FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

December 2013

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK

December 2013

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1. Policy Recommendation and Rationale

Summary:

Improvements in the outlook for the labor market and real activity warrant some re-calibration of the policy stance, particularly regarding the path of asset purchases. Although it is now a close call, we still recommend continuing the asset purchase program at the current pace in December. However, the Committee should communicate that if the upcoming data broadly confirm the recent rate of labor market improvement, then it is prepared to start reducing its monthly pace of asset purchases in 2014Q1. There should be no changes in the unemployment or inflation thresholds for lift-off in an attempt to reduce the risks of excessive tightening in financial conditions. Instead, in light of persistent deviations of both employment and inflation from mandate-consistent levels, the Committee should affirm the current state-contingent forward guidance regarding the federal funds rate and emphasize that it will be appropriate to remove policy accommodation only at a gradual pace to achieve its objectives. We favor the use of new tools to improve control of short term rates under conditions of a large Fed balance sheet and we recommend a review of the guidance regarding the asset purchase program.

Background:

Data releases in the intermeeting period generally suggest some improvement in real economic conditions. The October and November labor market reports indicate better labor market conditions with monthly payroll growth averaging around 200,000 over the past four months and the unemployment rate falling to 7%. A number of indicators for manufacturing suggest somewhat stronger growth in the sector, in part reflecting the continued rebound in motor vehicles as the sales pace exceeded 16 million units in November. Moreover, recent data indicate that the headwinds from the euro area and China largely have abated, suggesting that the global economic outlook is now a more neutral factor for the U.S. outlook. However, the sluggishness in the housing market associated with the increase in mortgage rates continues and business investment remains tepid. In addition, measures of inflation continue to be subdued, with the core PCE rising by only 1.1% in October on a 12-month basis, substantially below the FOMC’s 2%

longer-run objective. While the risk assessment has improved somewhat, there are still tail risks of negative real growth and deflation over the near term.

Our policy recommendation:

1) **No reduction at this time in the pace of asset purchases, but the Committee should undertake a review of its guidance regarding the asset purchase program and communicate that a reduction in the purchase pace is likely in 2014Q1.** *Rationale*: The decline in the unemployment rate, the recent gains in payroll employment, and the near-term outlook for the labor market are consistent with a moderate reduction in the pace of purchases. However, a broader set of labor market indicators suggest that job availability and wage growth still remain subdued, and continued improvement at this pace is needed to achieve a healthy labor market. A premature removal of accommodation thus could hamper the ongoing recovery in the labor market. Consequently, we believe that the purchase pace should be maintained until the Committee is more confident about the sustainability of the ongoing labor market recovery, but we see little gain in procrastinating beyond 2014Q1 if data broadly confirm the recent trend. Even though their expectations have become more disperse, market participants still view March as the most likely date for the first purchase pace reduction, in line with our assessment. The Committee thus should provide some communication along these lines about the near-term purchase pace as well as guidance about future purchase path where the Committee will take into account labor market conditions as well as economic developments and financial conditions in deciding upon the appropriate path for purchases.
2) **No change in pre-liftoff forward guidance for the FFR; however, the Committee should provide more qualitative guidance about its stance post-threshold crossing and post-liftoff by reaffirming its determination to target price stability over the medium term.** *Rationale*: The current thresholds and guidelines regarding the FFR are broadly consistent with our view of an appropriate policy stance, and we continue to warn against the high

reputational costs of tampering with the current framework relative to the limited benefits of a quantitative change in thresholds; in particular, a change in the unemployment threshold does not provide appropriate insurance against the possibility of undesired tightening in financial conditions following a taper. Although the economy probably will reach the unemployment threshold much earlier than anticipated in September 2012, with inflation still considerably below the Committee's longer-run objective, this event is not meant to trigger automatically the liftoff of the policy rate, and the Committee has repeatedly emphasized that the thresholds only provide a *terminus post quem* for the beginning of normalization. The FOMC could clarify that the federal funds rate may remain in the 0-25 bps range after the 6.5% unemployment rate threshold is reached if (a) other labor market indicators, such as measures of job availability and wage growth remain subdued; and/or (b) persistent undershooting of its longer-run inflation objective continues. About the latter point, we also do not support enhancing the current threshold-based forward guidance by introducing an inflation floor. Rather, the Committee should communicate that it views the persistent undershooting of its longer-run inflation objective as deeply unsatisfactory and adjust the overall stance of policy to lean against a further widening of this gap and to reduce over time the gap that has accumulated, consistent with the principles of a price-level path targeting framework.

3) **The Committee should authorize the introduction of a full-allotment overnight reverse repo (RRP) facility.** *Rationale*: An overnight full allotment RRP facility could reduce some of the perceived costs associated with a large Fed balance sheet, alleviating concerns that the normalization process will be impaired by a large outstanding amount of reserves. Also, by providing a firmer floor on short-term rates, a full implementation of an overnight RRP facility may reduce concerns associated with a reduction in the IOER, and thus increase the appeal of using IOER for enhancing accommodation in the near future if needed.

2. Evolution of Outlook and Risks

2.1 Central Forecast

Intermeeting Developments

Based on the second estimate, real GDP grew at a 3.6% annual rate in the third quarter of 2013, an upward revision from the advance estimate of 2.8% and above the median expectation of 3.1%. Real final sales rose at a 1.9% annual rate, a modest downward revision from the advance estimate of 2.0% but about the same as in the second quarter. Growth of real PCE was revised modestly lower, to 1.4%, while growth of business fixed investment was revised up to 3.5% from the advance estimate of 1.6%. Growth of exports was revised lower while growth of imports was revised higher, such that the net export growth contribution was revised down to 0.1 percentage point from the advance estimate of 0.3 percentage point. Growth of state and local government consumption and gross investment was revised up to 1.7% (annual rate) from the advance estimate of 1.5%. This marks the second consecutive quarterly increase in this component of final expenditures following a protracted period of declines. Finally, there were small upward revisions in the price indices. The total and core PCE deflators rose at annual rates of 2.0% and 1.5%, respectively, compared to 1.8% and 1.4% in the advance estimate, respectively.

Assuming no change in growth of hours worked or compensation per hour, productivity expanded at a robust 2.9% annual rate in the third quarter, up from the first estimate of 1.9%, while unit labor costs fell at a 1.6% annual rate. But even with that upward revision, the four-quarter change of productivity would be a quite low 0.3%.

Real Gross Domestic Income (GDI) rose at a 1.4% annual rate in the third quarter. Nonetheless, the four-quarter change of GDI, at 3.0%, remained above the four quarter change of GDP (1.8%). The statistical discrepancy increased from -$187 billion in the second quarter to -$97 billion. Corporate profits increased in the third quarter, but by less than anticipated, and remained at 12.4% of Gross National Product.

The very large growth contribution from inventory investment in the third quarter sets the stage for relatively weak growth in the fourth quarter as the inventory contribution will likely turn negative. At this writing, we expect growth in 2013Q4 of around 1 ¾ % (annual rate). Nonetheless, data do suggest that growth of real final sales is strengthening somewhat in the fourth quarter, led by consumption and exports.

While real PCE grew just 1.4% (annual rate) in the third quarter, it increased 1.9% when spending on household utilities is excluded, the same rate of growth as in the second quarter. Real PCE looks to be quite a bit stronger in the fourth quarter after rising 0.3% in October versus an average monthly increase of just 0.1% over the third quarter. Real PCE for goods rose a strong 0.7% in October, despite a decline in sales of light-weight motor vehicles. The gains were in spending on apparel, jewelry and watches, audio and video equipment, and motor vehicle parts and accessories. Real PCE for services rose by a more modest 0.1%, held down by another unseasonably warm month. Elsewhere, spending on services appears to be strengthening, with stronger increases in spending on healthcare, air travel, and food services and accommodations. Sales of light-weight motor vehicles surprised to the upside in November, rising to 16.4 million units (seasonally adjusted annual rate), the fastest pace since February 2007. The pace of sales in October and November (15.82 million units) was 0.6% above the pace in the third quarter (15.72 million units). Growth of retail sales in November was somewhat stronger than we expected, while retails sales for October were revised upward by a substantial amount. It now looks like growth of real PCE should be close to a 3 1/2% annual rate in the fourth quarter.

Based on the Establishment Survey, labor market conditions improved in October and November relative to the third quarter. Gains in nonfarm payroll employment averaged 202,000 over those two months, up from a monthly average of 167,000 in 2013Q3. Aggregate hours worked rose sharply in November, with the October-November average up at a 1.8% annual rate relative to the third quarter. While the rate of growth of average hourly earnings has slowed somewhat further in the fourth quarter, the strong gain in hours worked is leading to faster gains in nominal wage and salary income. Gains in employment and hours have increased substantially in the manufacturing sector, particularly in the durable goods sector. Indeed, the ISM (Institute for Supply Management) manufacturing index for November was an upside surprise, rising to 57.3 from 56.4 in October. This is the highest that index has been since April of 2011. The average monthly increase in October and November in employment in the private service-providing sector was 168,000 versus 146,000 in the third quarter, and the ISM nonmanufacturing index has declined in the fourth quarter relative to the third quarter average.

It should be noted, however, that not all recent data has been encouraging. New orders for nondefense capital goods declined in October, as did private construction spending. Housing market indicators suggest that while activity is no longer declining, it has not yet resumed the upward trend that was evident earlier this year.

Finally, consumer price inflation continues to come in below expectation, with the 12 month change of the core personal consumption expenditure deflator slowing to just 1.1% in October. This slowing of core inflation has been primarily a core goods phenomenon, which we interpret as a longer than expected adjustment of production and inventories to the weakening of global demand that became evident in the second half of 2011. The slowing of nonfood, non-energy services prices over the past year has been much more modest, and at higher frequencies (3 month change at annual rate), the rate of increase of these prices has begun to move higher in recent months. It should be noted that the 12 month change of the PCE deflator for health care services was 1.0% as of October, so the slowing of that component has played a relatively modest role in the slowing of the overall core PCE deflator. While longer dated inflation expectations have remained stable, shorter dated expectations have moved notably lower in recent weeks.

The Outlook.

The broad outlines of the behavior of the economy in this final quarter of 2013 are shaping up to be in line with our forecast. Consumer spending is ramping up a bit more than we expected, while residential and business fixed investment remain somewhat weaker than expected. But overall, there is a sense that the economy is on a somewhat more solid footing as we enter 2014.

Of particular note, the improvement in the household balance sheet over the past year has been truly impressive and it now appears that household deleveraging is largely over. From the Flow of Funds accounts, the sum of home mortgages and consumer credit rose 0.9% from 2012Q3 to 2013Q3, the first year-over-year increase since the third quarter of 2008. Household net worth over disposable income rose to 615 in 2013Q3, the highest since 2007Q4 and back to levels that prevailed in 2004Q4. If recent equity prices are sustained, household net worth will rise even further in the fourth quarter. At the third quarter average level of 5%, the personal saving rate was notably above the level consistent with the historical relationship between household net worth and personal saving. We have nudged up the path of consumer spending over the forecast horizon in response to these developments and we believe that the risks remain somewhat skewed to the upside.

Another development that has unfolded along the lines we expected is that the protracted retrenchment of state and local government consumption and gross investment appears to be over. Available data on employment and construction suggest that we will see the third consecutive increase in this component of final expenditures in 2013Q4. Growth of nominal receipts in this sector is now running above that of expenditures, suggesting some room for faster increases in spending over the coming year. Federal fiscal drag is also on track to lessen in 2014. The recently announced budget agreement, if enacted, would further lessen fiscal drag over the forecast horizon by a modest amount.

Despite the somewhat firmer growth of real PCE over the forecast horizon, expected growth of real GDP for 2014 and 2015 are unchanged at 2 ¾% (Q4/Q4) and 3 ¼%, respectively. Growth of business fixed investment is ending 2013 on a weaker note than expected. While we continue to believe that growth of BFI will strengthen as capacity utilization moves higher and vacancy rates decline, that strengthening has been pushed out in time. Similarly, while we expect housing starts to resume an upward trend, the slope of that trend has been damped due to the further rise of mortgage interest rates that has occurred since October. Indeed, in recent days, the FHFA has announced additional increases in guaranty fees to go into effect in 2014.

With growth of real GDP improving, we expect a more rapid pace of improvement in overall labor market conditions as well. However, it should be noted that over the period from 2011 through 2013, productivity has increased at just a ¾% annual rate, half a percentage point below our assumption of trend. Therefore, it is quite possible that average monthly gains in nonfarm payroll employment could fall back below 200,000 per month even with stronger growth of real GDP. On the flip side, the labor force participation rate continues to surprise to the downside. While we project that the unemployment rate declines to around 6 ½% by 2014Q4 and then approaches 5 1/2% by the end of 2015, this assumes a gradual uptrend of the labor force participation rate as labor market conditions improve. If that does not occur, the decline of the unemployment rate could be quite a bit faster.

With the gradual reduction of slack, a decline of the dollar, a firming in global demand, and the upward pull of anchored inflation expectations, our models predict that inflation as measured by the PCE deflator will gradually move upward over the forecast horizon. However, given the recent downside surprises, we now expect to be back to the mandate-consistent range by the end of 2015 rather than the end of 2014.

2.2 Alternative Scenarios and Risks

Our assessment of risks to the growth outlook has changed modestly since the October Blackbook Update. The balance of risks to inflation is now slightly skewed to the downside at medium-term horizons. Risks to growth, however, are roughly balanced. [Exhibit C-3]. These small changes in the overall risk profile reflect a decline in the *Fiscal Consolidation* scenario (which has now roughly 30% probability) and rise in the likelihood of the *Faster Growth* scenario, which is now associated with approximately a 35% probability [Exhibit C-1]. These adjustments mainly stem from the resolution of the debt ceiling issues, as well as positive data releases.

Exhibit C-3 displays the baseline forecasts from the FRBNY-DSGE model (orange line). The DSGE forecasts for core PCE inflation and growth are both well below the mean and model forecasts both in the near-term and in 2014-15, similar to the October Blackbook Update. The forecast distribution for core PCE inflation shifted down, while there is little change in the forecast distribution for GDP growth.

Exhibit C-4 displays the evolution of the inflation and output forecast distributions over the past year. There has been a decline, relative to the December 2012 Blackbook, in the forecast of core PCE inflation through 2016. The medium-term forecast of GDP growth dropped slightly relative to the December 2012 Blackbook.

3. Forecast Comparison

3.1 Comparison with Private Forecasters[1]

Real GDP Growth. The FRBNY projection for real GDP growth is in the high range of forecasts for 2013Q4. We have substantially lowered our forecast for Q4, similar to the downward revisions in Blue Chip's, the Median SPF, and Macro Advisers' forecast. On a year-over-year basis, the FRBNY growth projection for 2013 is now 2.2% (up from 2.0%) and is in line with the Blue Chip forecast as well as with the Macro Advisers'. Our estimate of 2.7% growth in 2014 (revised down from 3.1%) is in the range of private forecasts.

Inflation. The FRBNY forecast of core PCE inflation for 2013Q4 (1.1%) has been revised down by 0.6 percentage point and was below the private forecasts. The year-over-year forecast for 2013 is 1.1% (down from 1.4%), slightly lower than the Macro Advisers' and the Median SPF (both at 1.2%). We also revised down our projection for 2014 to 1.4% (from 1.8%). Median SPF has printed a slight downward revision from

[1] The details of the forecast comparison are in Exhibit B-8. Quarterly numbers are SAAR.

1.8% to 1.7%, whereas Macro Advisers' projection is up from 1.5% to 1.7%. For core CPI inflation, our 2013Q4 projection is 1.5% (down from 1.9%), roughly in line with Macro Advisers'. On a year-to-year basis, our forecast of core CPI inflation for 2013 was revised down from 1.8% to 1.7%. Similarly, the forecast for 2014 was revised down from 2.1% to 1.9%. Both of these projections are in line with Macro Advisers' and slightly lower than the Median SPF. Our total CPI inflation projection for 2013Q4 has been significantly revised down, from 2.1% to 0.8%, and is well below the Blue Chip's forecast (1.1%) and the Median SPF (1.8%), but slightly above Macro Advisers' projection (0.7%). Our year-over-year forecast for 2013 was also revised down by 0.4 percentage point to 1.2%, in line with Macro Advisers' forecast. Our forecast for 2014 was revised down from 2.2% to 2.0%, consistent with Blue Chip's and Median SPF's forecast and above Macro Advisers' forecast.

3.2 FRBNY-DSGE Model Forecast

The FRBNY model forecasts are obtained using data released through 2013Q3, augmented for 2013Q4 with the FRBNY staff forecasts for GDP growth, core PCE inflation, and growth in total hours, and with values of the federal funds rate and the spread between Baa corporate bonds and 10-year Treasury yields based on 2013Q4 observations. The expected federal funds rate is constrained to equal market expectations, as measured by OIS rates, through 2015Q2. The 2013Q4 staff projections are those that were available on December 12, 2013.

GDP growth forecasts for 2013, 2014 and 2015 (Q4/Q4) are 2.2%, 1.9% and 1.5%, respectively [Exhibit B-8]. Relative to September, the forecast for 2014 is broadly unchanged, while GDP growth is expected to grow at a 0.3% slower pace in 2015 and 2016. In general, the model continues to project a lackluster recovery throughout the forecast horizon [Exhibit E-1]. Inflation projections are weaker than those reported in September: while mean core PCE inflation for 2013 (Q4/Q4) is projected to be 1.1%, in line with the September forecast, the 2014 and 2015 (Q4/Q4) projections have declined relative to September to 1.0% and 1.4%, respectively, from 1.4% and 1.5%. Despite a projected increase in 2016 (to 1.7%, unchanged relative to September), inflation remains below the FOMC long-run goal of 2.0% through the forecast horizon.

As has been the case for some time, the growth and inflation model forecasts are weaker than the FRBNY central forecast, with the exception of the very short run.

Uncertainty around GDP growth forecasts remains large. The 68 percent bands cover the intervals -1.0% to 3.7% in 2014, -2.0% to 4.3% in 2015 and -1.7% to 4.8% in 2016. The forecast distribution for inflation shifted marginally relative to September, with the 68 percent probability bands within the 0.3% to 2.5% interval in 2016.

The FRBNY model forecast is driven by two main factors. The headwinds from the financial crisis, as captured by the effect of shocks to credit spreads and to the marginal efficiency of investment (MEI), result in low real activity, low real marginal costs, and consequently low inflation. The economy experienced large spread shocks during the Great Recession and a sequence of adverse MEI shocks afterwards. Given that these shocks have persistent effects on output and inflation, financial headwinds continue to negatively affect the forecasts for these variables through the forecast horizon. On the other hand, accommodative monetary policy, particularly forward-guidance, has played an important role in counteracting these headwinds, lifting output and inflation. However, the impact of past forward guidance announcements on the *level* of output, which must eventually converge to zero since monetary policy is neutral in the model, is beginning to wane. This implies a negative effect of policy on *growth*, particularly toward the end of the forecasting horizon, which largely explains why output growth is still below trend at the end of 2016.

The FRBNY model projects the FFR to be roughly 2 percent by the end of 2016, about 2 percentage points below its steady state value. This forecast is mostly driven by the response of policy to the weak economy, rather than by policy shocks. In fact, about two thirds of the FFR deviation from steady state (close to 1.5 percentage points) is accounted for by the negative contribution of MEI shocks, while anticipated policy shocks add about 70 basis points of accommodation [Exhibit E-2]. In this respect, the DSGE forecast is quite consistent with the September Summary of Economic Projections (SEP), which showed a cluster of FOMC participants expecting the FFR to be at or below 2% in 2016, but inflation and unemployment close to target. The FOMC minutes attributed this particular constellation of forecasts to the slow abatement of economic headwinds, implying that “the achievement of the Committee's employment and price stability objectives would likely require keeping the federal funds rate below its longer-run equilibrium value for some time even as economic conditions improved.” Unlike in the SEP, however, the large and persistent undershooting of the longer-run level of the FFR in the model is not sufficient to achieve the Committee's objectives even by the end of 2016. On the contrary, the model sees GDP growth about one percentage point below steady state, inflation about half a percentage point below target, and hours worked still 4 percentage points below their long-run level in 2016. This forecasted underperformance of the economy reminds us that the level of the FFR is not by itself an indicator of policy accommodation, even if this level remains below steady state for an extended period of time. Quantitatively, our model suggests that the drag from ‘financial headwinds’ is large enough to depress the FFR into 2016, so that this low rate reflects in part the economy’s weakness.

Forecast Comparison with the Tealbook

- *Tealbook policy assumption*: the policy assumptions have remained essentially unchanged since the September Tealbook.
- The Tealbook forecasts for GDP growth for 2014 and 2015 are 3.1% and 3.5%, respectively [Exhibit B-6], slightly above those in the Blackbook. More importantly, the projected paths of consumption and net exports in the Tealbook are quite different from those in the Blackbook:
    - The Board staff continues to anticipate a very strong rebound in consumption expenditure, with a growth contribution (Q4/Q4) of 2.3 percentage points in 2014 and 2.7 percentage points in 2015. In our forecast, by contrast, consumption expenditure remains subdued, with a growth contribution of 2.0 percentage points in 2014 and 2.2 percentage points in 2015. This difference is also reflected in the savings rate projections. The Blackbook forecasts a 4.4% savings rate in 2014 and 2015, while the Tealbook projections suggest a decline from 3.9% in 2014 to 3.6% in 2015.
    - While the Blackbook expects growth contributions (Q4/Q4) of net exports to be 0.0 and -.0.4 percentage points in 2014 and 2015, the Board staff anticipates growth contributions of 0.1 and 0.0 percentage points. The 2015 difference is due to import projections. The Blackbook has more of an acceleration in domestic demand growth in 2015 so we project a bigger pickup in import growth than the Board staff.
- The Board staff projects a stronger rebound in housing starts than the Blackbook both in 2014 and 2015. Housing starts in 2014 and 2015 are projected to be 1.09 million and 1.29 million in the Blackbook while the Tealbook forecasts are 1.3 and 1.5 million.
- Both the Tealbook forecast and the Blackbook forecast for inflation have declined relative to October. The Board's forecast of core PCE for 2014 is now 1.4%, down from 1.5%, while our forecast has declined from 1.7% to 1.5%. The Blackbook projects the core PCE to rebound to 1.9% in 2015 while the Tealbook anticipates it to be 1.6%.
- The Board and our staff have the same forecast of 6.5% for the unemployment rate in 2014. The forecasts, however, diverge in 2015 with the Blackbook projecting a 5.5% rate and the Tealbook 5.9%.

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Our current policy recommendation implies a target range for the federal funds rate of 0-0.25% until mid-2015 under our central scenario. Since the September Blackbook, the last time we conducted this analysis, the path of the FFR implied by the central scenario has remained stable for 2014 but has declined for 2015 and beyond. The market implied path has dropped substantially for 2014 and later [Exhibit D-1]. Under the fiscal consolidation scenario, liftoff does not occur before the end of 2016, while under the faster growth scenario, liftoff occurs by the end of 2014. The liftoff date in the market implied FFR path is also similar to the faster growth scenario. It is important to keep in mind, however, that standard Taylor-type rules do not provide good approximations of optimal policy when policy is constrained by the zero lower bound, as a commitment to maintain rates at a low level for longer than prescribed by standard rules may be necessary to provide the appropriate level of accommodation. In both the central scenario and the fiscal consolidation scenario, the real FFR remains well below zero at the end of 2016, while it becomes positive by early 2016 in the faster growth scenario.

In Exhibit D-2, we report the projected liftoff probabilities over the next six quarters from the FRBNY forecast and the FRBNY DSGE model. The path projected by the FRBNY forecast shows that the liftoff probability has declined substantially since the September Blackbook. The probability is zero in 2013Q4 and very close to zero in 2014Q1 and 2014Q2. It rises to roughly 5% in 2014Q3, to 10% in 2014Q4 and to 15% in 2015Q1. The corresponding DSGE model probabilities have also declined quite significantly relative to the September Blackbook but they are much higher than the FRBNY forecast. For example, the DSGE probability for 2014Q1 is approximately 10% (20% in the September Blackbook). For 2014Q2, the probability is 18% (30% in September). We also compare the market implied forecasts for the liftoff probability to the baseline and the DSGE probabilities for 2013Q4, 2014Q4, and 2015Q4. The market probability is zero at the end of 2013 and 2014 but rises to almost 40% for 2015Q4.

4.2 Comparison to Market Expectations

The expected FFR path derived from overnight index swaps (OIS) changed little since the October Blackbook (Exhibit A-5). The path is consistent with a lift-off in 2015Q2. In the Survey of Primary Dealers, however, the most likely timing of the first increase in FFR has shifted from 2015Q3 to 2015Q4.

Dealers placed roughly equal probabilities on the first reduction in the pace of asset purchases occurring over the next three meetings, with March receiving the highest probability by a slight margin (30%). However, the percent chance placed on an earlier first reduction has increased relative to October. Dealers expect an unemployment rate of 7%, PCE inflation of around 1%, and average monthly payroll increases of 200,000 at the time of the first reduction in the pace of asset purchases. The overall size of asset purchases as derived from the median of dealers' implied SOMA paths decreased by roughly $40 billion, driven mostly by a decline in expected Treasury purchases.

5. Significant Developments

5.1 Economic Developments

Foreign Data Releases. *Euro area*: Output was up only 0.3 percent (saar) in Q3. Consumption, investment spending, and exports were all disappointing, while inventories made a substantial contribution to growth. Manufacturing was flat over the course of Q3, after jumping in Q2. The index was up 1 percent over the year in September. The economic sentiment index continued to rise through November, putting it only 1 percent below its long-run average. It had been 10 percent below the average in Q2. PMI readings for October and November were above Q3 values. The labor market has stabilized, with the unemployment rate at 12.1 percent in October, near where it has been for all of 2013. The current account surplus appears to have peaked and is stabilizing at an annualized rate of around $250 billion. CPI inflation was 0.9 percent in November and core inflation increased slightly to 1.0 percent. Core inflation was running at a 1.5 percent rate in 2011 and 2012 and then dipped to near 1.0 percent in April 2013.

Key Data Releases

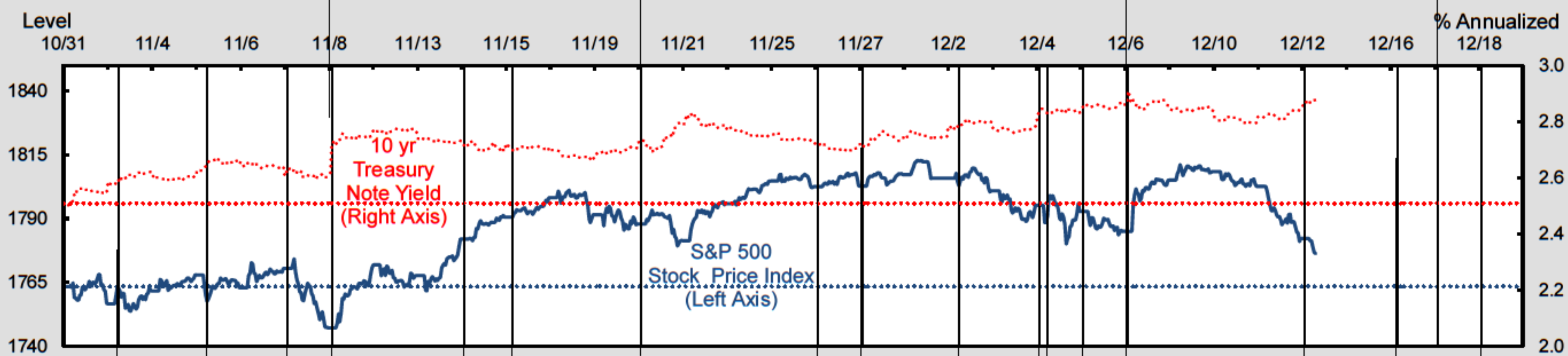
Price Releases

PCE Price Index (Sep)
Overall:
+0.1% (+0.1%)
+0.9% over 12 months
Core:
+0.1% (+0.1%)
+1.2% over 12 months

Consumer Price Index (Oct)
Overall:
-0.1% (flat)
-1.0% over 12 months
Core:
+0.1% (+0.1%)
+1.7% over 12 months

PCE Price Index (Oct)
Overall:
-0.03% (flat)
+0.7% over 12 months
Core:
+0.1% (+0.1%)
+1.1% over 12 months

Consumer Price Index (Nov)
Overall:
+.% (+.%)
+.% over 12 months
Core:
+.% (+.%)
+.% over 12 months



FOMC Meeting

ISM Manufacturing (Oct)
Composite index:
+0.2 to 56.4
(-1 2 at 55.0)

ISM Non-Manufacturing (Oct)
Composite index:
+1.0 to 55.4.
(-0.4 points to 54.0)

Gross Domestic Product (Advance Estimate for 2013Q3)
Real GDP:
+2.8% (+2.0%)

Personal Income (Sep)
Personal Income:
Nominal +0 5% (+0 3%)
Nominal disposable +0.5%
Real Disposable +0.4%
PCE:
Nominal +0.2% (+0.2%)
Real +0.1%

Trade Balance (Sep)
Total:
-$41.8 Billion
(-$39.0 Billion)

Employment Situation (Oct)
Non-farm payroll:
+204,000 (+120,000)
Unemployment rate:
+0.04 to 7.28%
(+0.1 to 7 3%)

Industrial Production & Capacity Utilization (Oct)
IP:
-0.1% (+0.2%)
+3.3% over 12 months
CU:
-0.2% to 78.1%
(-0.2% to 78.1%)

Advance Retail Sales (Oct)
Total:
+0.4% (+0.1%)
+3.9% over 12 months
Ex-auto:
+0.2% (0.1%)
+2.4% over 12 months

New Residential Construction (Sep)
Total housing permits:
+5.2% to 974,000, SAAR
+16.7% over 12 months
Single-family permits:
-1.95%
Multi-family permits:
+19.9%
*Sep/Oct starts data to be released 12/18

New Residential Construction (Oct)
Total housing permits:
+6 2% to 1,034,000, SAAR
+13.9% over 12 months
Single-family permits:
+0 8%
Multi-family permits:
+16.9%

Advance Durable Goods (Oct)
New Orders:
-2.0% (-2.0%)
+5 3% over 12 months
Shipments:
+0 2%
+4 8% over 12 months

Trade Balance (Oct)
Total:
-$40.6 Billion
(-$40.0 Billion)

ISM Non-Manufacturing (Nov)
Composite index:
-1 5 to 53.9
(-0.4 points to 55.0)

Construction Spending (Sep)
Construction Spending:
-0 3% (+0.5%)

Construction Spending (Oct)
Construction Spending:
+0 8% (+0.4%)
+5 3% over 12 months

ISM Manufacturing (Nov)
Composite index:
+0 9 to 57 3
(-1.3 at 55.1)

Gross Domestic Product (Second Estimate for 2013Q3)
Real GDP:
+3.6% (+3.1%)

Personal Income (Oct)
Personal Income:
Nominal -0.1% (+0 3%)
Nominal disposable -0 2%
Real Disposable -0 2%
PCE:
Nominal +0 3% (+0.2%)
Real +0.3%

Employment Situation (Sep)
Non-farm payroll:
+203,000(+185,000)
Unemployment rate:
-0.3 to 7.0%
(-0.1 at 7.2%)

Advance Retail Sales (Nov)
Total:
+0.7%(+0.6%)
+4.7% over 12 months
Ex-auto:
+0.4%(+0 2%)
+3.5% over 12 months

Industrial Production & Capacity Utilization (Nov)
IP:
+.%(+.%)
+.% over 12 months
CU:
-.% to .% (+. to .%)

New Residential Construction (Nov)
Total housing starts:
+.% to , SAAR
(+.% to ,)
+.% over 12 months
Single-family starts:
+.%
Multi-family starts:
+.%

FOMC Meeting

Real Activity Releases

Note
Blue shading: Data release encouraging/positive.
Red shading: Data release discouraging/negative.
Beige shading: Data release was neutral.
Gray shading: No attempt to sign the impact.
Numbers in parentheses are the median of the Bloomberg survey.

Source: Bloomberg
On-the-run securities, 8:00AM - 4:00PM.
S&P 500 Stock Price Index: 9:30AM - 4:00PM.

Japan: Growth slowed to 1.1 percent (saar) in Q3, with a sharp downshift in consumption and a drop in exports countering strong investment spending and a large boost from inventories. Manufacturing continued to rise, putting the index 5 percent above its year-ago level in October. Export volumes rose significantly in October after falling in Q3, with sales up to Europe and the United States. PMI data continued to improve in October and November. The unemployment rate was unchanged at 4.0 percent in October with employment up 0.5 percent over the year. Wages, however, remain stagnant. The CPI excluding food and energy was up 0.3 percent over the year in October. For comparison, the core index was falling at a 0.8 percent rate at the beginning of 2013. Higher import prices are contributing to the end of core price deflation, but higher services prices, such as those for recreation and insurance are also factors.

EM Asia: China data suggest that momentum continued unabated entering Q4, with rising PMI and manufacturing data testifying to resilient domestic demand. Export growth, however, is tepid. Stimulus measures are leading to a notable rebound in property activity. Data for the NIEs have been in line with expectations. Growth in India picked up in Q3 on the back of a rebound in exports.

Latin America: Output in Brazil fell 1.9 percent (saar) in Q3, with the weakness concentrated in investment spending as firms cut back during a time of protests and market turbulence. Exports contracted, though data suggest a rebound in Q4. Mexico grew 3.4 percent in Q3 after dropping in the first half of the year. Preliminary data point to moderate growth in Q4. Core inflation, at 2.4 percent, is near historical lows.

5.2 Financial Markets

Domestic Financial Markets.

Nominal Interest Rates: The Treasury yield curve steepened over the intermeeting period. On-the-run 2-year yields declined a few basis points to a level of 30 basis points and 10-year yields increased 30 basis points to 2.8 percent. The steepening reflected FOMC communication, including the statement and minutes, which were perceived as indicating higher odds of further accommodation on the path of short-term interest rates and a reduced pace of Fed purchases. In addition, better-than-expected economic releases, including the October and November employment reports, also contributed to the rise in longer-dated yields. The New York Fed staff model estimates the increase in long-term yields is more than explained by a rise in term premia, implying that the expected path of short-term policy rates declined since the October meeting. Implied measures of interest rate volatility on Treasuries and swaps, as measured by the MOVE and SMOVE indexes, rose over the intermeeting period but remain well below the levels seen before the September FOMC meeting. [Exhibit A-3: Treasury Yields]

Inflation Compensation: Five-year real Treasury yields rose more than their nominal counterparts over the intermeeting period resulting in a 12 basis point decline in 5-year inflation compensation to a level of 1.82 percent. In contrast, inflation compensation further out, as measured by 5-year breakevens 5-years from now, was unchanged at 2.56 percent, a level that is near its historical average value. [Exhibit A-4: Real Yields and Implied Inflation]

Expected Policy Path: Consistent with nominal Treasury yields, the market implied path for the federal funds rate, as measured by quotes on overnight index swaps (OIS), steepened slightly since the October FOMC meeting. Implied rates up to mid-2015 declined a few basis points and the path moved up starting in mid-2016. As a result, the lift-off date for the federal funds rate was pushed further out in time by one quarter to the second quarter of 2015. The path still crosses the one-percent level in the second quarter of 2016, as was the case at the time of the October meeting. Results from the December Blue Chip Financial Forecasts, which was conducted on November 26-27, are consistent with the market implied path as measured by the average survey response, and point to a federal funds rate lift-off in the second quarter of 2015. Disagreement around the path for the federal funds rate at that time remains at very low levels as evidenced by the less than 10 basis point width of the interquartile range of survey. [Exhibit A-5: Policy Expectations]

Equity Market: The S&P500 index rose slightly over the intermeeting period to 1802 amid somewhat better-than-expected economic data and robust performance of tech-related stocks, including the successful IPO of Twitter. Implied equity volatility was little changed at an index level of just below 14, which is at the low-end of its historical range. [Exhibit A-6: Equity]

Credit Spreads: Corporate credit spreads, as measured by the Merrill Lynch indexes, declined since the October FOMC meeting. Spreads of investment grade corporate bond yields to comparable maturity Treasuries declined 6 basis points to 1.38 percent, which is the lowest level recorded in the post-financial crisis period. Spreads of high yield corporate bond spreads to comparable maturity Treasuries declined 30 basis points to 415 basis points, which is just a few basis point shy of the post-crisis record lows registered earlier in this intermeeting period. Primary and secondary mortgage market rates rose in line with the increase in longer-dated nominal Treasury yields. Yields on current coupon MBS increased 32 basis points to 3.47 percent, while the primary mortgage rate was up 27 basis points to 4.42 percent, almost fully reversing the declines experienced following the September FOMC meeting. The spread between primary and secondary mortgage yields narrowed a few basis points to just below 1.00 percent, which is in line with the level experienced earlier in 2013. On December 9, the Federal Housing Finance Agency (FHFA) announced an increase in agency guarantee fees (g-fees) to incentivize a return of private capital in the mortgage securitization market. The FHFA expects the g-fee increase to boost guarantee costs by about 14 basis points on 30-year mortgages. These costs should be reflected in a widening of the primary-secondary spread as the g-fees are implemented. [Exhibit A-7: Credit]

Foreign Financial Markets. *Euro Area*: Core euro area bond yields rose in tandem with corresponding U.S. and U.K. rates on heightened expectations of a slower pace of asset purchases by the Federal Reserve and an improving growth outlook, especially in the United States. Shorter-dated core euro area yields remained broadly unchanged with slightly diminished expectations of further monetary policy accommodation after the ECB kept its policy stance unchanged at its December meeting. Spanish and Italian sovereign spreads narrowed, particularly in shorter tenors, after the ECB eased policy in in November. The euro has been mixed against most major currencies and was roughly unchanged against the U.S. dollar. Euro area equities were 2 percent lower, with peripheral shares underperforming and bank indices performing in line with broader indices.

Japan: Government bond yields rose modestly over the intermeeting period, with price volatility near pre-April lows, as market participants adjusted to the Bank's purchase operations. Japanese equities rose and the yen depreciated against major currencies. A key factor driving this is the divergence between foreign and domestic policy stance expectations: the Bank of Japan is expected to ease further in 2014, while the FOMC is set to reduce the pace of its asset purchases.

Emerging Asia: Emerging Asian currencies (ex-China) were, on average, 1 percent weaker against the U.S. dollar on the back of shifting expectations about U.S. monetary policy. The Indian rupee stabilized as India's current account deficit narrowed, whereas the Indonesia rupiah fell 7 percent after an unexpected policy rate hike in November.

Latin America: The Brazilian currency is 6 percent weaker relative to the U.S. dollar since the last FOMC meeting. Brazilian 5-year government bond yields rose 120 basis points amid ongoing monetary policy tightening. The Mexican peso, on the other hand, appreciated 1 percent against the dollar due to increased optimism over an ambitious energy reform.

5.3 Global Economic Policy

Euro Area: The ECB cut its main refinancing rate from 0.50 percent to 0.25 percent at its November policy meeting and its marginal lending rate was similarly lowered to 0.75 percent, with the deposit rate remaining at 0 percent. In addition, it extended its current fixed-rate, full-allotment refinancing operations until mid-2015, with financing up to three months. No additional actions were taken at the December meeting. The ECB continues to repeat its forward guidance language, first invoked in July, that rates will remain at present or lower levels for an extended period. This guidance does not depend on economic performance. Market participants expect that the ECB will not raise its refinancing rate until early 2016.

Japan: At its April policy meeting, the Bank of Japan announced easing measures that drastically ramped up asset purchases and increases the duration of assets held on its balance sheet, with an aim to achieve its 2 percent inflation target within the next two years. Subsequent meetings, the last one in November, have kept its policy stance unchanged. The monetary base is now the Bank's target and it was up 52 percent over the year in November. The Bank's minutes from its November policy meeting, however, noted concern that flat wages are a sign that underlying inflation is not heading higher. The lack of wage inflation in the near future might push the Bank to consider additional easing measures.

Canada and the U.K.: The Bank of Canada left its policy rate unchanged at 1.0 percent in November. The Bank of England kept its policy rate at 0.5 percent in December with the commitment to keep rates low until unemployment falls below 7 percent.

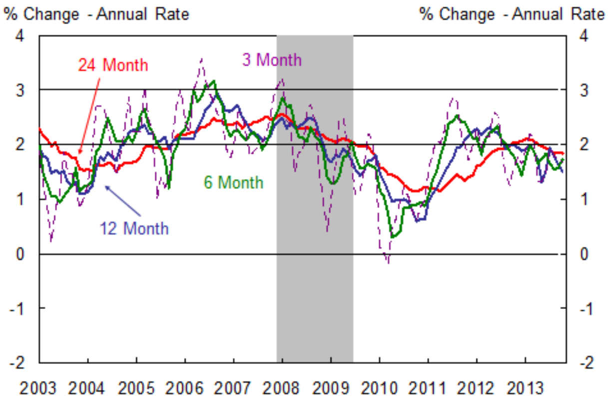
EM Asia: Policy rates in Indonesia were unexpectedly hiked by 25 basis points in November while Thailand surprised markets by cutting its policy rate by 25 basis points in October on weakening growth. After picking up in October, reserve purchases in the region slowed in November on moderating capital inflows.

Latin America: The central bank of Brazil increased its policy rate by 50 basis points at its November policy meeting, bringing the cumulative rate hikes since April to 275 basis points. An additional 50 basis points of rate hikes is expected by early 2014. Mexico's central bank kept rates unchanged at 3.5 percent at its December policy meeting, as expected, after reducing rates by a cumulative 50 basis points in September and October. The Mexican central bank is expected to remain on hold through 2014.

A. Significant Developments

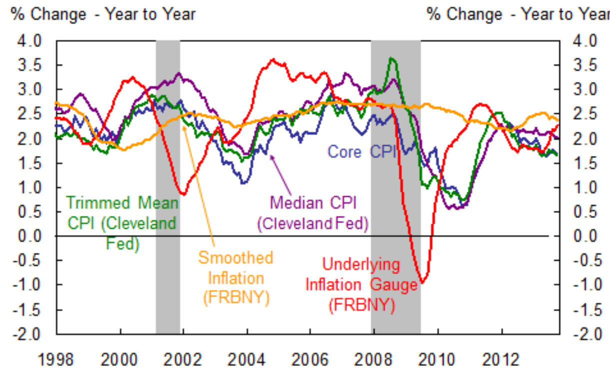
Exhibit A-1:
Measures of Trend Inflation

Core CPI Inflation over Various Horizons



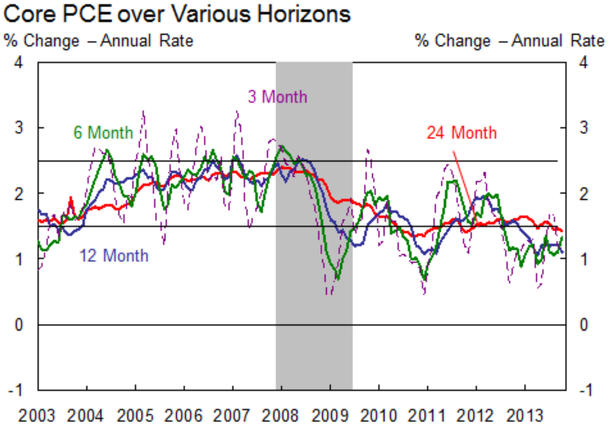
Source: Bureau of Labor Statistics

Alternative Measures of CPI Inflation



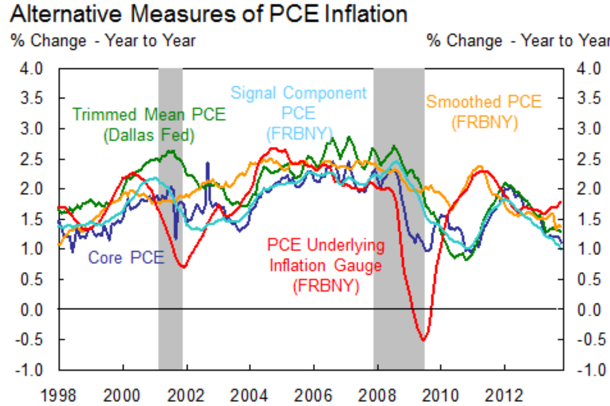
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



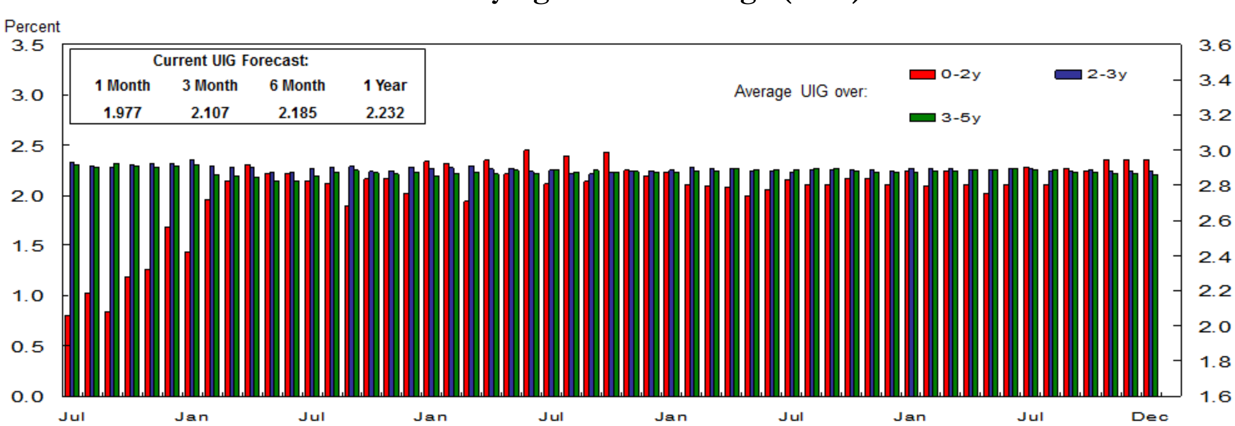
Source: Bureau of Economic Analysis

Alternative Measures of PCE Inflation



Source: Bureau of Economic Analysis, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Exhibit A-2:
Underlying Inflation Gauge (UIG)



Source: MMS Function (FRBNY) and Swiss National Bank

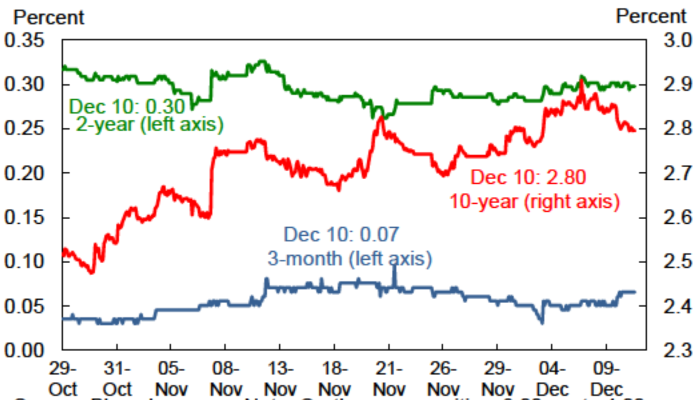
A. Significant Developments

Exhibit A-3:
Treasury Yields

Short- and Long-Term Rates

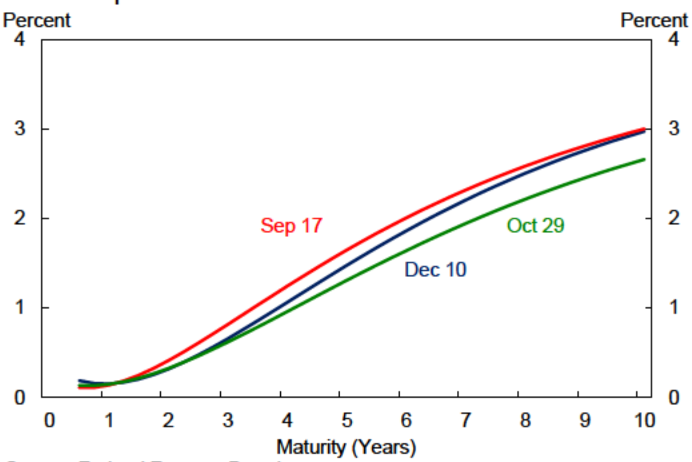
Source: Bloomberg Note: Yields of on-the-run securities.

Short- and Long-Term Rates (Intraday)



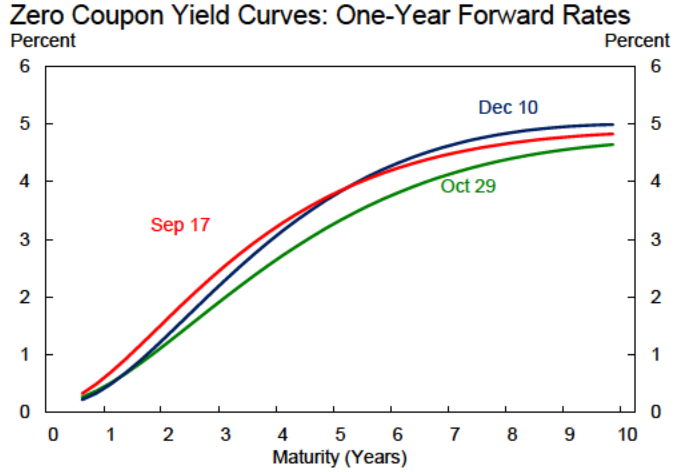
Source: Bloomberg Note: On-the-run securities, 8:00 am to 4:00 pm.

Zero Coupon Yield Curves



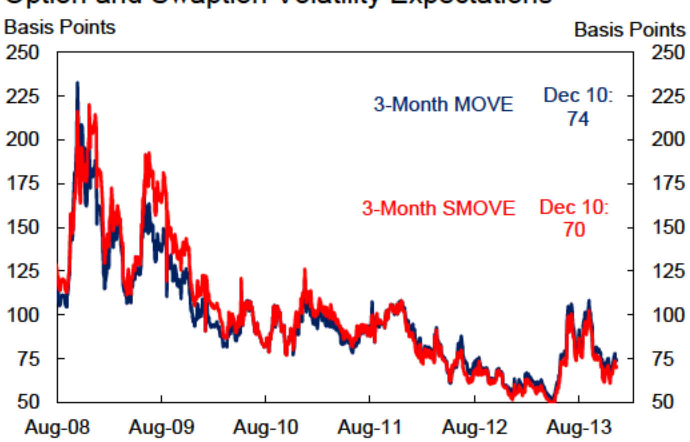
Source: Federal Reserve Board

Zero Coupon Yield Curves: One-Year Forward Rates



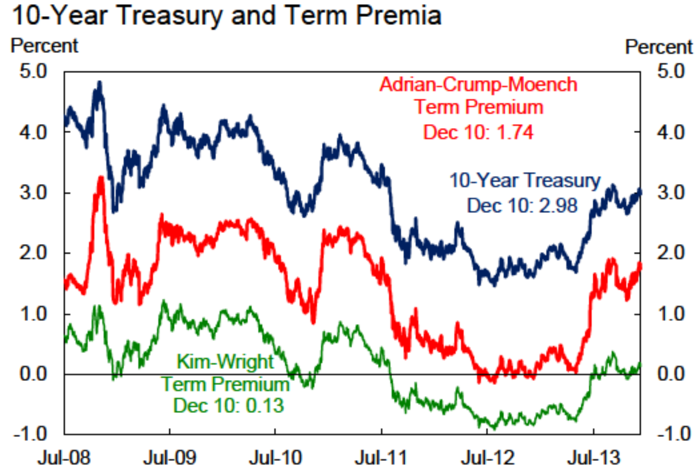
Source: Federal Reserve Board

Option and Swaption Volatility Expectations



Source: Federal Reserve Board, Barclays, and FRBNY staff

10-Year Treasury and Term Premia

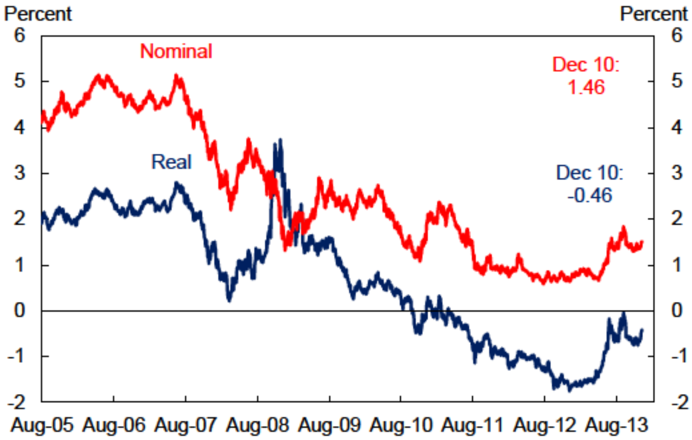


Source: FRBNY calculations, Federal Reserve Board

A. Significant Developments

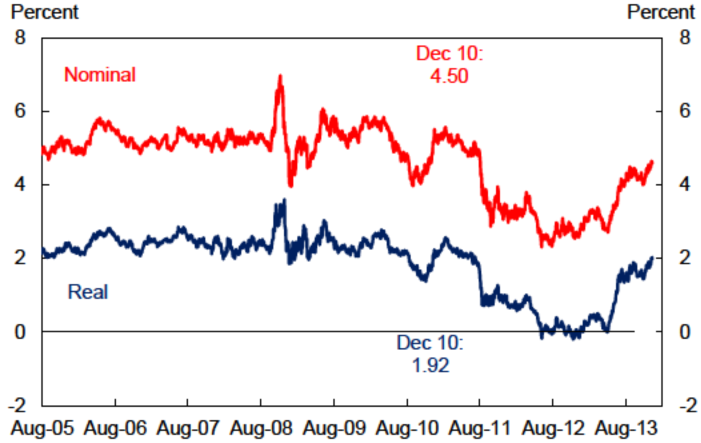
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



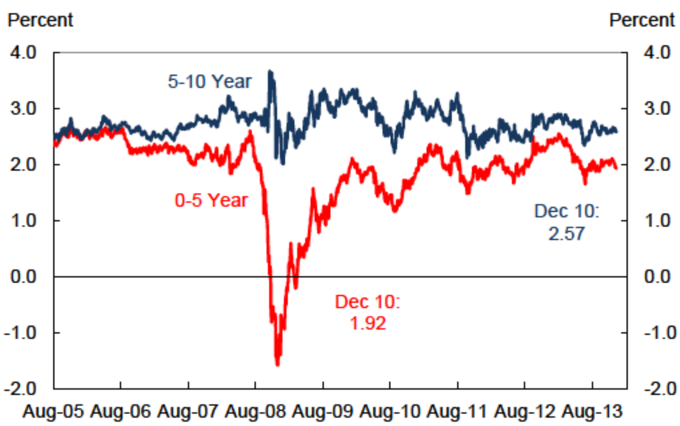
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

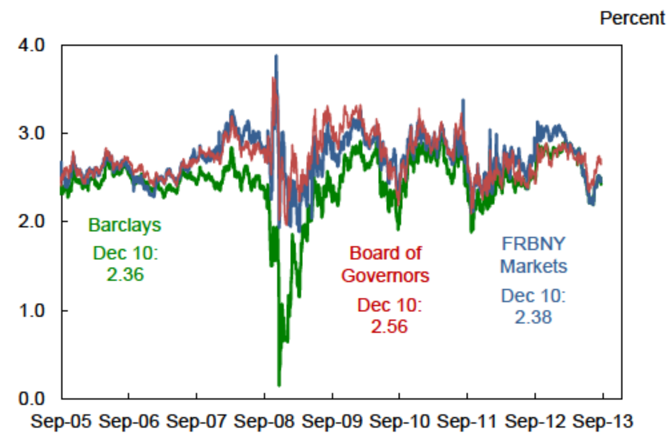
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

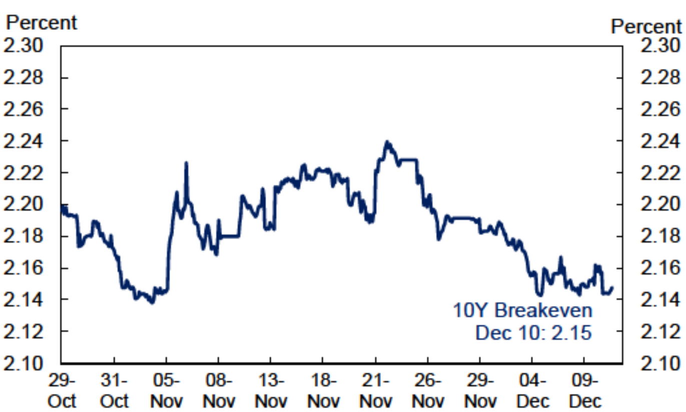
Note: Carry-adjusted.

Alternative Measures of 5-10 Year Implied Inflation Compensation



Source: Federal Reserve Board, Barclays, and FRBNY calculations

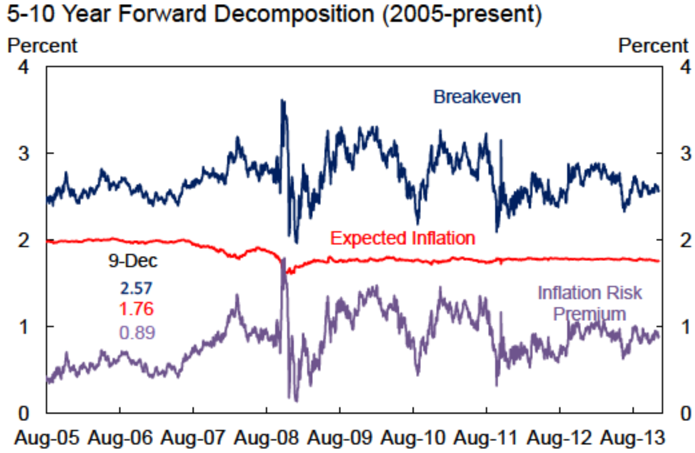
10-Year Breakeven Inflation Compensation (Intraday)



Source: Bloomberg

Note: On-the-run securities, 8:00 am to 4:00 pm.

5-10 Year Forward Decomposition (2005-present)

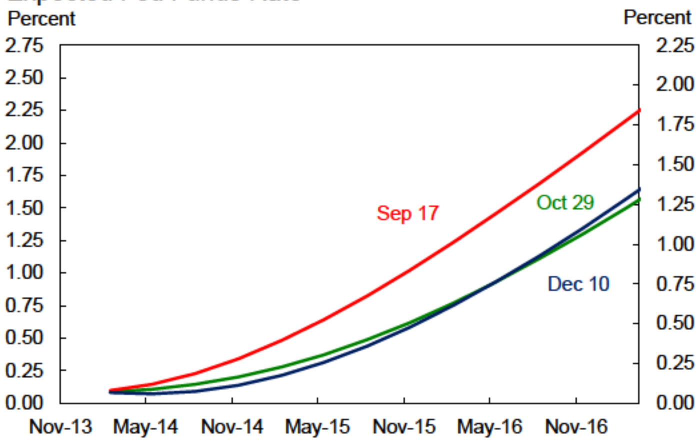


Source: FRBNY Calculations

A. Significant Developments

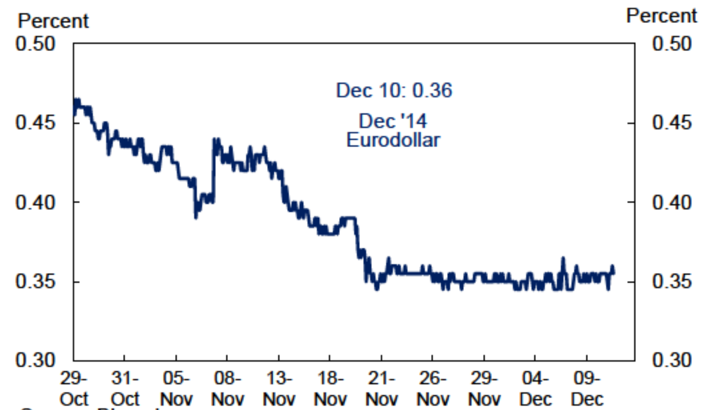
Exhibit A-5:
Policy Expectations

Expected Fed Funds Rate



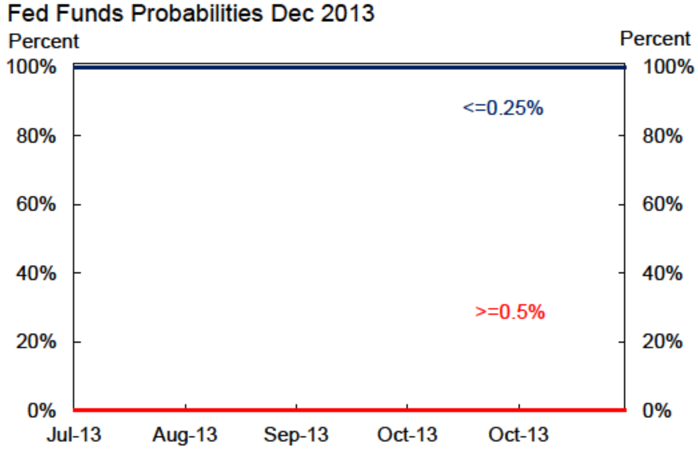
Source: Federal Reserve Board
Note: Estimated using OIS quotes.

Implied Eurodollar Rates (Intraday)



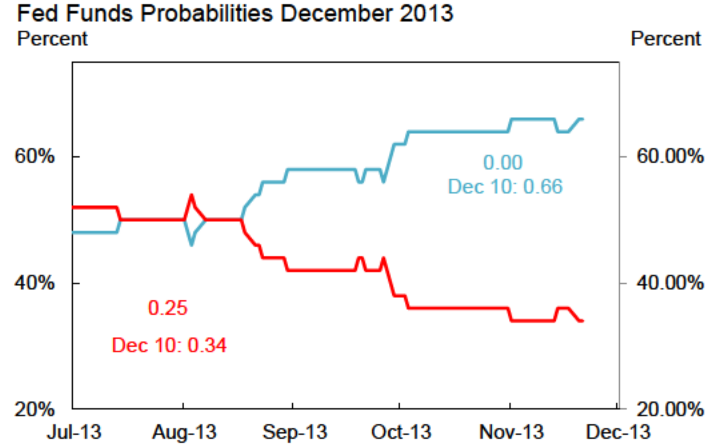
Source: Bloomberg
Note: 8:00 am to 4:00 pm.

Fed Funds Probabilities Dec 2013



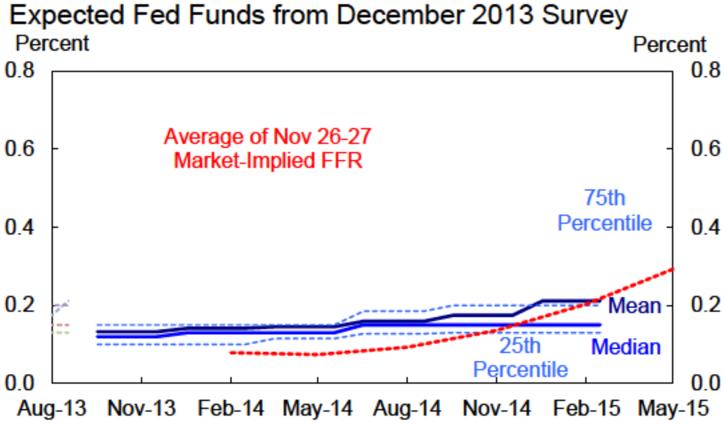
Source: Bloomberg
Note: Estimated from Fed Funds Futures

Fed Funds Probabilities December 2013



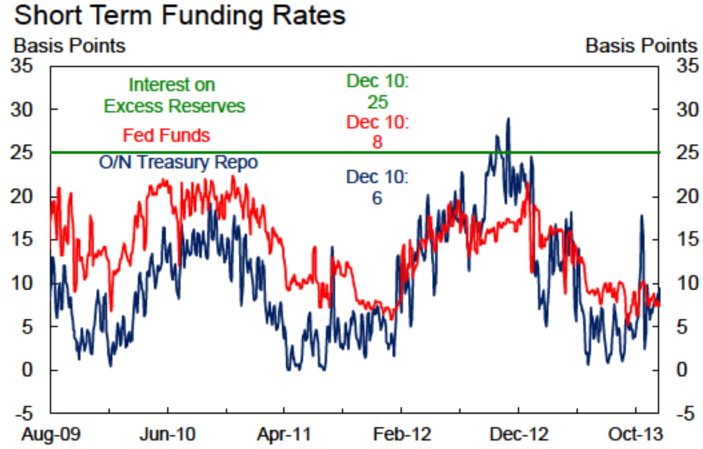
Source: Bloomberg
Note: Estimated from Fed Funds Futures

Expected Fed Funds from December 2013 Survey



Note: Implied FFR estimated from OIS quotes.
Source: The Blue Chip Financial Forecast conducted on November 26-27.

Short Term Funding Rates

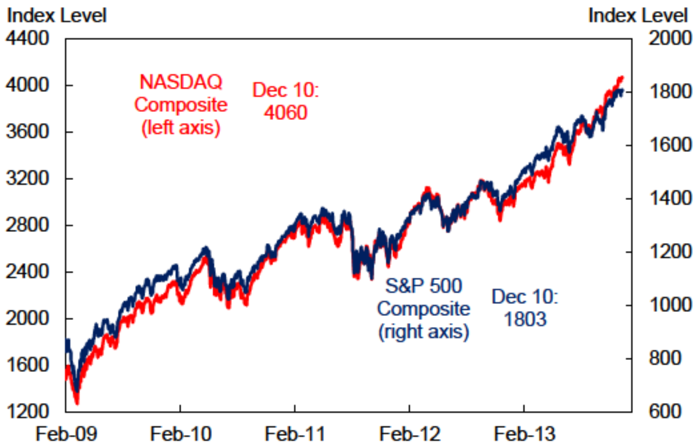


Source: Bloomberg, FRBNY calculations
Note: 1-week moving averages.

A. Significant Developments

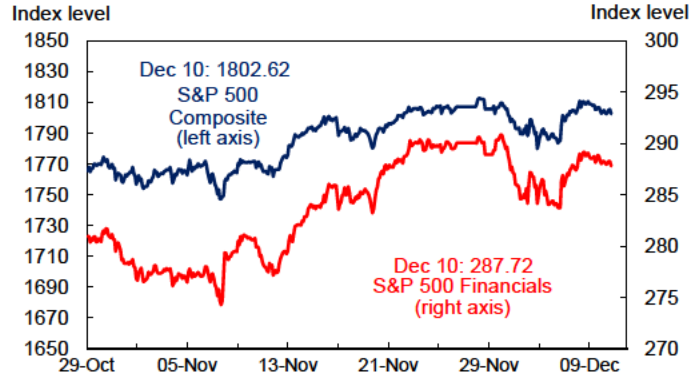
Exhibit A-6:
Equity

Equity Index Levels



Source: Bloomberg

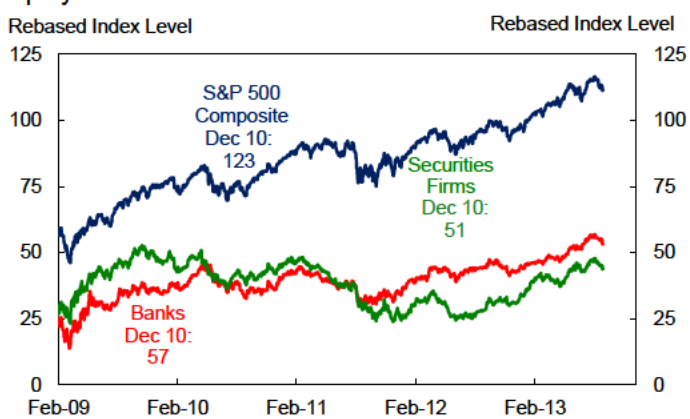
S&P 500 Indices (Intraday)



Source: Bloomberg

Note: 9:30 am to 4:00 pm.

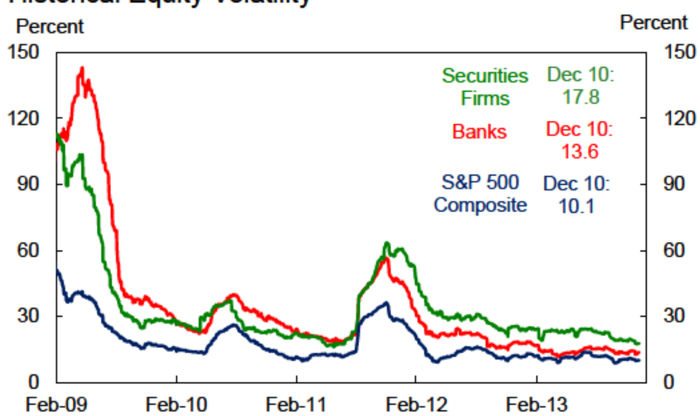
Equity Performance



Source: Bloomberg

Note: Rebased to equal 100 on August 1, 2007. Banks series is S&P 500 Banks index. Securities Firms series is S&P 500 Investment Banks and Brokerages index.

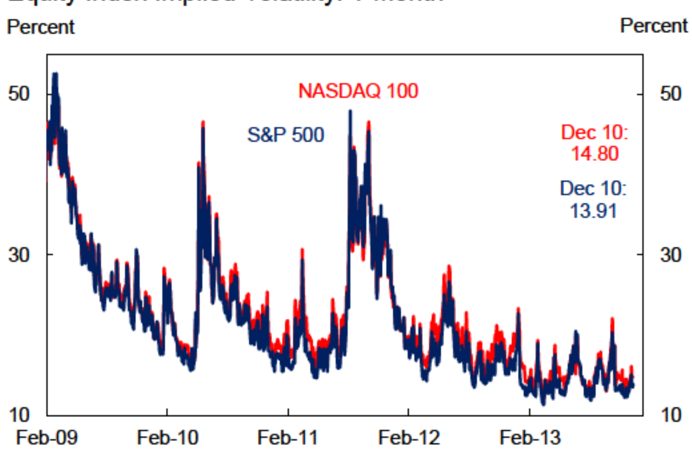
Historical Equity Volatility



Source: Bloomberg

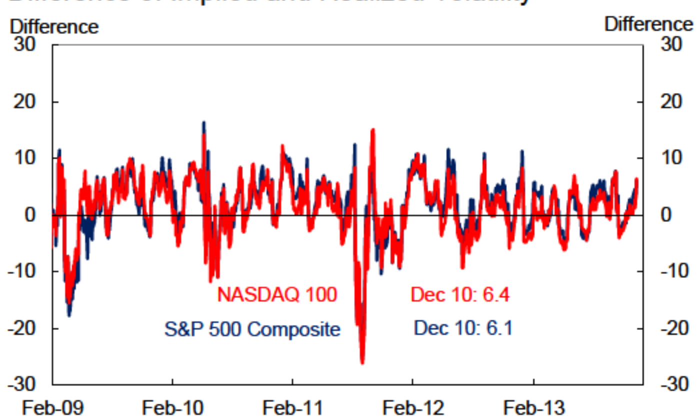
Note: Annualized rolling 3-month standard deviation of daily returns. Banks series is S&P 500 Banks index. Securities Firms series is S&P 500 Investment Banks and Brokerages index.

Equity Index Implied Volatility: 1-Month



Source: Bloomberg

Difference of Implied and Realized Volatility



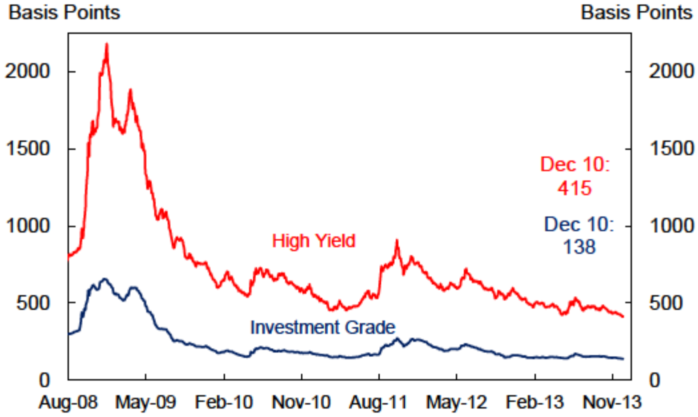
Source: Bloomberg

Note: Realized volatility is annualized 1-month rolling standard deviation of daily returns (360-day year) for S&P 500 and Nasdaq 100.

A. Significant Developments

Exhibit A-7:
Credit

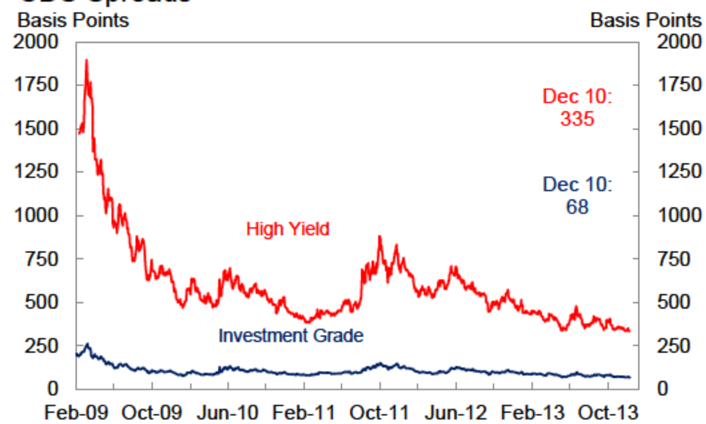
Corporate Credit Spreads



Source: Merrill Lynch

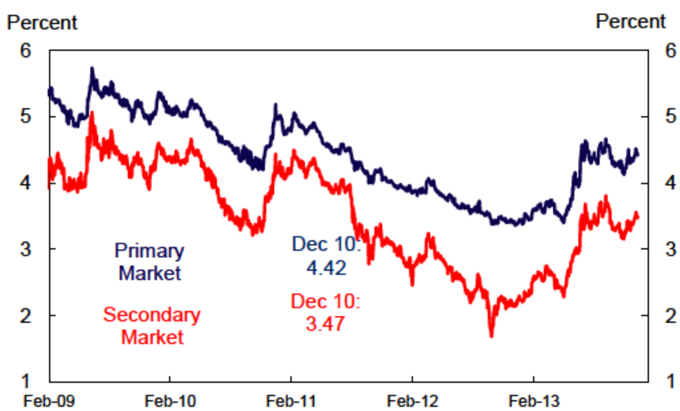
Note: Option-adjusted spreads.

CDS Spreads



Source: Bloomberg

Mortgage Market Rates



Source: Bloomberg

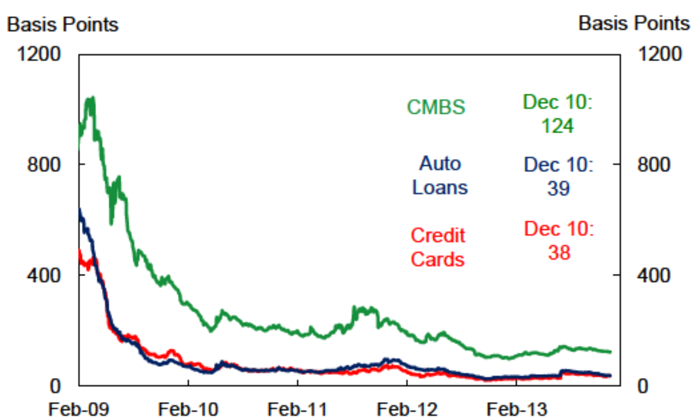
Note: 30-year fixed mortgage rate and Fannie Mae current coupon yield.

Mortgage Secondary Market

Source: J.P. Morgan

Note: 30 year current coupon Fannie Mae MBS.

AAA-Rated ABS/CMBS Spreads



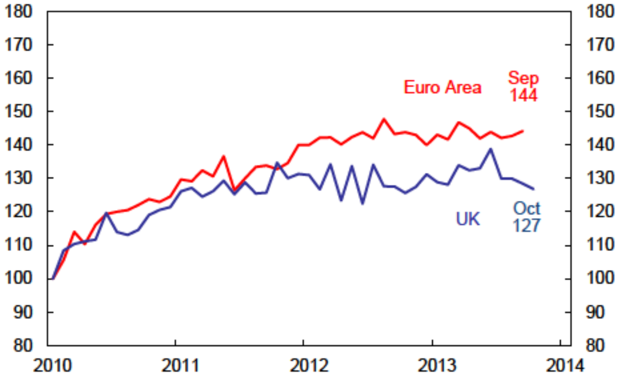
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

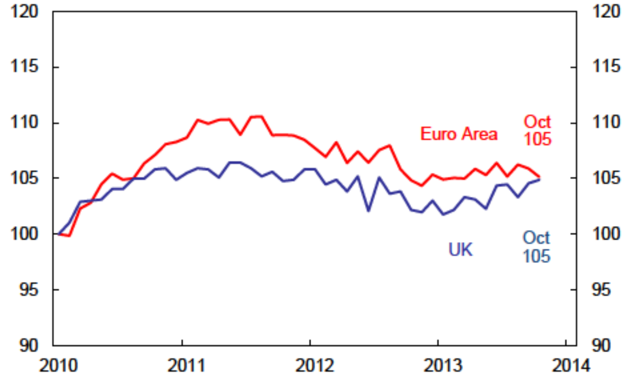
Exhibit A-8: Exports and Industrial Production

Exports
Jan 2010 = 100 Jan 2010 = 100



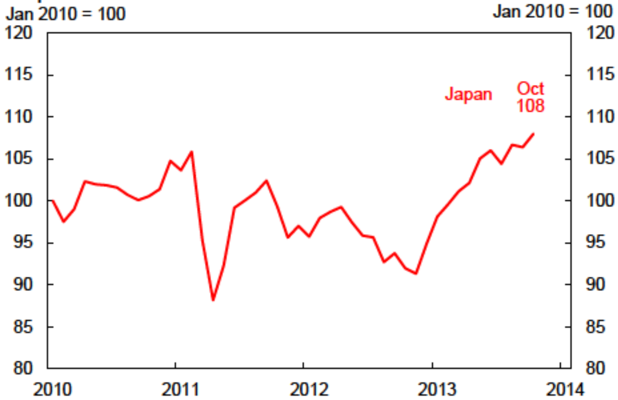
Source: Haver Note: In Local Currency Terms

Industrial Production
Jan 2010 = 100 Jan 2010 = 100



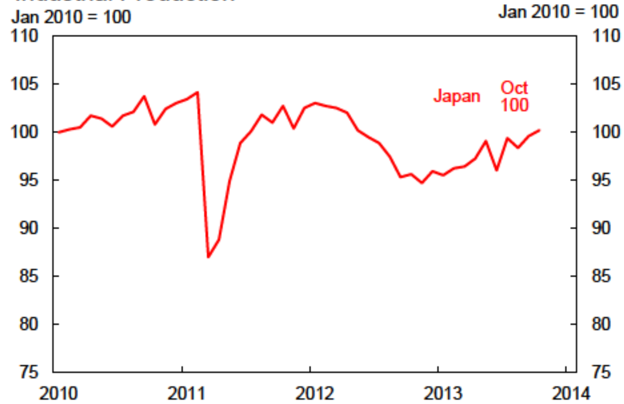
Source: Haver

Exports
Jan 2010 = 100 Jan 2010 = 100



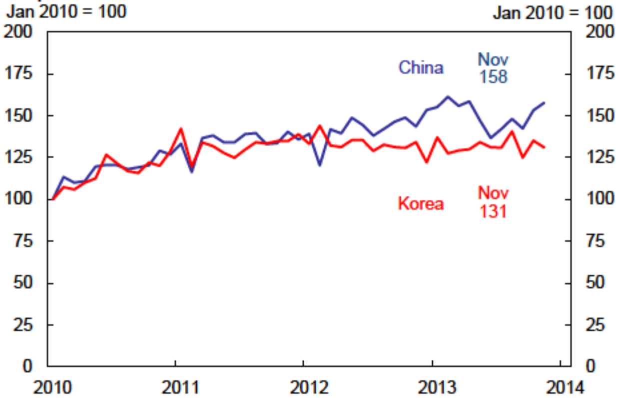
Source: Haver Note: In Local Currency Terms

Industrial Production
Jan 2010 = 100 Jan 2010 = 100



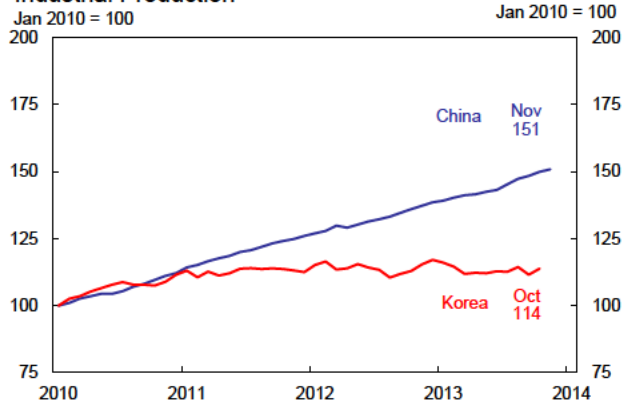
Source: Haver

Exports
Jan 2010 = 100 Jan 2010 = 100



Source: Haver Note: In Local Currency Terms

Industrial Production
Jan 2010 = 100 Jan 2010 = 100

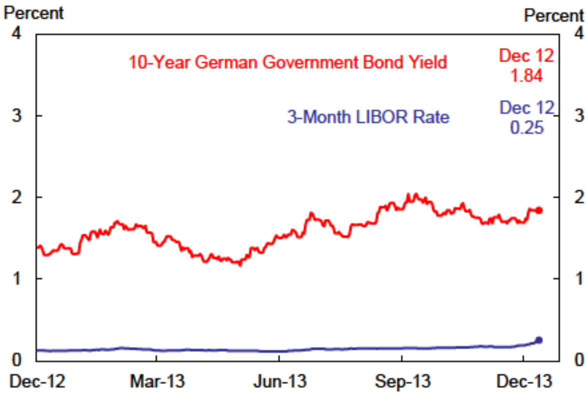


Source: Haver

A. Significant Developments

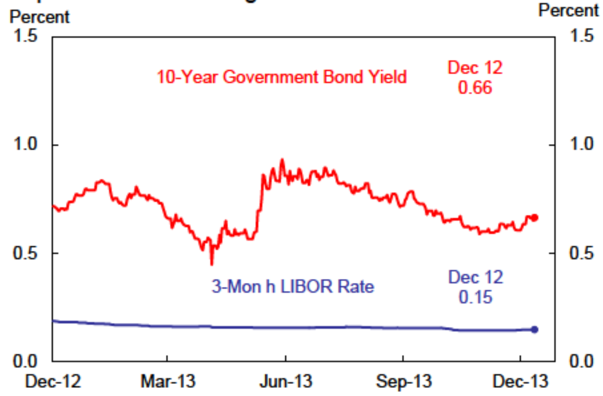
Exhibit A-9:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



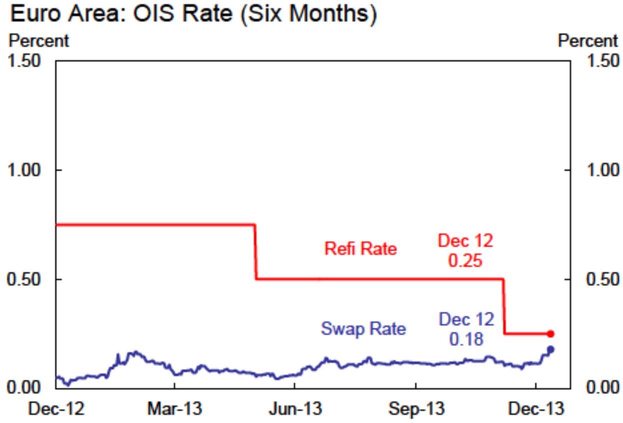
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



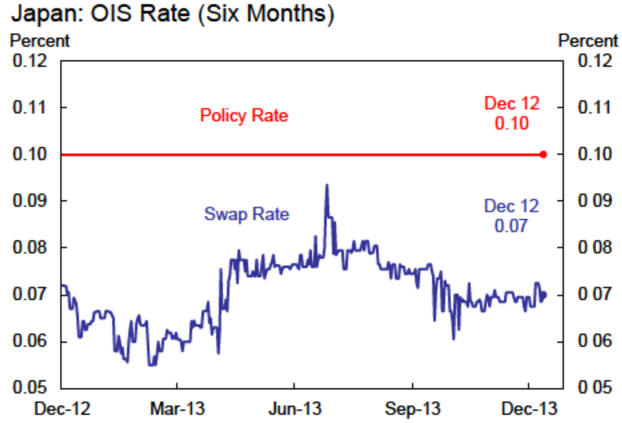
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



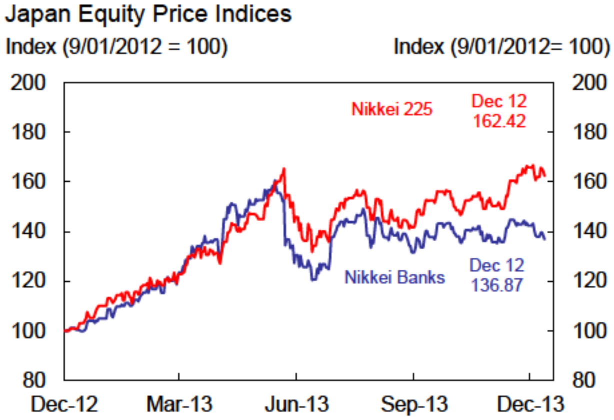
Source: Bloomberg

Japan: OIS Rate (Six Months)



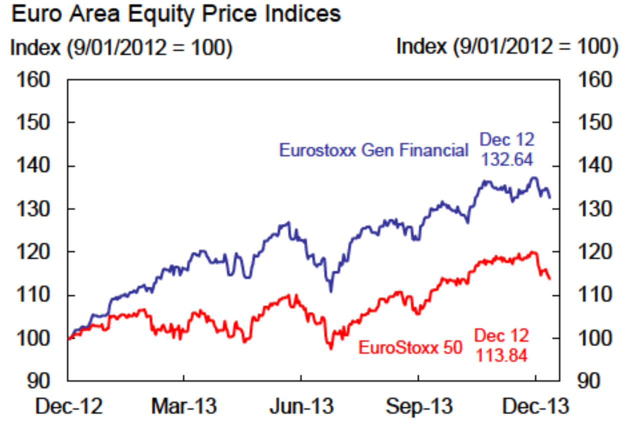
Source: Bloomberg

Japan Equity Price Indices



Source: Bloomberg

Euro Area Equity Price Indices

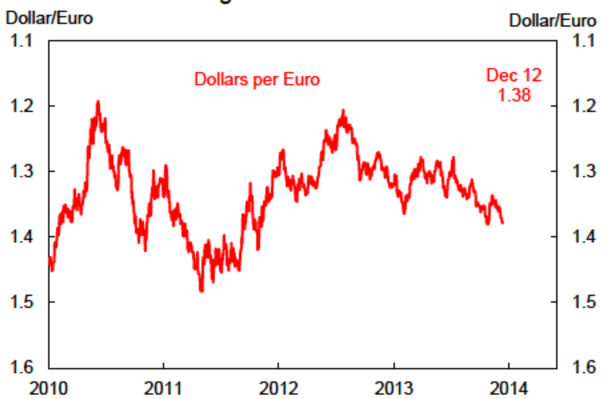


Source: Bloomberg

A. Significant Developments

Exhibit A-10:
Exchange Rates

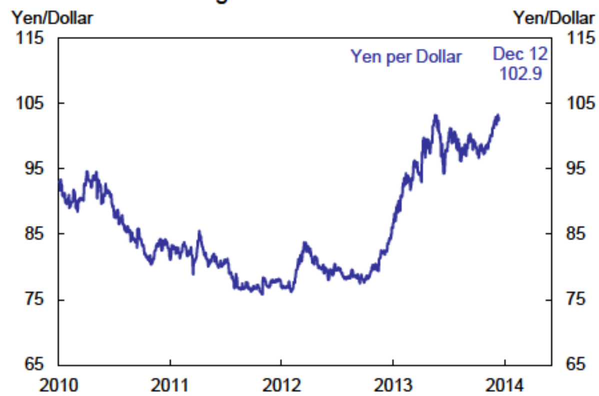
Dollar-Euro Exchange Rate



Source: Bloomberg

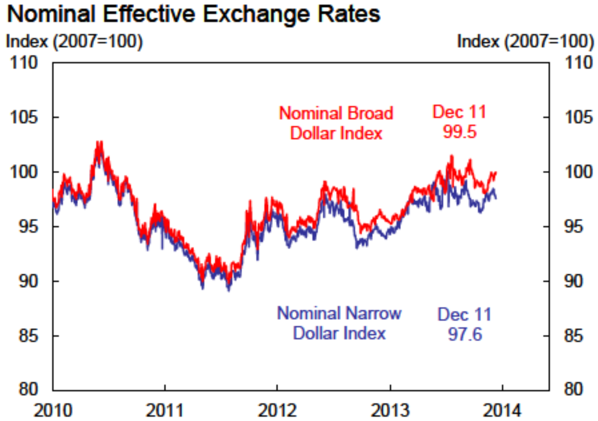
Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



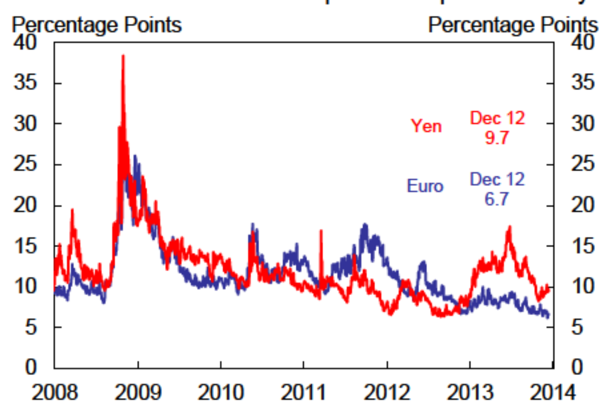
Source: Bloomberg

Nominal Effective Exchange Rates



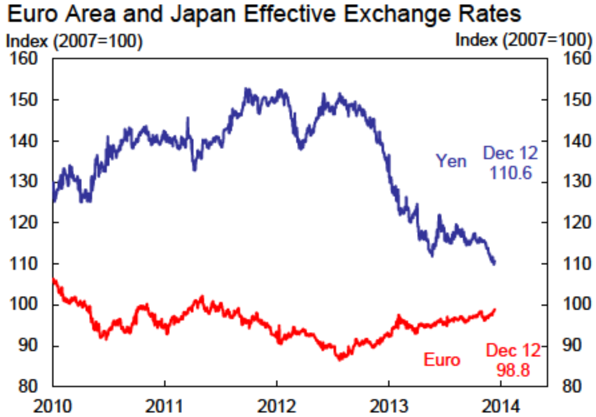
Source: Bloomberg, JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



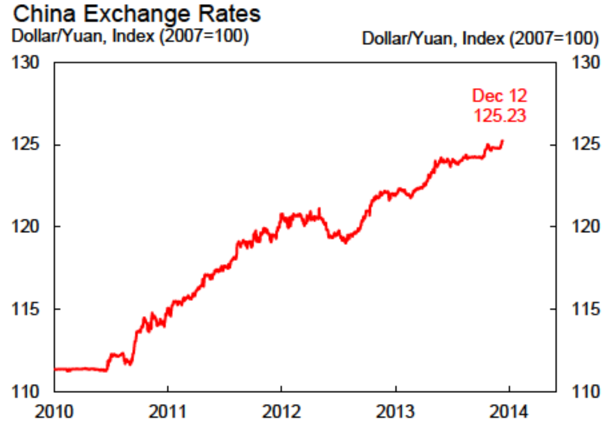
Source: Bloomberg

Euro Area and Japan Effective Exchange Rates



Source: Bloomberg and JPMorgan

China Exchange Rates



Source: Bloomberg

B. FRBNY Forecast Details

Exhibit B-1: Quarterly and Annual Projections of Key Variables

	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Sep	Oct	Dec	Sep	Oct	Dec	Sep	Oct	Dec	Sep	Oct	Dec
2012												
Q1	*2.2*	*2.2*	*2.2*	*3.7*	*3.7*	*3.7*	*8.3*	*8.3*	*8.3*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*1.8*	*1.8*	*1.8*	*1.2*	*1.2*	*1.2*	*8.2*	*8.2*	*8.2*	*0-0.25*	*0-0.25*	*0-0.25*
Q3	*1.4*	*1.4*	*1.4*	*2.8*	*2.8*	*2.8*	*8.0*	*8.0*	*8.0*	*0-0.25*	*0-0.25*	*0-0.25*
Q4	*1.3*	*1.3*	*1.3*	*0.1*	*0.1*	*0.1*	*7.8*	*7.8*	*7.8*	*0-0.25*	*0-0.25*	*0-0.25*
2013												
Q1	*1.3*	*1.3*	*1.3*	*1.1*	*1.1*	*1.1*	*7.7*	*7.7*	*7.7*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*0.6*	*0.6*	*0.6*	*2.5*	*2.5*	*2.5*	*7.6*	*7.6*	*7.6*	*0-0.25*	*0-0.25*	*0-0.25*
Q3	1.6	1.6	*1.5*	1.5	2.3	*3.6*	7.3	7.3	*7.3*	0-0.25	0-0.25	0-0.25
Q4	1.7	1.8	1.1	2.2	2.1	1.8	7.2	7.3	7.1	0-0.25	0-0.25	0-0.25
2014												
Q1	1.7	1.7	1.3	2.5	2.7	2.2	7.1	7.2	7.0	0-0.25	0-0.25	0-0.25
Q2	1.7	1.7	1.4	3.0	2.8	2.8	6.9	7.0	6.8	0-0.25	0-0.25	0-0.25
Q3	1.7	1.7	1.5	3.0	2.7	2.7	6.7	6.8	6.7	0-0.25	0-0.25	0-0.25
Q4	1.8	1.8	1.6	3.4	3.0	3.1	6.5	6.6	6.5	0-0.25	0-0.25	0-0.25
Q4/Q4												
2011	*1.8*	*1.8*	*1.8*	*2.0*	*2.0*	*2.0*	*-1.3*	*-1.3*	*-1.3*	*0.0*	*0.0*	*0.0*
2012	*1.7*	*1.7*	*1.7*	*2.0*	*2.0*	*2.0*	*-0.8*	*-0.8*	*-0.8*	*0.0*	*0.0*	*0.0*
2013	1.3	1.3	1.1	1.8	2.0	2.2	-0.7	-0.7	-0.7	0.0	0.0	0.0
2014	1.7	1.7	1.4	3.0	2.8	2.7	-0.8	-0.7	-0.9	0.0	0.0	0.0

Columns reflect the forecast dates. Numbers in gray are from previous Blackbooks, and numbers in italics are released data.
*Quarterly values are the average rate for the quarter. Yearly values are the difference between Q4 of the previous year and Q4 of the listed year.
**Quarterly values are the end-of-quarter value. Yearly values are the difference between the end-of-year value in the previous year and the end-of-year value in the listed year.

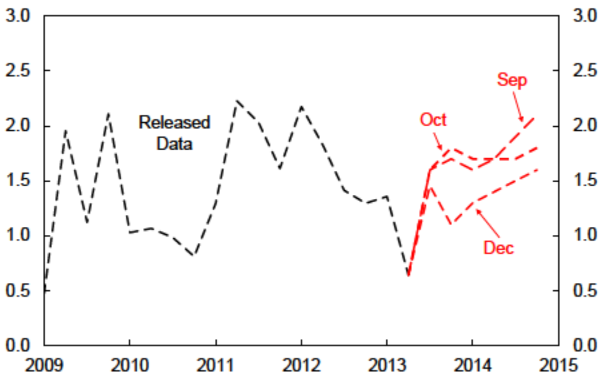
B. FRBNY Forecast Details

Exhibit B-2: Evolution of Projected Quarterly Paths

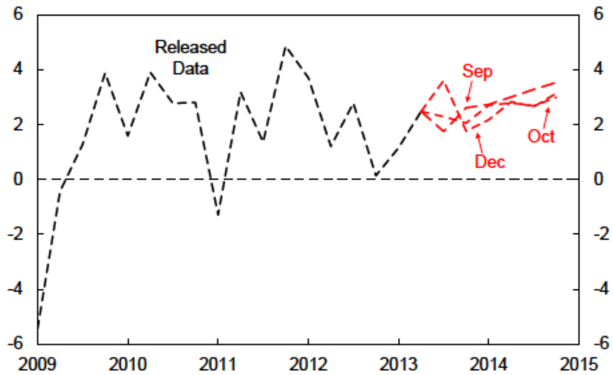
Key Indicators

Forecast Assumptions

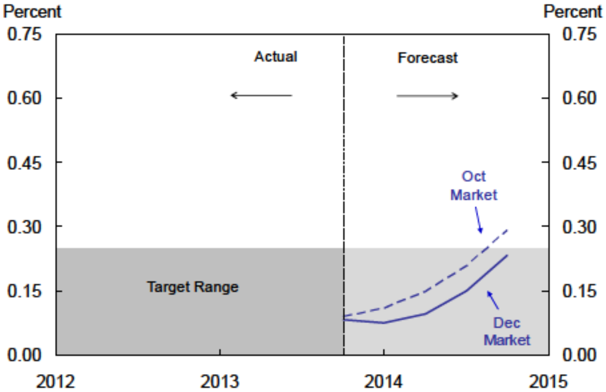
Core PCE Inflation
% Change – Annual Rate | % Change – Annual Rate



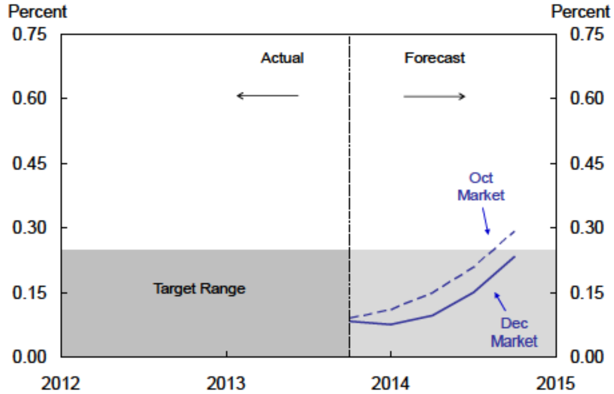
Real GDP Growth
% Change – Annual Rate | % Change – Annual Rate



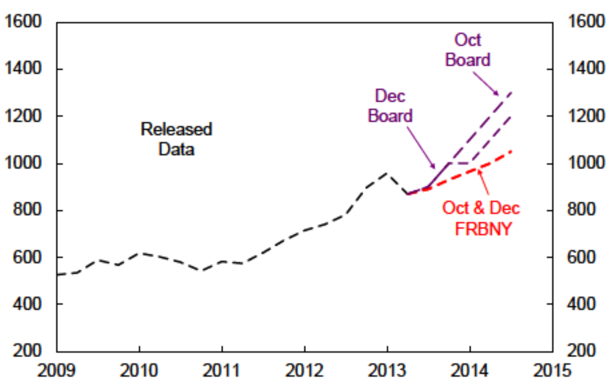
Federal Funds Rate
Percent | Percent



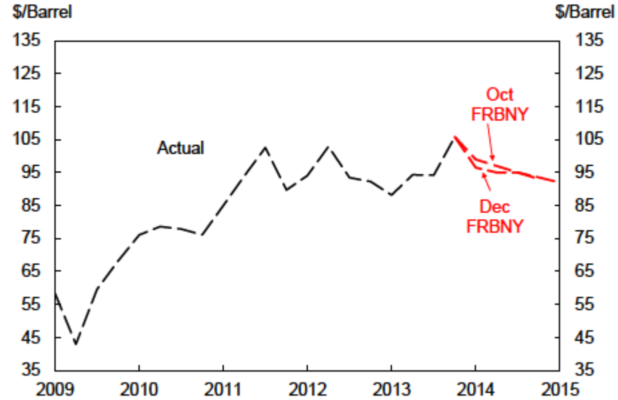
Federal Funds Rate
Percent | Percent



Housing Starts
Thousands of Units | Thousands of Units



Crude Oil
$/Barrel | $/Barrel



Source: MMS and IR Functions (FRBNY) and Federal Reserve Board

B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)			Quarterly Growth Contributions (AR)		
	2013Q3	2013Q4	2014Q1	2013Q3	2013Q4	2014Q1
OUTPUT						
Real GDP	3.6	1.8	2.2	3.6	1.8	2.2
	(2.3)	(2.1)	(2.7)	(2.3)	(2.1)	(2.7)
Final Sales to Domestic Purchasers	1.8	2.4	2.4	1.9	2.4	2.4
	(1.8)	(1.8)	(2.5)	(1.8)	(1.8)	(2.6)
Consumption	1.4	3.5	2.8	1.0	2.4	1.9
	(1.5)	(2.0)	(2.6)	(1.0)	(1.4)	(1.8)
BFI: Equipment	0.0	3.0	4.0	0.0	0.2	0.2
	(2.0)	(6.0)	(8.0)	(0.1)	(0.3)	(0.4)
BFI: Nonresidential Structures	13.7	3.0	6.0	0.4	0.1	0.2
	(12.0)	(10.0)	(8.0)	(0.3)	(0.3)	(0.2)
BFI: Intellectual Property Products	1.7	3.0	4.0	0.1	0.1	0.2
	(4.0)	(4.0)	(4.0)	(0.2)	(0.2)	(0.2)
Residential Investment	13.0	3.0	5.0	0.4	0.1	0.2
	(11.4)	(12.6)	(6.7)	(0.3)	(0.4)	(0.2)
Government: Federal	-1.4	-7.4	-4.0	-0.1	-0.6	-0.3
	(-4.0)	(-10.0)	(-4.8)	(-0.3)	(-0.8)	(-0.4)
Government: State and Local	1.7	1.0	1.2	0.2	0.1	0.1
	(1.4)	(0.8)	(1.0)	(0.2)	(0.1)	(0.1)
Inventory Investment	--	--	--	1.7	-0.8	-0.6
	--	--	--	(0.2)	(-0.4)	(0.1)
Net Exports	--	--	--	0.1	0.2	0.3
	--	--	--	(0.3)	(0.6)	(0.0)
INFLATION						
Total PCE Deflator	2.0	0.6	1.3			
	(2.1)	(1.8)	(1.6)			
Core PCE Deflator	1.5	1.1	1.3			
	(1.6)	(1.8)	(1.7)			
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	2.9	0.4	1.0			
	(1.8)	(1.3)	(1.3)			
Compensation per Hour	1.3	1.8	2.0			
	(1.8)	(1.6)	(1.8)			
Unit Labor Costs	-1.6	1.4	1.0			
	(0.0)	(0.3)	(0.5)			

Note: Numbers in parentheses are from the previous FOMC meeting.
*Nonfarm business sector.

B. FRBNY Forecast Details

Exhibit B-4: Medium-Term Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions		
	2012	2013	2014	2012	2013	2014
OUTPUT						
Real GDP	2.0	2.2	2.7	2.0	2.2	2.7
	(2.0)	(2.0)	(2.8)	(2.0)	(2.0)	(2.8)
Final Sales to Domestic Purchasers	2.1	1.7	2.8	2.2	1.7	2.8
	(2.1)	(1.5)	(2.7)	(2.2)	(1.6)	(2.8)
Consumption	2.0	2.2	2.9	1.4	1.5	2.0
	(2.0)	(1.9)	(2.7)	(1.4)	(1.3)	(1.9)
BFI: Equipment	4.5	1.9	7.0	0.2	0.1	0.4
	(4.5)	(3.2)	(9.5)	(0.2)	(0.2)	(0.5)
BFI: Nonresidential Structures	9.2	0.6	7.5	0.2	0.0	0.2
	(9.2)	(1.9)	(8.0)	(0.2)	(0.1)	(0.2)
BFI: Intellectual Property Products	2.9	1.7	4.0	0.1	0.1	0.2
	(2.9)	(2.5)	(4.0)	(0.1)	(0.1)	(0.2)
Residential Investment	15.5	10.6	6.2	0.4	0.3	0.2
	(15.5)	(12.7)	(7.2)	(0.4)	(0.4)	(0.2)
Government: Federal	-2.3	-4.7	-3.5	-0.2	-0.4	-0.3
	(-2.3)	(-6.1)	(-5.7)	(-0.2)	(-0.5)	(-0.4)
Government: State and Local	-0.3	0.4	1.4	0.0	0.1	0.2
	(-0.3)	(0.3)	(1.4)	(-0.0)	(0.0)	(0.2)
Inventory Investment	--	--	--	-0.5	0.6	-0.1
	--	--	--	(-0.5)	(0.3)	(0.1)
Net Exports	--	--	--	0.3	0.0	0.0
	--	--	--	(0.3)	(0.1)	(-0.1)
INCOME						
Personal Income	5.8	1.9	4.1			
	(5.8)	(1.8)	(4.7)			
Real Disposable Personal Income	3.6	0.2	2.4			
	(3.6)	(-0.2)	(2.7)			
Personal Saving Rate	6.6	4.7	4.4			
	(6.6)	(4.7)	(4.8)			
Corporate Profits Before Taxes	2.7	4.7	-1.6			
	(2.7)	(4.8)	(-0.6)			

Note: Numbers in parentheses are from the previous FOMC meeting.

B. FRBNY Forecast Details

Exhibit B-5: Medium-Term Projections, Continued

	Q4/Q4 Growth Rates		
	2012	2013	2014
INFLATION			
Total PCE Deflator	1.7	0.9	1.6
	(1.7)	(1.2)	(1.7)
Core PCE Deflator	1.7	1.1	1.4
	(1.7)	(1.3)	(1.7)
Total CPI Inflation	1.9	1.2	2.0
	(1.9)	(1.5)	(2.1)
Core CPI Inflation	1.9	1.7	1.9
	(1.9)	(1.8)	(2.0)
GDP Deflator	1.8	1.4	1.7
	(1.8)	(1.4)	(1.9)
PRODUCTIVITY AND LABOR COSTS*			
Output	2.8	2.5	3.2
	(2.8)	(2.3)	(3.3)
Hours	1.9	1.6	2.0
	(1.9)	(1.3)	(2.0)
Output per Hour	0.9	0.8	1.2
	(0.9)	(0.9)	(1.3)
Compensation per Hour	5.3	0.0	1.9
	(5.3)	(0.1)	(1.8)
Unit Labor Costs	4.4	-0.8	0.7
	(4.4)	(-0.8)	(0.5)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	7.8	7.1	6.5
	(7.8)	(7.3)	(6.6)
Participation Rate (Avg. Q4 Level)	63.7	63.0	63.2
	(63.7)	(63.3)	(63.4)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	183	184	216
	(181)	(171)	(216)

Note: Numbers in parentheses are from the previous FOMC meeting.
*Nonfarm business sector.

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Tealbook Forecast Comparison

	FRBNY (Q4/Q4)			Board (Q4/Q4)		
	2012	2013	2014	2012	2013	2014
OUTPUT						
Real GDP	2.0	2.2	2.7	2.0	2.2	3.1
	(2.0)	(2.0)	(2.8)	(2.0)	(2.0)	(3.2)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	2.2	1.7	2.8	1.8	1.5	3.3
	(2.2)	(1.6)	(2.8)	(1.8)	(1.5)	(3.3)
Consumption	1.4	1.5	2.0	1.3	1.5	2.3
	(1.4)	(1.3)	(1.9)	(1.3)	(1.4)	(2.3)
BFI	0.6	0.2	0.8	0.6	0.3	0.6
	(0.6)	(0.3)	(0.9)	(0.6)	(0.2)	(0.6)
Residential Investment	0.4	0.3	0.2	0.3	0.3	0.5
	(0.4)	(0.4)	(0.2)	(0.3)	(0.3)	(0.6)
Government	-0.2	-0.3	-0.1	-0.4	-0.5	-0.1
	(-0.2)	(-0.4)	(-0.3)	(-0.4)	(-0.5)	(-0.3)
Inventory Investment	-0.5	0.6	-0.1	-0.4	0.7	-0.2
	(-0.5)	(0.3)	(0.1)	(-0.4)	(0.5)	(0.0)
Net Exports	0.3	0.0	0.0	0.3	0.0	0.1
	(0.3)	(0.1)	(-0.1)	(0.3)	(0.0)	(0.1)
INFLATION						
Total PCE Deflator	1.7	0.9	1.6	1.6	0.9	1.4
	(1.7)	(1.2)	(1.7)	(1.6)	(1.0)	(1.4)
Core PCE Deflator	1.7	1.1	1.4	1.5	1.1	1.4
	(1.7)	(1.3)	(1.7)	(1.5)	(1.2)	(1.5)
INTREST RATE ASSUMPTION						
Fed Funds Rate (End-of-Year)	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25
	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	0.9	0.8	1.2	0.6	0.7	1.5
	(0.9)	(0.9)	(1.3)	(0.6)	(0.8)	(1.4)
Compensation per Hour	5.3	0.0	1.9	4.4	0.5	2.7
	(5.3)	(0.1)	(1.8)	(4.4)	(0.2)	(2.7)
Unit Labor Costs	4.4	-0.8	0.7	3.8	-0.2	1.1
	(4.4)	(-0.8)	(0.5)	(3.8)	(-0.7)	(1.3)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	7.8	7.1	6.5	7.8	7.1	6.5
	(7.8)	(7.3)	(6.6)	(7.8)	(7.3)	(6.6)
Participation Rate (Avg. Q4 Level)	63.7	63.0	63.2	63.7	62.9	63.0
	(63.7)	(63.3)	(63.4)	(63.7)	(63.2)	(63.2)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	183	184	216	189	190	210
	(181)	(171)	(216)	(189)	(173)	(199)
SAVING						
Personal Saving Rate (Avg. Q4 Level)	6.6	4.7	4.4	5.3	3.9	3.6
	(6.6)	(4.7)	(4.8)	(5.3)	(3.6)	(3.3)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	896	930	1105	800	1200	1400
	(896)	(950)	(1145)	(800)	(1000)	(1200)

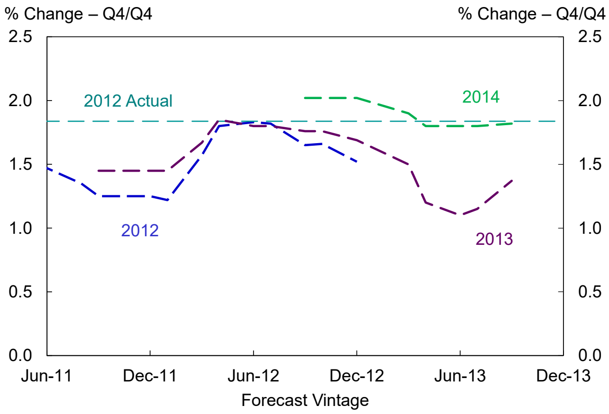
Note: Numbers in parentheses are from the previous Blackbook.

B. FRBNY Forecast Details

Exhibit B-7: Evolution of FRBNY and Board Forecasts since the beginning of 2011

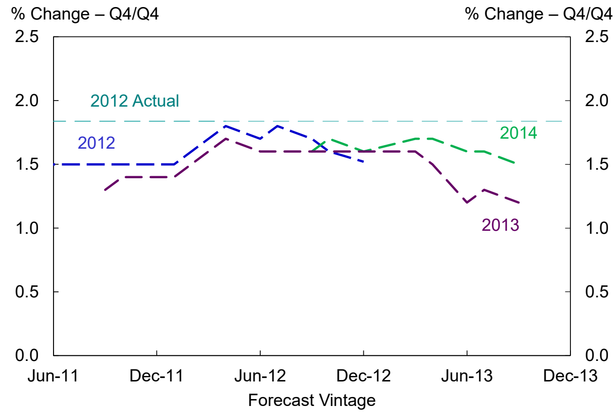
FRBNY

Core PCE Inflation

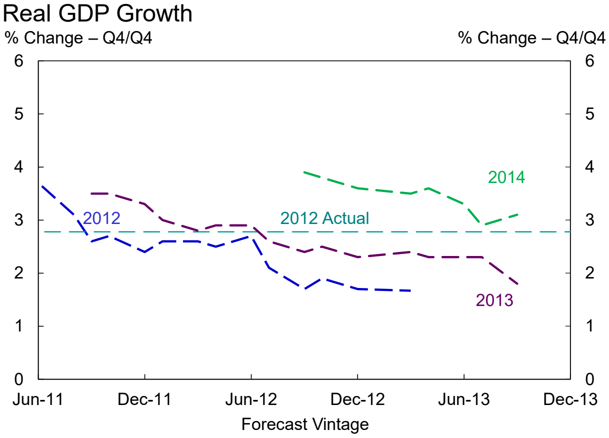


Board

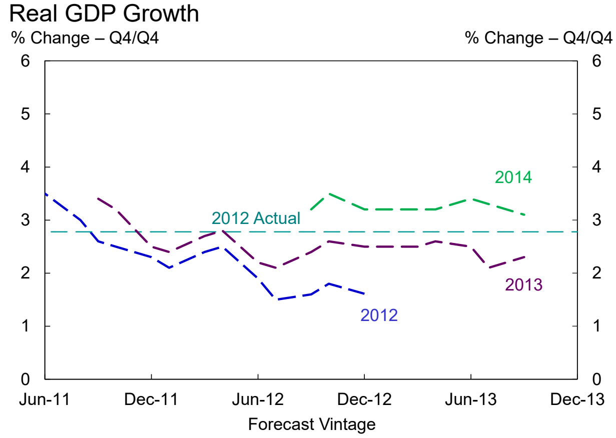
Core PCE Inflation



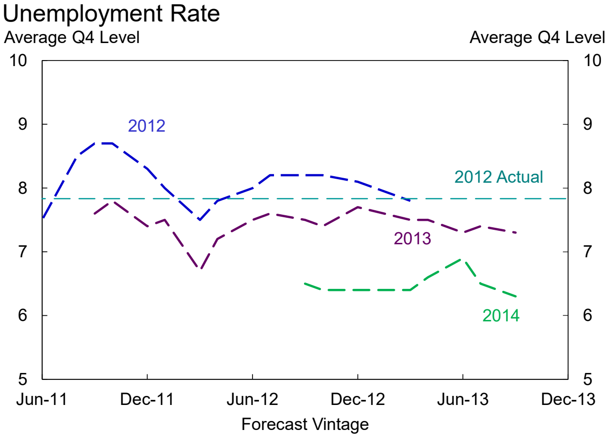
Real GDP Growth



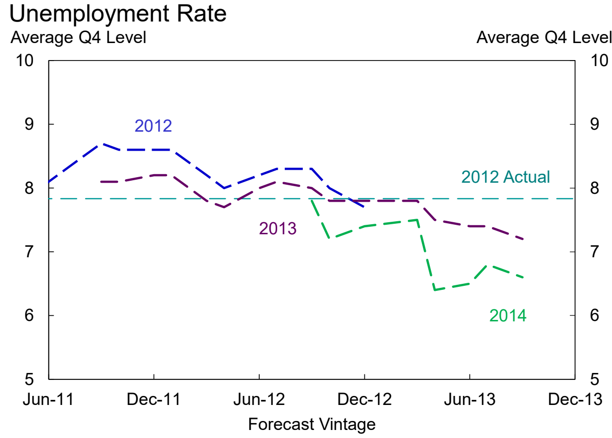
Real GDP Growth



Unemployment Rate



Unemployment Rate



Note: Forecast vintage is the date the forecast was produced.

B. FRBNY Forecast Details

Exhibit B-8: Alternative GDP and Inflation Forecasts

Real GDP Growth

	Release Date	2013Q3	2013Q4	2013 Q4/Q4	2014 Q4/Q4
FRBNY	12/12/2013	3.6	1.8	2.2	2.7
		(1.8)	(2.6)	(2.0)	(3.1)
Blue Chip	12/10/2013	3.6	1.6	2.2	2.8
		(2.1)	(2.6)	(2.1)	(2.8)
Median SPF	11/25/2013	--	1.8	1.7	2.6
		(2.2)	(2.3)	(1.5)	(2.6)
Macro Advisers	12/10/2013	3.6	1.5	2.2	3.0
		(1.8)	(2.6)	(2.0)	(2.7)
FRBNY-DSGE	12/12/2013	3.6	1.8	2.2	1.9
		(1.5)	(1.9)	(1.9)	(1.8)

Core PCE Inflation

	Release Date	2013Q3	2013Q4	2013 Q4/Q4	2014 Q4/Q4
FRBNY	12/12/2013	1.5	1.1	1.1	1.4
		(1.6)	(1.7)	(1.4)	(1.8)
Median SPF	11/25/2013	--	1.5	1.2	1.7
		(1.4)	(1.5)	(1.3)	(1.8)
Macro Advisers	12/10/2013	1.5	1.2	1.2	1.7
		(1.5)	(1.4)	(1.3)	(1.5)
FRBNY-DSGE	12/12/2013	1.5	1.1	1.1	1.0
		(1.6)	(1.2)	(1.1)	(1.4)

CPI Inflation

	Release Date	2013Q3	2013Q4	2013 Q4/Q4	2014 Q4/Q4
FRBNY	12/12/2013	2.6	0.8	1.2	2.0
		(2.9)	(2.1)	(1.6)	(2.2)
Blue Chip	12/10/2013	2.6	1.1	1.3	2.0
		(2.6)	(1.9)	(1.5)	(2.0)
Median SPF	11/25/2013	1.6	1.8	1.4	2.0
		(2.0)	(1.7)	(1.4)	(2.0)
Macro Advisers	12/10/2013	2.6	0.7	1.2	1.7
		(3.0)	(2.4)	(1.7)	(1.4)

Core CPI Inflation

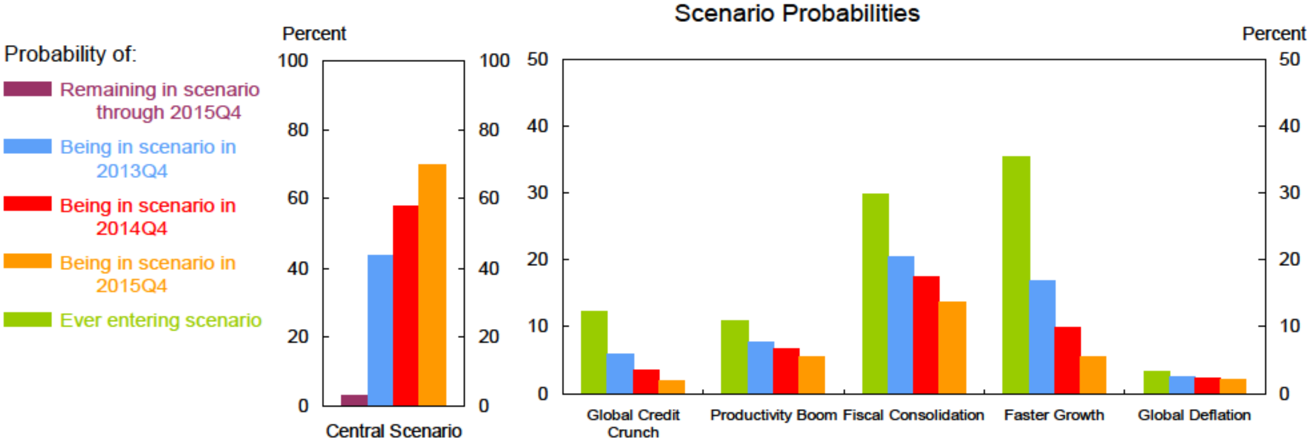
	Release Date	2013Q3	2013Q4	2013 Q4/Q4	2014 Q4/Q4
FRBNY	12/12/2013	1.8	1.5	1.7	1.9
		(1.9)	(1.9)	(1.8)	(2.1)
Median SPF	11/25/2013	1.7	1.9	1.8	2.0
		(1.9)	(1.9)	(1.8)	(2.0)
Macro Advisers	12/10/2013	1.8	1.6	1.7	1.9
		(1.8)	(1.7)	(1.7)	(1.7)

*Note: Numbers in gray are from the previous FOMC meeting

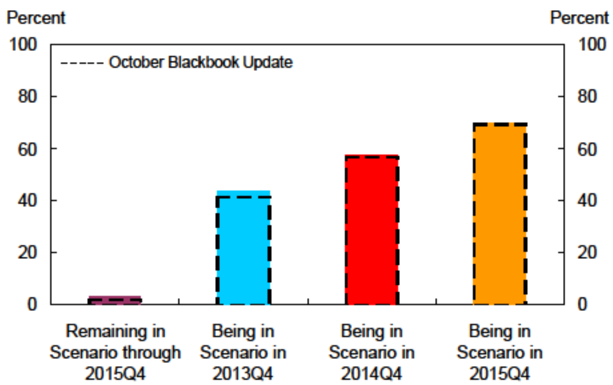
C. FRBNY Forecast Distributions

Exhibit C-1: Risks

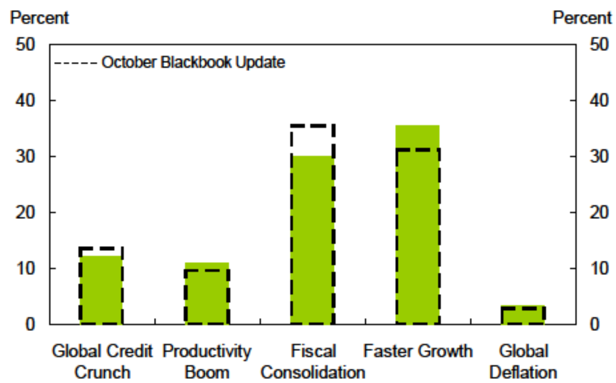
Scenario Probabilities



Change in Central Scenario Probabilities



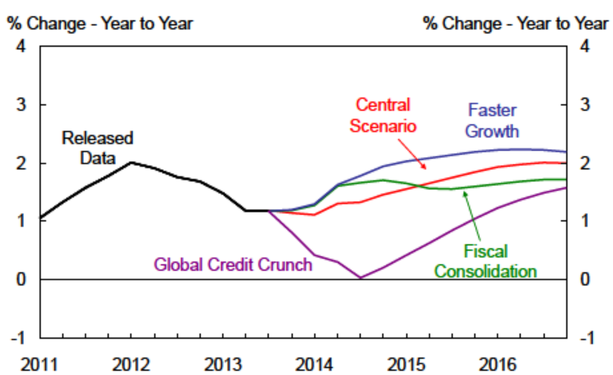
Change in Alternative Scenario Probabilities*



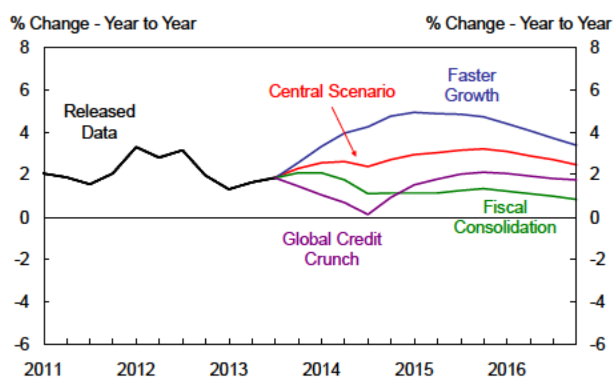
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios Selected



Real GDP Growth under Alternative Scenarios Selected

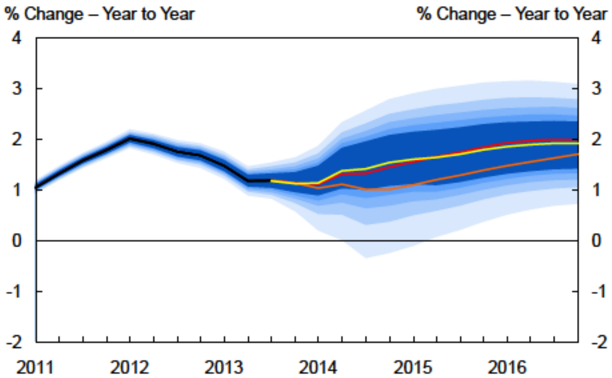


Source: MMS Function (FRBNY)

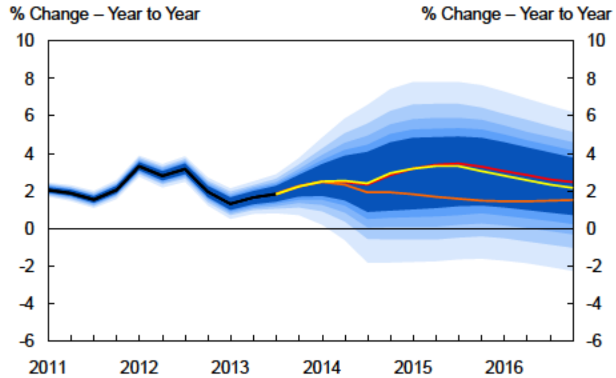
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

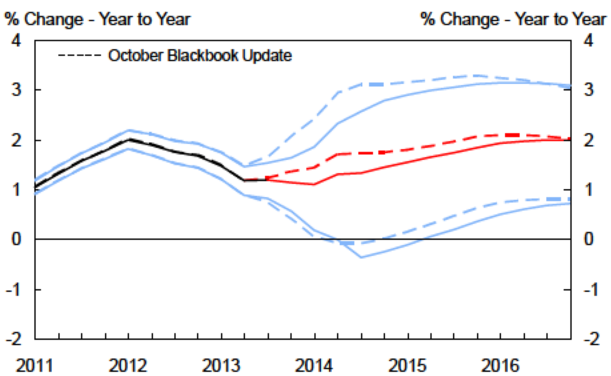


Real GDP Growth Forecast Distribution

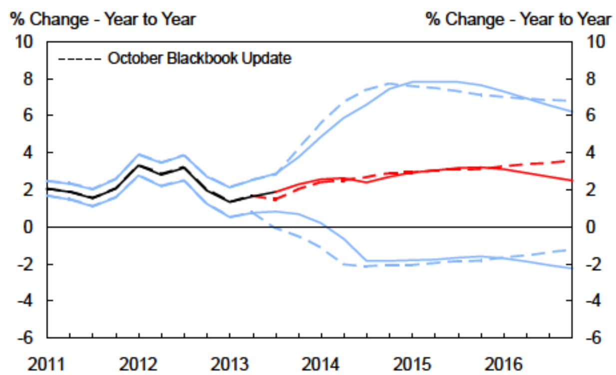


The yellow line is the expected value of the forecast distribution, the red line is the FRBNY central projection, the orange line is the DSGE forecast, and the black line is released data. The shading represents the 50, 60, 70, 80 and 90 percent probability that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

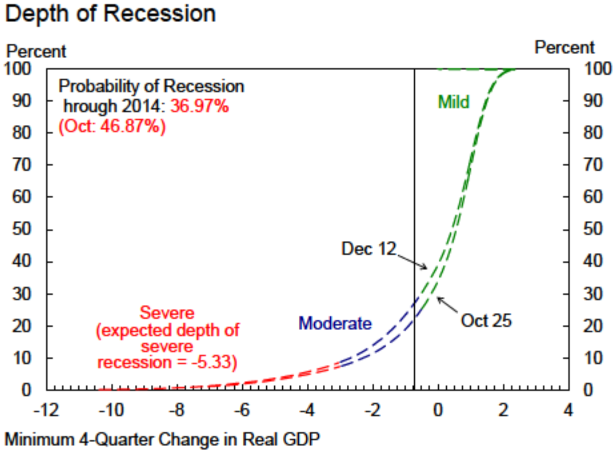


Change in Real GDP Growth Forecast Distribution

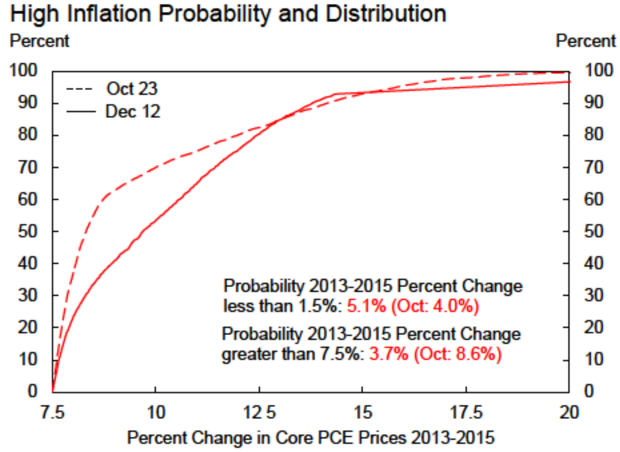


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from the previous Blackbook.

Depth of Recession



High Inflation Probability and Distribution

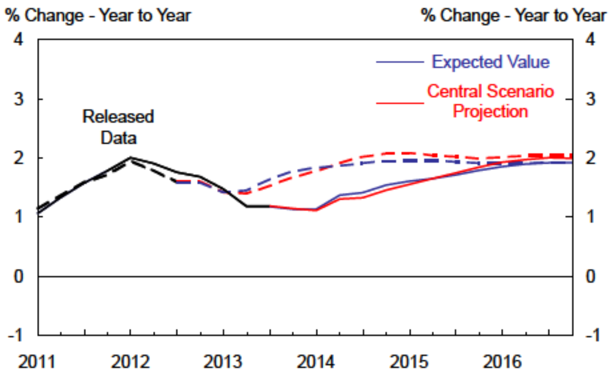


Source: MMS Function (FRBNY)

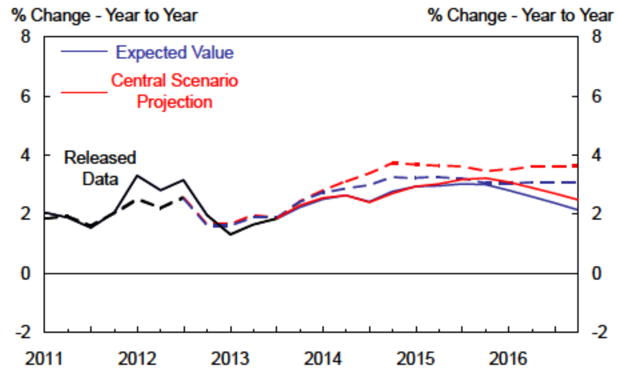
C. FRBNY Forecast Distributions

Exhibit C-4: Evolution and Performance of Inflation and Output Forecast Distributions

One-Year Comparison of Core PCE Inflation Forecast

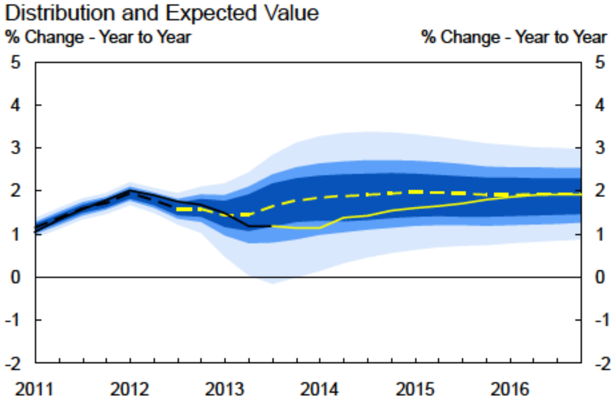


One-Year Comparison of Real GDP Growth Forecast

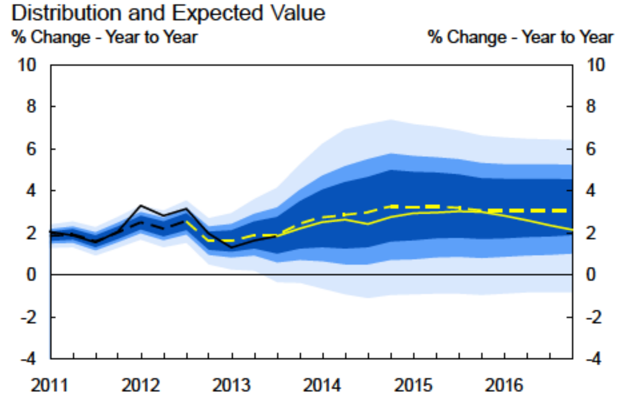


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

One-Year Comparison of Core PCE Inflation Forecast Distribution and Expected Value



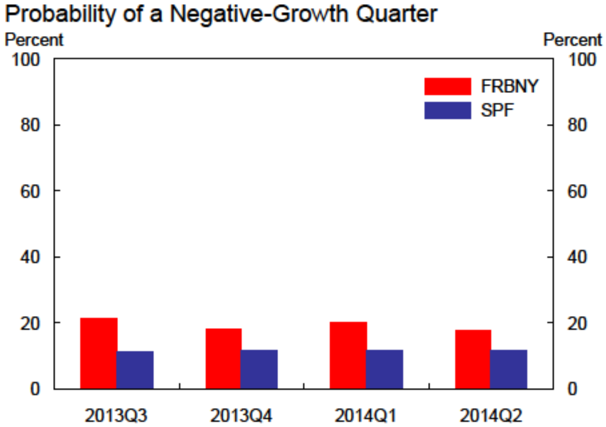
One-Year Comparison of Real GDP Growth Forecast Distribution and Expected Value



The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the expected value from the year-ago Blackbook. The shading represents the 50, 70 and 90 percent probability intervals from the year-ago forecast. The black lines are released data.

Exhibit C-5: Probability of a Negative Growth Quarter

Probability of a Negative-Growth Quarter

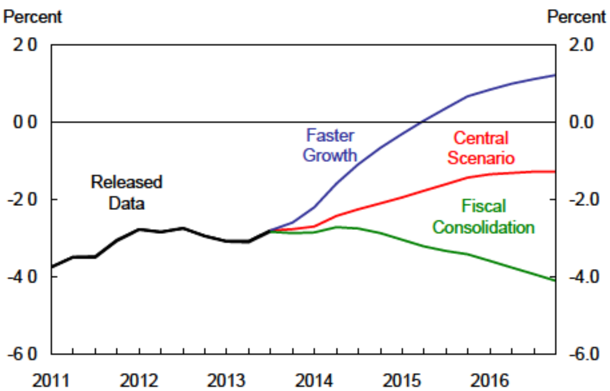


Source: MMS Function (FRBNY)

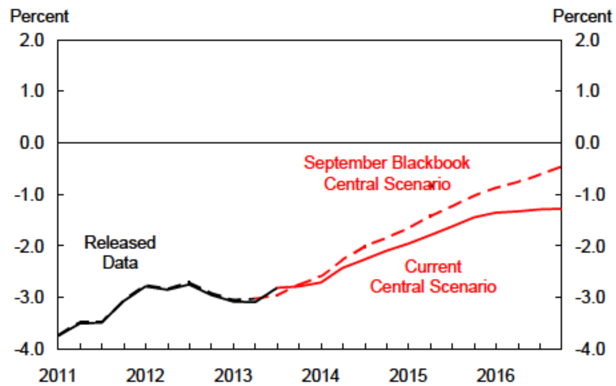
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

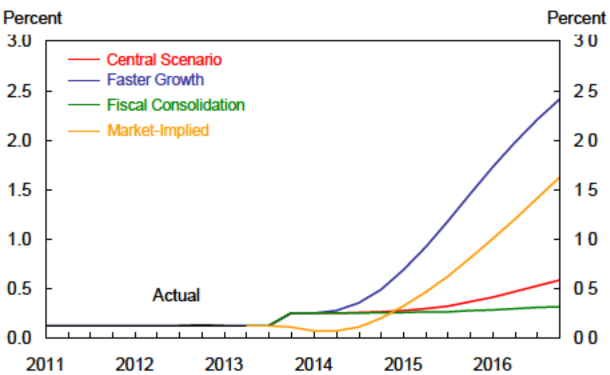
Real FFR under Alternative Scenarios



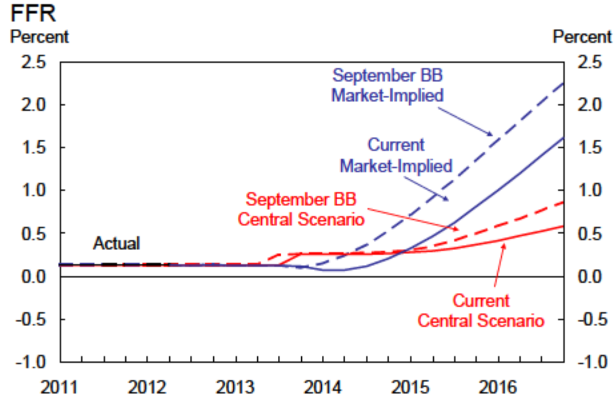
Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

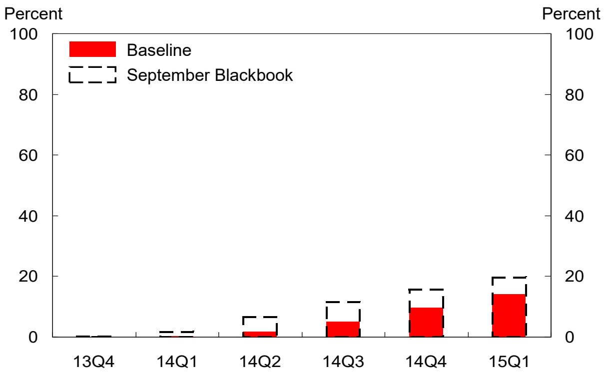


Source: MMS Function (FRBNY)

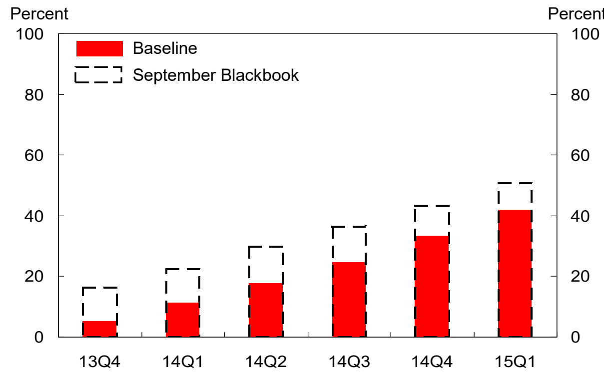
D. FRBNY Fed Funds Rate Projections

Exhibit D-2: FFR Probabilities Above 0.5%

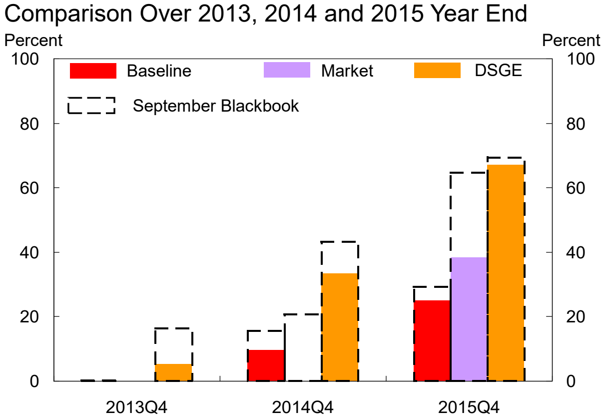
FRBNY Forecast Distributions Over Next 6 Quarters



FRBNY DSGE Model Over Next 6 Quarters



Comparison Over 2013, 2014 and 2015 Year End

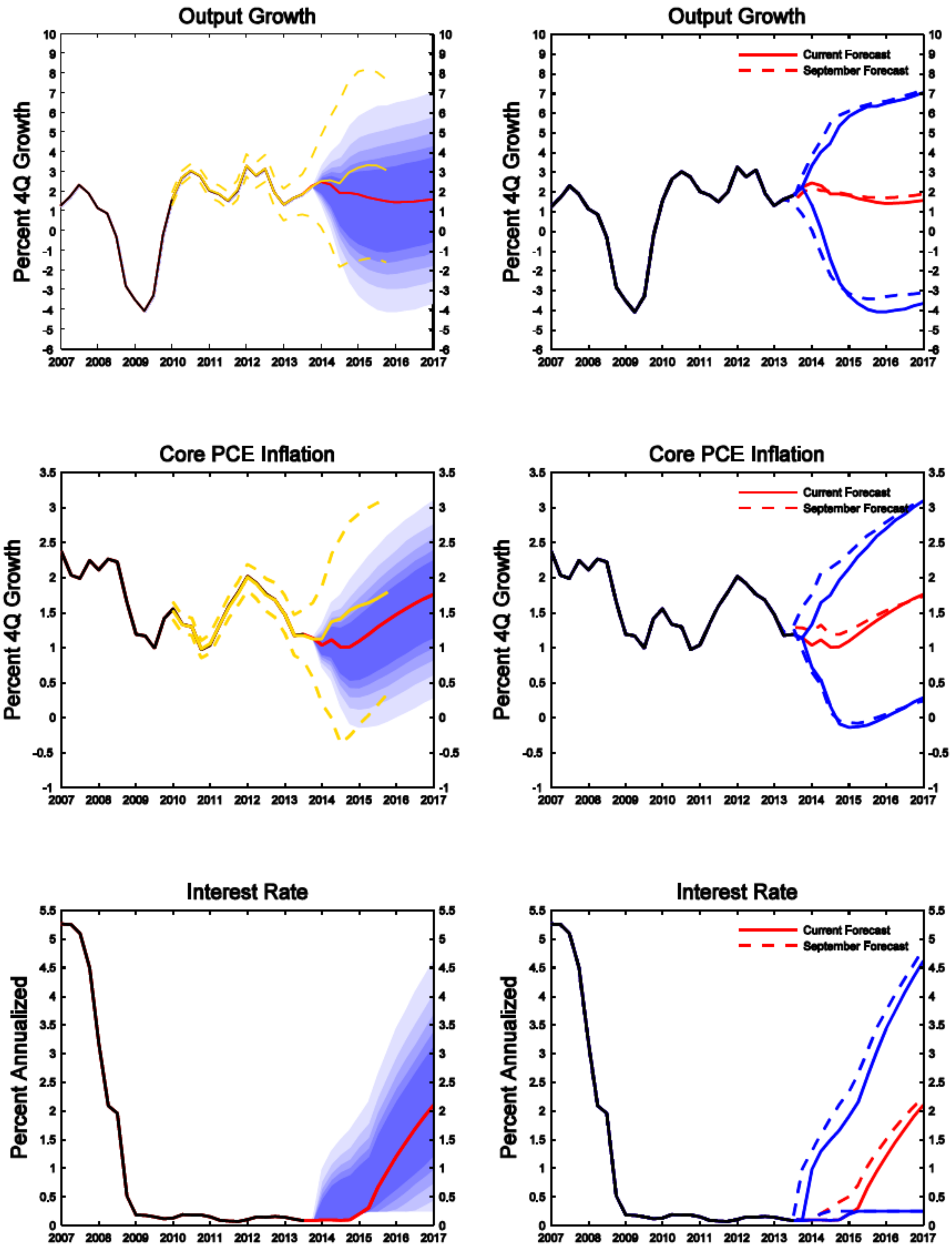


Note: Probability displayed is probability of FFR being above 0.5% in quarter noted and remaining above 0.5% in subsequent four quarters. DSGE results are shown for model including zero bound restriction.

Source: MMS Function (FRBNY)

E. FRBNY-DSGE Model

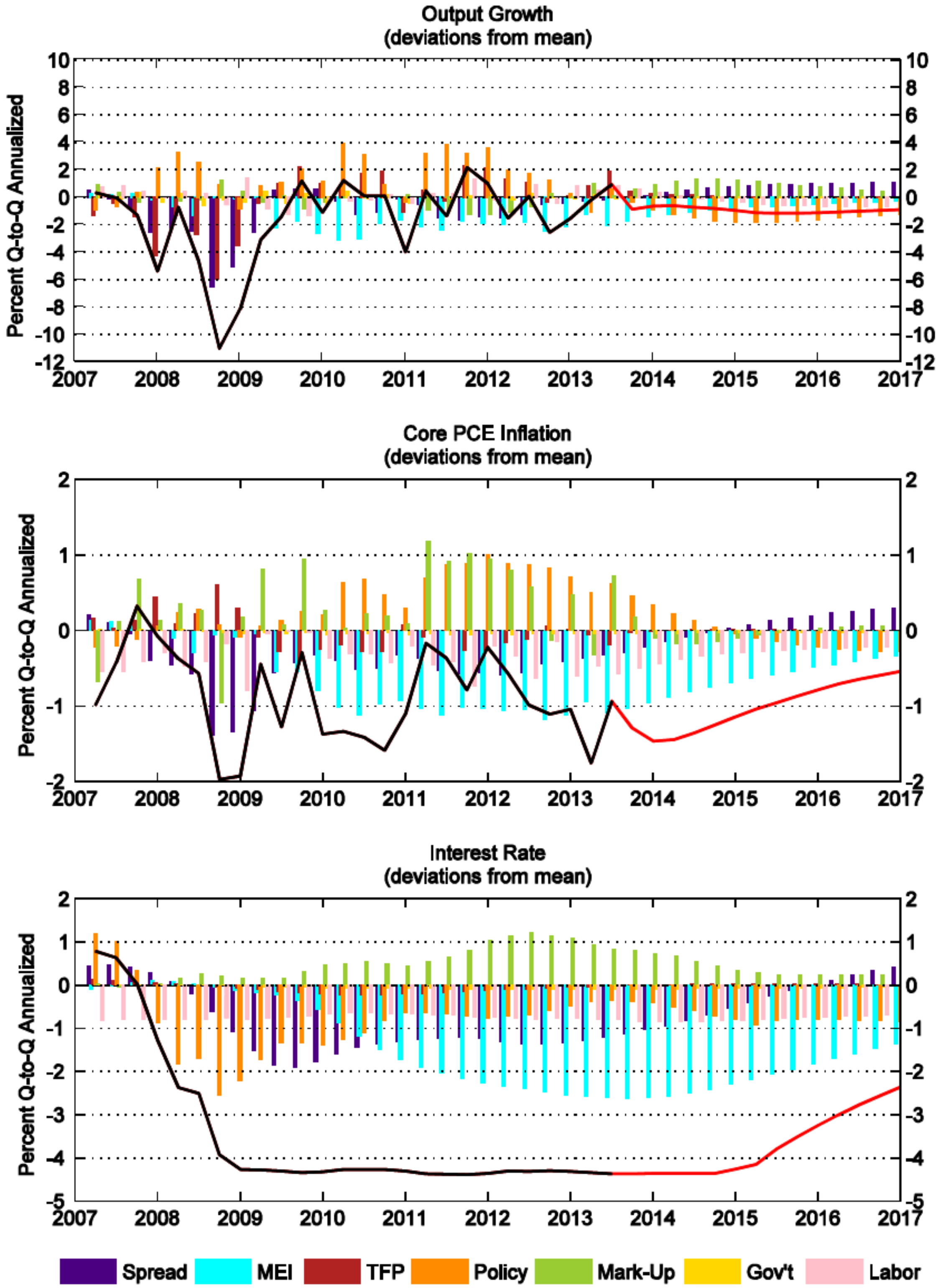
Exhibit E-1: FRBNY-DSGE Forecasts



Note: Black lines indicate data, red lines indicate mean forecasts, and shaded areas mark the parameter and shock uncertainty associated with our forecast as 50, 60, 70, 80, and 90 percent probability intervals. For comparison, we report the FRBNY Central Projection for output growth and inflation (solid yellow line) and the 90 percent bands for the FRBNY forecast distribution (dashed yellow lines). Blackbook forecast comparisons (right-hand side charts) display 90 percent bands.
Source: MMS Function (FRBNY)

E. FRBNY-DSGE Model

Exhibit E-2: FRBNY-DSGE Shock Decomposition



Note: The solid lines (black for realized data, red for mean forecast) show each variable in deviation from its steady state. The bars represent the shock contributions; specifically, the bars for each shock represent the counterfactual values for the observables (in deviations from the mean) obtained by setting all other shocks to zero.
Source: MMS Function (FRBNY)

Appendix 1: Alternative Scenario Descriptions

In this Appendix, we provide brief descriptions of the alternative scenarios used in this Blackbook. A description of the methodology underlying our risk assessment and forecast distributions is included in the Blackbook Documentation.

Our first alternative scenario considers the impact of above-trend productivity growth. Our current assumption of trend productivity growth is around 1.5% on a nonfarm business sector basis. Sustained productivity growth above this assumption would have important consequences for the economy. Typically, because below-trend productivity growth also has important consequences, we have included an alternative scenario that incorporates that assumption (*Productivity Slump)*. However, because the near-term consequences of that scenario and the *Fiscal Consolidation* scenario are similar, we have combined those two scenarios into a single revamped *Fiscal Consolidation* scenario, which allows us to add another scenario (*Faster Growth*). We also currently consider four additional scenarios. In one (*Faster Growth*), the "headwinds" subside more quickly than expected, leading to stronger aggregate demand effects from monetary and fiscal policy. In another (*Loss of Credibility*), the public and investors lose confidence in the current stances of monetary and fiscal policy. In the other two (*Global Credit Crunch* and *Global Deflation*), renewed stresses in global financial and economic conditions have an impact on U.S. economic conditions; the differences between the two mainly reflect differing assessments of how protracted the negative effects could be.

Alternative 1: *Productivity Boom*

Productivity growth has been subdued and below our current estimate of trend productivity growth. Our central forecast sees the recent slow growth as cyclical, and anticipates that productivity growth will return to near trend. However, it is possible that resource reallocation associated with the recession and its aftermath and recent technological developments have set the stage for a prolonged period of higher productivity growth, closer to that of the 1947-72 and the mid-1990s through the mid-2000s periods. As such, we could see persistent productivity growth above our assumed trend, implying a higher potential growth rate for output and thus expected real output growth that is higher than our current estimate. (A higher potential growth rate may also imply that the output gap that opened during the 2007-2009 recession is larger than we currently estimate). Strong productivity growth would also limit labor cost pressures and thereby help to keep inflation subdued.

Alternative 2: *Fiscal Consolidation*

Persistent high U.S. fiscal deficits and the European sovereign debt crisis have raised issues about the possible economic consequences if concerns were to develop about the sustainability of the U.S. government's fiscal position. Furthermore, a political stalemate like that of August 2011 could exacerbate these concerns. The *Fiscal Consolidation* scenario envisions a situation in which concerns on the part of investors about the fiscal sustainability of the United States leads to an increase in long-term interest rates and term premia that contribute to keep output growth below that of the central forecast. As the U.S. government responds to those concerns by further reducing government spending and/or raising taxes, the consequent decline in aggregate demand would imply that growth of real activity continues to be weak. In this scenario inflation temporarily rises above the central forecast, in part due to a depreciation of the dollar and possible increases in inflation expectations[2]. [As stated earlier, the near-term implications of this scenario are similar to those of a supply shock or productivity slump, which is one reason we have folded in the weight of the old *Productivity Slump* scenario into this scenario.] However, after several quarters, with the government embarking on a credible fiscal consolidation, inflation declines below the central forecast as a consequence of the drop in aggregate demand and output growth.

Alternative 3: *Faster Growth*

The current expansion has been quite weak, especially given the severe drop in real activity during the recession. Factors behind the slow growth include the continued stress faced by financial markets and institutions as they slowly mend from the financial crisis and a slow process of repairing household balance sheets damaged in the financial crisis and recession. However, the relative strength in recent real PCE and payroll growth in the

[2] Some economic models imply that if the public and investors see the fiscal situation as unsustainable, they could raise inflation expectations because of the possibility that part of the long-term fiscal budget gap is closed through higher inflation.

face of fiscal headwinds raise the possibility that the process of mending may be near an end. The *Faster Growth* scenario envisions a situation where these factors that have inhibited growth subside more quickly than anticipated by policymakers. In particular, the diminution of these factors would lead to a stronger impact from accommodative monetary policy, leading to faster growth in aggregate demand. In that case, real GDP growth could be higher than anticipated, and inflation pressures could materialize more quickly.

Alternative 4: *Loss of Credibility*

In the wake of the monetary and fiscal stimulus used to combat the 2007-2009 recession, some commentary has focused on the possibility that these policies could lead to higher inflation expectations and eventually to higher inflation. The fairly elevated levels of some commodity prices are consistent with such commentary. Even though the FOMC has made its commitment to low rates in part contingent on medium-term inflation below 2½% and inflation expectations remaining well anchored, it is possible that market participants may begin to believe that the FOMC is not credibly committed to keeping inflation around the FOMC's longer-run goal, especially if the unemployment rate remains above the FOMC's 6½% threshold. In addition, concerns about the possible influence of continued high fiscal deficits on monetary policy could lead investors and the public to question FOMC credibility on inflation: FRBNY survey evidence suggests that, for at least some market participants, increases in government debt lead to higher inflation expectations, regardless of the reason for the increased debt. If the concerns about credibility were to become widespread, they would likely cause inflation and inflation expectations to rise above forecast.

Alternative 5: *Global Credit Crunch*

Although financial markets are generally notably healthier than they were during the financial crisis, continued impairments in some markets as well as general economic uncertainty may be keeping credit availability very tight. In addition, consumers suffered sizable wealth losses during the crisis, which may be adversely affecting their desire to take on risk. Most central banks are maintaining what would appear to be very accommodative policy stances. This combination of factors suggests that the neutral rate is still lower than it was before the financial turmoil began (we estimate the longer-run neutral FFR to be around 3.50%). Even though the current FFR is well below our lower estimate of the neutral rate, tight credit conditions, continued stresses in global financial markets, and a still-significant chance of a further deterioration in global economic conditions create a risk that output growth will fall significantly below the level projected in the central forecast; this development would likely be accompanied by inflation below the level in the central forecast. Nevertheless, under this scenario we assume that financial markets will begin to function more normally and that, as they do, the economy will exit the *Global Credit Crunch* scenario and begin growing faster than its potential growth rate. The strong output growth experienced when the economy leaves the scenario should result in a closing of the output gap over time.

Alternative 6: *Global Deflation*

Recent price level indicators continue to point to low inflation in many regions of the world. With inflation at such levels, sluggish global growth, continuing concerns about the future of the euro zone, and continued financial market uncertainty suggest that there is some risk of global deflation going forward. This possibility is further exacerbated as many central banks around the world have their policy rates at or very near their lower bounds. The *Global Deflation* scenario reflects the possibility that the U.S. and the rest of the world may be mired in a liquidity trap for a prolonged period of time, resulting in both inflation and output growth far below the levels projected in the central forecast. Because of the difficulty of exiting such a situation, we see the *Global Deflation* scenario as quite persistent. Unlike the *Global Credit Crunch* scenario, the economy does not generally “bounce back” from *Global Deflation* to close the output gap. Instead, the U.S. is much more likely to experience a prolonged period of essentially no growth.

The implications for inflation and output of the various scenarios can be summarized as follows:

1. *Productivity Boom*: inflation below central forecast, output above central forecast.
2. *Fiscal Consolidation*: inflation initially above and then below central forecast, output below central forecast.
3. *Faster Growth*: inflation above central forecast, output above central forecast.

4. *Loss of Credibility*: inflation far above central forecast, output slightly below central forecast.
5. *Global Credit Crunch*: inflation below central forecast, output significantly below central forecast.
6. *Global Deflation*: inflation far below central forecast, output far below central forecast.

Appendix 2: Policy Rule Description

In this Appendix, we describe our *Baseline* policy rule. Additional background is included in the Blackbook Documentation.

In our *Baseline* policy rule specification, the policy rate responds to deviations of inflation from target and of output from potential, while incorporating some inertia. For each of the FFR paths, we determine these deviations using the inflation and output paths generated in Exhibit C.

Baseline Policy Rule Specification:

$$\mathrm{i}_t = \rho \mathrm{i}_{t-1} + (1-\rho)\left[\mathrm{i}^* + \varphi_\pi\left(\pi_t - \pi^*\right) + \varphi_x x_t\right]$$

$\rho = 0.8$ (interest rate smoothing parameter)
$\mathrm{i}^* = 3.50$ over the forecast horizon (neutral FFR)
$\pi^* = 2.00$ (PCE inflation longer - run objective)
$\varphi_\pi = 1.5$ (weight on inflation deviations)
$\varphi_x = 0.5$ (weight on output gap)
π_t : core PCE, 4 - quarter average
x_t : output gap, using 2.3% potential growth rate
i_{t-1} : interest rate in previous quarter