore, the annualized values amplify the differences between the CPI and PCEPI measures. Although during February the core CPI rose by an annualized rate of 3.39% the core PCEPI increased by only 1.79%.

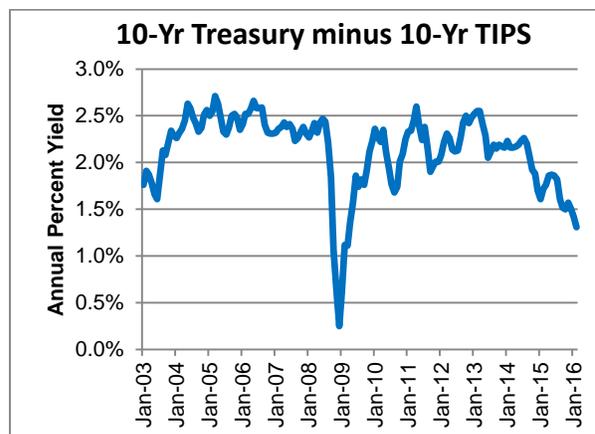
Since the beginning of the Great Recession the annualized rate of change in the core CPI has on average exceeded that for the core PCEPI by 0.26%. As shown in the following chart this difference has been trending upward since October 2013. Over this period the core PCEPI growth rate has averaged only 1.50% and it has shown only a very slight upward trend equal to 0.0012% per

month. This implies there remains considerable time until this closely watched indicator reaches the 2% inflation benchmark adopted by the FOMC as a signal for when to more aggressively move to normalize the Federal Funds interest rate.



Alternative Indicators and Signals

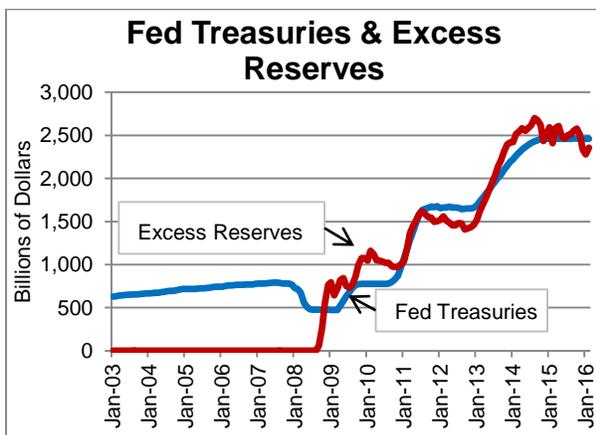
Beyond the CPI and the PCEPI, “What are the market’s expectations for future inflation?” One way the bond market gages inflationary expectations is by looking at the yield spread between traditional 10-year Treasury notes and 10-year Treasury Inflation-Indexed Securities (TIPS). During February this spread stood at just 1.31 percentage points. More importantly, there has been a significant downward movement in this spread over the past two years (as shown below).



So, this indicator places market expectations for inflation at well below the 2% FOMC target. Other indicators similarly portend a low risk of rising inflation for the foreseeable future.

Nevertheless, the Fed Hawks and others who fear that inflation may accelerate without much warning feel there is a need for preemptive action now. In support of this position they often point to the large increase in the Fed's balance sheet. At the beginning of 2008 the Federal Reserve held \$728 billion in Treasury securities. Through the three rounds of quantitative easing, which began in November 2008 and ended in October 2014, these holdings rose to \$2,462 billion. So, "Isn't it reasonable to assume such a large injection of liquidity into the economy will cause prices to increase?"

The assumed cause (more money) and effect (inflation) relationship would be reasonable if all or even a considerable amount of the Fed's bulking up on Treasury securities did result in a large flow of additional currency in the economy. But as the following chart shows this did not happen because most of the money the Fed created through Treasury purchases stayed in the Federal Reserve System as excess bank reserves.



As of the end of February 2016 Federal Reserve Treasury holdings stood at \$2,461 billion and excess bank reserves equaled \$2,358 billion. Excess bank reserves are down from a peak of \$2,700 billion in August

2014 and inflation Hawks do worry that at some point banks will begin putting these excess reserves to work thus fueling increased inflation. However, this is not likely to begin overnight. Bank lending has increased, but the rate of increase remains moderate.

Before going into decline in October 2008 loans and leases by commercial banks topped out at \$7,291 billion. Then, the amount of loans and leases fell to a low of \$6,538 billion during February 2010. In February 2016 bank loans and leases outstanding reached \$8,756 billion, which is only \$1,465 (20.1%) over the 2008 peak. At the current time bank lending is growing at a rate of about 8 percent year-over-year. In comparison, during 2006 and 2007 the bank lending growth rate averaged over 11 percent.

So, even though lending activity has risen from the depressed level of the recession, the rate of growth for commercial bank loans remains well below pre-recession highs and only at about the rate of growth experienced during the mid-1990s.

But inflation Hawks have another concern - the growth of the money supply. The M2 measure of the money supply, which includes currency, demand deposits, other checkable deposits, savings deposits, time deposits under \$100,000, and individual money market accounts, has been increasing at a rate of 6.5% since the beginning of 2008. In comparison this measure of the money supply grew at an average rate of only 4.0% throughout the 1990s.

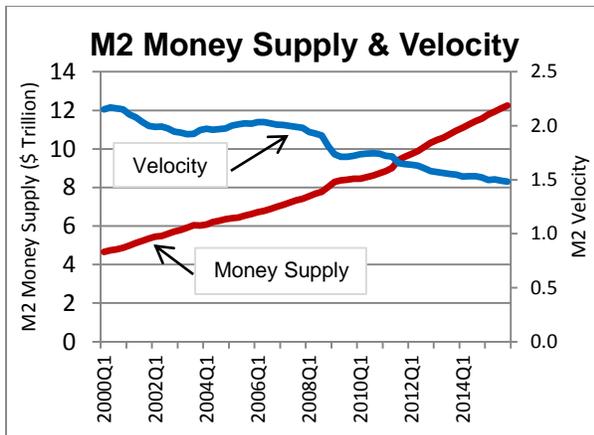
Nevertheless, there is no sign that this growth is driving up prices. One likely reason for this is that the rate at which money is turning over in the economy (i.e., money velocity) has slowed. As the following chart shows, the M2 measure of money velocity has dropped from 2.15 at the beginning of 2000 to 1.48 at the end of 2015. This downward trend has been fairly constant. During the 1990s the M2 velocity averaged 2.06.

Some explanations for the slowdown include:

- The nation's increased concentration of wealth and income because more affluent households tend to save more than less affluent households.
- The feedback effect from low inflation, which lowers the cost of holding money.

A tight housing supply, declining value of the dollar, and the beginnings of wage pressures for selected occupations may also begin to push prices higher by the end of the year. Subsequent *SLB Briefs* will explore these factors.

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Warning Signs???

So, even though inflation seems to be well under control at the present time, this does not mean the FOMC should turn a blind eye to this issue, which it most certainly will not. The Hawks will make sure that concern over the potential upward movement in prices will remain a topic of discussion at future FOMC meetings.

One factor that deserves close attention is the price of oil. At some point oil prices will begin to rise. This has been a major source of inflation in the past and can be expected to have the same impact in the future. For example, going back to January 2000, the non-seasonally adjusted price for West Texas Intermediate (WTI) crude oil alone explains 57% of the variation in the non-seasonally adjusted CPI. (Note: There does not exist a non-seasonally adjusted series for the PCEPI.) There are some oil industry analysts who predict a significant rise in the price of oil by the end of 2016.