Executive Summary

For the past six years, the pursuit of higher inflation in both policymaker and private sector forecasts has proved ephemeral. Models based upon a historical relationship of inflation determination, with a lower unemployment rate leading to faster wage growth, have fallen short as wages have not accelerated as would be expected based upon the decline in the unemployment rate (Figure 1). Meanwhile, the inflation outlook for 2016 by the Federal Open Market Committee (FOMC) has been consistently downgraded as shown in Figure 2.

Figure 1

Unemployment and Wage Rates
Wages for Production & Nonsupervisory Workers, SA

Source: U.S. Department of Labor, Federal Reserve Board and Wells Fargo Securities

What’s missing? In our extended paper, we propose a better way to estimate the near-term path of the federal funds target rate and benchmark Treasury rates by taking a forward-looking view of both inflation and deflation pressures. By employing probabilities of inflationary and disinflationary pressures, along with a measure of the state of the labor market (labor market index), we estimate the path of the fed funds rate and benchmark Treasury rates based upon the implied inflation/deflation pressures approach instead of relying simply on the current popular approach of an unemployment rate/inflation relationship. Additionally, our framework helps to explain why the FOMC has repeatedly lowered its path for the fed funds rate in recent years as both the pace of inflation and the funds rate have been overestimated.

Figure 2

2016 Core PCE Projections
Summary of Economic Projections, Central Tendency Range

Special Commentary

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Don Quixote and the Pursuit of Rising Inflation

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Recent History: A Pattern of Overestimates

In recent years, the FOMC has repeatedly lowered its path for the fed funds rate. Then, for the first time in almost a decade, the FOMC raised the fed funds target rate at its December 2015 meeting to a range of 0.25-0.50 percent. In addition, the FOMC anticipated it would raise rates again multiple times in 2016. However, in contrast, financial market participants have remained skeptical of multiple hikes in the fed funds rate, at least in 2016. Although the unemployment rate is close to the full employment level, inflation remains well below the FOMC’s target rate of 2 percent. Moreover, the FOMC has recently stated that the near-term inflation outlook continues to be lower than the inflation target rate (basically, a fear of near-term disinflation), and this is one reason, among others, for the lower path for the fed funds rate in the near future, as illustrated in Figure 3.

Source: Federal Reserve Board, Bloomberg LP and Wells Fargo Securities

The Fed’s dual mandate of price stability and maximum employment would dictate that the FOMC utilize the inflation outlook (or expectations of future inflation) and measures of full employment (along with other factors) to set U.S. monetary policy, in particular a path for the fed funds rate. Monetary policy rules, or what are now commonly referred to as Taylor rules, have become popular ways to conceptualize monetary policy decision making and evaluate monetary policy against a consistent set of benchmarks. One observation about the FOMC’s interest rate setting behavior is that it seems the Committee cares more about the near-term inflation outlook and, in particular, whether there will be inflationary pressure or disinflationary pressure rather than the actual inflation rate. In part, this reflects the perceived lagged impact of monetary policy on inflation. Typically, the FOMC raises the fed funds rate to fight inflation (in the case of higher inflation expectations) and an expansionary monetary policy (reducing the fed funds rate, for example) is associated with deflationary expectations. That said, a higher probability of inflationary pressure would have different policy implications than those of a higher probability of disinflationary pressure. In addition, Bernanke (2010) suggested utilizing an inflation forecast as a proxy for inflation expectations to estimate the likely future path of the fed funds rate.³

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² As of June 16, 2016, fed funds future contracts on Bloomberg showed a 66.1 percent chance that the fed funds rate would be in the 0.25-0.50 percent rate range by the end of 2016. In other words, no rate hike in 2016. In contrast, at the June 2016 FOMC meeting, the median projection from the FOMC for the fed funds rate at the end of 2016 was two rate hikes.

Therefore, instead of simply using the actual inflation rate, we believe that including the probability of inflationary pressure/disinflationary pressure in an econometric model may help to predict the near-term fed funds rate path more accurately. We employ a forward-looking method to estimate the path for the fed funds rate. We utilize six-month out probabilities of inflationary and disinflationary pressures, along with a labor market index, to estimate the path for the fed funds rate. Traditional methods to estimate the fed funds rate limit effective decision making because these methods are backward looking. Our approach is forward looking, utilizing six-month out probabilities for the inflation outlook, which provide useful guidelines about the near-term outlook for the fed funds rate.

For the past year, we have employed an ordered probit model framework which predicts six-month out probabilities of inflationary pressure, disinflationary pressure and stable prices (Figure 4). PCE deflator growth rates are decomposed into periods of inflationary pressure, disinflationary pressure and stable prices. The FOMC provides a long-run target of 2 percent as a benchmark for its stable inflation goal. Our results indicate that disinflation (or disinflationary pressure), not inflationary pressure, best explains fed funds rate movements from the 1990s forward. The low-inflation fears get worse for the post-2000 period, as this period contains five out of the eight low-inflation episodes that have occurred in our sample from January 1975 to April 2016. Furthermore, the inflation rate has been below 2 percent since May 2012 and this is the longest low-inflation episode for the entire January 1975-April 2016 period. In addition, the current near-term inflation outlook is also disinflationary as, based on April 2016 data, there is a 55 percent chance that the inflation rate will stay below 1.5 percent during the next six months (Figure 4). Therefore, the recent higher disinflationary pressure probability trend may be one reason the FOMC has repeatedly lowered its path for the fed funds rate. An inflation rate higher than 2.5 percent may bring a shift upward in inflation expectations while inflation a half percentage point below 2 percent may signal a disinflationary set of concerns. Thus, in this framework, a PCE deflator rate between 1.5 percent and 2.5 percent may be seen as stable prices, above 2.5 percent as inflationary and below 1.5 percent as disinflationary.

Our approach is forward looking, utilizing six-month out probabilities for the inflation outlook.

Figure 4

The 6-Months Ahead Probability of Price Scenarios in the United States

Figure 5

6-Months Ahead Probability of Deflationary Pressure vs. 2-Year U.S. Treasury Yield

Source: Federal Reserve Board and Wells Fargo Securities

As illustrated in Figure 5, the periods of deflationary pressure in 1997-1999, 2002-2004 and 2010 to the present are associated with downward pressure on the U.S. Treasury two-year yield. The rapid rise in deflationary pressures since 2010 have provided a useful signal that the bias on rates would be to the downside and this has kept our focus on lower short rates over the past five years.

Meanwhile, the probability of inflationary pressure for the entire modern era since 1982 has been on the downswing. Since 2010, the declining and low probability of inflation pressure has been
associated with continued lower ten year rates and a flatter yield curve (Figure 6). That downward pressure continues today.

**Figure 6**

6-Months Ahead Probability of Inflationary Pressure vs. 10-Year U.S. Treasury Yield

Source: Federal Reserve Board and Wells Fargo Securities

These results reinforce our expectation that the PCE deflator will remain short of the Fed’s 2 percent target for the remainder of 2016.

The most recent output from this model suggests that the probability of disinflationary pressure, or a PCE deflator below 1.5 percent on a year-ago basis, is around 55 percent. The model sees only an 8 percent chance of prices running above the 2.5 percent mark in the next six months. These results reinforce our expectation that the PCE deflator will remain short of the Fed’s 2 percent target for the remainder of 2016.
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