…the outlook for inflation is “arguably worse” than it was last December...

The Federal Reserve should be extraordinarily patient when it comes to raising interest rates.

…normalization could lead to some heightened financial volatility.

Monetary policymakers should remain patient in removing accommodation...

…price-level targeting and nominal income targeting both imply easier monetary policy than what the Fed has used...

If all goes according to our forecast... the Federal Reserve will likely begin to raise its federal funds rate target ... sometime next year.

…we’re not behind the curve on rates.

Waiting too long to raise rates... is risky

…low inflation.. is not enough to justify remaining at the lower bound.

…we might well move to rates rates sooner than thus far assumed...
“Information received since the Federal Open Market Committee met in September suggests that economic activity is expanding at a moderate pace.”
The numbers for the last 6 months look pretty good.

<table>
<thead>
<tr>
<th>Annualized Real GDP Growth</th>
<th>2013</th>
<th>2014 Q1</th>
<th>2014 Q2</th>
<th>2014 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>3.1</td>
<td>-2.1</td>
<td>4.6</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Sources: Bureau of Economic Analysis
Current tracking estimates indicate the advance third quarter growth statistic is holding up…

The Evolution of Q3 Real GDP Growth Tracking Estimates
quarterly percent change, SAAR

Sources: FRBA, Macroeconomic Advisers
... but the preliminary read on the 4th quarter is a bit soft.
“Household spending is rising moderately and business fixed investment is advancing, while the recovery in the housing sector remains slow.”

FOMC Statement
October 28, 2014
“Household spending is rising moderately and business fixed investment is advancing…”
“… the recovery in the housing sector remains slow.”

U.S. Single-Family Home Sales
12-month moving average, thousands, SAAR

Source: National Association of Realtors, Census Bureau through September 2014
“Labor market conditions improved somewhat further, with solid job gains and a lower unemployment rate.”
The trend in job growth has been rock solid, and drifting upward.
Unemployment rate projections have been persistently overly pessimistic.

Interest rates low until mid-2013 (Aug)
Maturity Extension Program (Sept)
Open-ended MBS purchases (1st shot of QE3)

"Tapering" announced

Dashed lines represent midpoint of FOMC Summary of Economic Projections as of the indicated date.

“On balance, a range of labor market indicators suggests that underutilization of labor resources is gradually diminishing.”
We view broader measures of unemployment as improved, but short of “mandate consistent.”

Civilian Unemployment Rate (U-3) vs. Broad Unemployment (U-6)
percent, SA

- Part time for economic reasons
- Marginally Attached
- Civilian Unemployment Rate: 16 yr +

Source: Bureau of Labor Statistics

Note: Figures cited are as of Jan. 2007 and Oct. 2014
The job growth is there, but where is the wage growth?

Average hourly earnings for select sectors, from highest-paying to lowest-paying and adjusted for inflation

Cumulative change in payrolls for select sectors, since June 2009

Source: U.S. Bureau of Labor Statistics
“Inflation has continued to run below the Committee's longer-run objective. Market-based measures of inflation compensation have declined somewhat; survey-based measures of longer-term inflation expectations have remained stable.”

FOMC Statement
October 28, 2014
Growth rate in the core PCE has been at 1.5 percent since May.

PCE Price Index
year-over-year percent change, monthly

<table>
<thead>
<tr>
<th>(annualized % change)</th>
<th>Overall PCE</th>
<th>Core PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2014</td>
<td>0.9</td>
<td>1.5</td>
</tr>
<tr>
<td>August 2014</td>
<td>-0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>July 2014</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>June 2014</td>
<td>2.7</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Sources: Bureau of Economic Analysis through September 2014
“Market-based measures of inflation compensation have declined...; survey-based measures have remained stable.”

5-Year, 5-Year Forward Inflation Expectation Rate

Inflation Expectations Measures

percent

percent, year-ahead

Survey of Professional Forecasters

Atlanta Fed Business Inflation Expectations

Sources: St. Louis FED through November 5, 2014

Sources: Atlanta Fed, Philadelphia Fed SPF through Q3 2014, BIE through October 2014
“Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ”
We believe we are still short of the FOMC’s mandate.

Progress Towards Objectives: U-3 gap versus U-6 gap
(Using Core PCE)

Source: Bureau of Labor Statistics; James Bullard’s July 17, 2014 speech; authors’ calculations
“...the Committee continues to see sufficient underlying strength in the broader economy to support ongoing progress toward maximum employment in a context of price stability.”
Beyond QE: The U.S. Economic Outlook