FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

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EXHIBITS

EXHIBIT OVERVIEW

1. Policy Recommendation and Rationale

The recent data flow has been somewhat more upbeat than in the last two inter-meeting periods. This has been reflected primarily in an upgrade of our assessment of current conditions, without much significant change in the forecast for the rest of the year and into 2012. Moreover, we still see considerable downside risk to real activity and some downside risk to inflation in the medium-term. Given the minor change in the outlook and the persistence of downside risks, our recommendation remains the same as in the previous Blackbook. We recommend adopting more explicit forward guidance on the FFR, framed in terms of state-contingent triggers rather than as a time commitment. We further recommend supporting the guidance on future policy rates with an expansion of the Federal Reserve's balance sheet, implemented in part through purchases of MBS.

The real activity releases since the September Blackbook came in somewhat stronger than expected, reducing the immediate danger of a double-dip recession. However, the impact of these developments on our GDP growth forecast for 2012 has been minimal (2.7% (Q4/Q4) vs. 2.6% in the September Blackbook). At the same time, inflation appears to have lost some of its recent momentum, as we had forecasted.

We have increased slightly the uncertainty around our central outlook for the real economy and left the risks to inflation roughly unchanged. Increased uncertainty in real activity is in large part motivated by continued financial turmoil in Europe and its possible impact on the U.S. economy. Despite a positive immediate reaction in financial markets to the outcome of the October 27 meeting, details on the measures to be adopted are still lacking and implementation risk remains elevated. Moreover, domestic financial markets have proven to be extremely vulnerable to adverse developments in Europe, as reflected in the domestic market turbulence and the resultant pressures on some major financial firms early in the inter-meeting period. However, domestic equity prices have rallied in the last few weeks, providing some support to the balance sheet adjustment process of households and firms.

Policy Recommendation

Although the short-run outlook has improved somewhat in the inter-meeting period, we continue to see the economy's lackluster performance as driven primarily by a shortfall in demand, associated with the binding zero lower bound on nominal interest rates. As a consequence, we believe that additional accommodation would be helpful in addressing both sides of the Federal Reserve's dual mandate. The FOMC moved in this direction in August, when it specified the time frame over which it anticipates to keep the policy rate at exceptionally low levels, and again in September, with the announcement of the maturity extension program.

As we have been arguing for some time, both of these policies could be more effective if put in the context of a state-contingent plan. Such a plan would indicate conditions for providing more policy accommodation, in case the recovery weakened again, as well as conditions for withdrawing accommodation, in case the economy improved beyond expectations. If stipulated and clarified ex-ante, a state-contingent commitment could help avoid the negative feedback loop in which announcements of further accommodation are interpreted ex-post as a reflection of worse than expected economic conditions, as occurred after the August and the September FOMC meetings. Further accommodation could be more effective if it were understood instead as a state-contingent backstop whose very presence helps reduce the likelihood of undesirable outcomes ex-ante.

A key feature of a state contingent policy is to provide clarity on the triggers for action. One possible way to implement such a policy is in terms of a target path for either the price level or the level of nominal GDP. These two options were discussed in detail in the September 2010 and August 2011 Blackbooks. If the FOMC opted for such a state-contingent policy, its credibility would be enhanced by a clear communication strategy and appropriate operational measures. In this respect, we recommend that the announcement of a new intermediate target be accompanied by a further increase in the size of the Federal Reserve's balance sheet. As in the previous two LSAPs, the Fed should increase its holdings of longer-term Treasuries to put downward pressure on term premia and interest rates. Furthermore, given the recent stress in financial markets—which led to wider spreads in private debt instruments, including mortgages—we also believe that purchasing MBS would be helpful in providing some support for the housing market and the aggregate economy.

2. Evolution of Outlook and Risks

2.1 Central Forecast

Based on the advance estimate, real GDP grew at a 2.5% annual rate in 2011Q3, somewhat below our final estimate of 3%. However, the composition of growth over the quarter suggests that the economy had more momentum going into the fourth quarter than we previously thought. Final sales to domestic purchasers grew at a 3.2% annual rate in the third quarter—the fastest growth rate since the second quarter of 2010.

As expected, growth of real personal consumption expenditures rebounded in the third quarter, growing at a 2.4% annual rate versus just 0.7% in the second quarter. Spending on durable goods rose at a 4.1% annual rate after declining at a 5.3% annual rate in the second quarter. Interestingly, real spending on motor vehicles fell again in the third quarter, but at just a 3.2% annual rate versus the 25.5% decline of the second quarter. Growth of spending on furnishings and durable household goods was well maintained as was growth of spending on recreational goods and vehicles. In addition, spending on services rose at a 3 percent annual rate, up from 1.9% in the second quarter. While there was a notable increase in growth of spending for housing and utilities, the stronger growth of spending on services was reasonably broad based, including stronger growth of spending on food services and accommodations.

At the same time that the rate of growth of real consumer spending increased, the rate of growth of nominal and real disposable income slowed quite abruptly. Nominal disposable personal income grew at just a 0.6% annual rate in the third quarter after increasing at a 4.6% annual rate over the first half of the year. In real terms, disposable personal income fell at a 1.7% annual rate in the third quarter following a 0.9% compound annual rate over the first half of the year. As a result, the personal saving rate fell a full percentage point to 4.1% in the third quarter from 5.1% in the second quarter.

We must confess to being a bit uncertain as to how to interpret this decline of the personal saving rate. The rate of growth of nominal spending on gasoline slowed sharply in the third quarter as gasoline prices leveled off. At the same time there were relatively strong increases in nominal spending in categories such as recreation services, food services and accommodations, and durable goods other than motor vehicles. Such spending is to a large extent discretionary and is not consistent with the view that the household sector wants to maintain a relatively high personal saving rate. Rather, it appears to be more consistent with the view that the household deleveraging process is far along and access to credit is improving.

In addition to the somewhat stronger pace of real consumer spending, the rate of growth of real business fixed investment was surprisingly strong in the third quarter. Real business investment in equipment and software rose at a 17.4% annual rate. Within this category, there were strong gains in investment in industrial and transportation equipment while the growth of investment in information processing equipment and software was more muted. It is unclear what role the pending expiration of full expensing of qualified investment may be playing in this strength of business investment spending. In addition, real investment in nonresidential structures rose at a 13.3% annual rate, down from 22.6% in the second quarter but still robust. This strength was broad based, with strong increases in the commercial and health care, manufacturing, and power and communication categories.

In contrast to fixed investment, the pace of growth of business investment in inventories slowed substantially in the third quarter such that the growth contribution from inventory investment was -1.1 percentage points, a considerably larger drag than we expected. All else equal, this provides a boost to projected growth for the fourth quarter. Similarly, net exports provided a smaller growth contribution (0.2 percentage points) than we expected, due largely to slower than expected growth of exports.

Finally, total government consumption and gross investment was unchanged in the third quarter, with spending at the federal level rising 2.0% (annual rate) and spending at the state and local level declining 1.3% (annual rate). The increase in federal spending was more than accounted for by increased defense outlays while nondefense outlays continued to decline. The decline at the state and local level was the smallest since the third quarter of 2010.

The price data came in largely as expected. The total PCE deflator rose at a 2.4% annual rate, down from 3.3% in the second quarter. However, on a year-over-year basis the PCE deflator was up 2.9% in the third quarter versus 2.5% in the second quarter. Based on our current projections, the year-over-year change of the total PCE deflator will peak at 3.0% in the fourth quarter and then slow quickly in 2012.

The core PCE deflator rose at a 2.1% annual rate, down from 2.3% in the second quarter. On a year-over-year basis the core PCE deflator was up 1.6% in the third quarter versus 1.3% in the second quarter. Based on our projections, the year-over-year change will peak at 1.8% in the fourth quarter.

Growth of labor compensation was sluggish in the third quarter, rising at just 1.9% (annual rate) versus 5.3% (annual rate) over the first half of the year. Assuming that the statistical discrepancy for the third quarter is the same as in the second quarter, employee compensation continued to decline as a share of national income. Under the same assumption, corporate profits rose to around 15% of national income from 14.5% in the second quarter. If that turns out to be correct, it would be the highest profit share of national income in the history of the series dating back to 1947.

Conditioning assumptions. Our estimate of potential GDP growth is around 2¼%, having been lowered from around 2½% based on the revised NIPA data that was released at the end of July. The Board staff estimate of potential for 2011 and 2012 is 2.1%, unchanged from the September Tealbook. For 2013 the Board staff anticipates a modest increase of potential to 2.2%, reflecting an increased contribution of capital deepening to labor productivity.

We expect the lower degree of inflation persistence evident since the early 1990s to continue. This assumption is in contrast to the greater degree of inflation persistence assumed in recent Board staff forecasts. In our central scenario, inflation expectations remain well anchored. This assumption is central to our projection of a gradual rise of core inflation back toward the midpoint of the FOMC's objective for core PCE inflation of 1.5% to 2.0%.

The FRBNY outlook for foreign real GDP growth in 2011 has been lowered to 2.7% (Q4/Q4 on a GDP-weighted basis) from 3.0% in September. This reflects a generalized downgrading of growth prospects. Projected foreign real GDP growth for 2012 has also been revised down to 2.9% from 3.2%, with much of this reduction due to a 0.5 percentage point reduction of projected growth of the Euro area (to 1.1% Q4/Q4). The Board staff projection for 2011 is unchanged at 2.8%, and for 2012 is 2.6%, down from 3.0%. For 2013 both the Blackbook and the Tealbook forecasts anticipate foreign growth of 3.2%.

Our projected path of WTI oil prices, based on recent futures quotes, has been lowered by around $3 per barrel for the end of 2012 (to $88 per barrel) and by $4 per barrel by the end of 2013 (to $88.50) relative to the September forecast. In contrast, the Board assumes $94 per barrel for 2012Q4 ($4 per barrel higher than in September) and $96 per barrel for 2013Q4 ($3.50 per barrel higher than in September). The Board's projected path is somewhat higher than recent future quotes due to the fact that they expect somewhat stronger growth of global GDP and somewhat more dollar depreciation than in the consensus forecast.

Our assumptions regarding federal fiscal policy—which are the same as that of the Tealbook—are unchanged from August. For calendar 2011, federal fiscal policy is expected to be a roughly neutral influence on aggregate demand. However, in both 2012 and 2013, fiscal policy is anticipated to exert a drag on growth of about 1 percentage point as the payroll tax reduction and investment expensing provisions expire, the emergency unemployment benefits are phased out, the grants to state and local governments included in the 2009 stimulus bill are exhausted, and the deficit reduction called for in the Budget Control Act of 2011 begins to kick in. Note that the Board staff has two measures of the stance of fiscal policy, the change in the high employment budget balance (HEB) and a fiscal impulse (FI) measure. The HEB measure is an accounting of discretionary changes in policy, while the FI measure takes into account marginal propensities to consume and multipliers attached to those changes. For 2012 the change in the HEB is +1.6 percentage points of potential GDP, declining to 0.8 percentage points in 2013 (a plus sign in this case meaning drag.). However, the FI for 2012 is -0.9 percentage points of GDP and for 2013 is -0.8 percentage points.

We also adopt the Tealbook assumptions regarding equity prices. At the time that the Tealbook was prepared, equity prices were higher than assumed in September. Accordingly, the level of the projected path of equity prices has been boosted by about 1.5%. Through 2013 equity prices are expected to rise at a 10% annual rate, at which point the equity premium would return to historical norms.

Also reflecting intermeeting developments, the Board's assumed path of the nominal exchange value of the dollar has been changed to -1.0% in 2011 versus -2.2% in September. The assumed decline in 2012 is 2.3% versus 2.2%. For 2013 a decline of 1.2% is anticipated versus 1.3% in the September Tealbook. Our assumed path of the nominal exchange rate is a decline of 2.2% in 2011 (versus 4.7% in the last Blackbook) and 1.8% in 2012 (versus 1.5% in September). For 2013 we assume a decline of 1.8% versus 1.5% in September.

Finally, we also adopt the Tealbook forecast with respect to the future path of the CoreLogic national home price index. As of August that index is down 4.5% on a 12 month basis, although the rate of decline has begun to decrease. That index is assumed to decline very slightly over the remainder of 2011 and then remain essentially flat in 2012 and 2013.

The Outlook. While the third quarter data were encouraging, it is clear that the US continues to confront significant structural problems. The legacy of the housing boom and bust continues to weigh on the economy. State and local governments are cutting back spending and reducing employment. Finally, based on current law, federal fiscal policy is in the process of moving from providing significant stimulus to exerting substantial drag. While the probability that the economy will slip back into recession has receded, we expect that these structural factors will continue to impede a more vigorous recovery through much of 2012.

Despite record low mortgage interest rates and quite high cash flow affordability, housing market activity remains at rather depressed levels. While it appears that housing construction has finally leveled off, the housing market is not providing the boost to economic activity that it typically does during a recovery. There are several reasons for this, including tight underwriting standards, a weak labor market, and general uncertainty about the future path of home prices. Furthermore, due to the loss of housing wealth stemming from decline of home prices, consumer spending is more restrained than otherwise would be the case.

The fundamental problem is that we have a very large inventory of homes for sale, many of which are "distressed" as they are either properties lenders have taken possession of through foreclosure or they are being offered as "short sales." This inventory is sufficiently large relative to the current sluggish sales pace to be putting additional downward pressure on home prices. Adding to this bad dynamic, large numbers of loans are seriously delinquent or already in the foreclosure process, with a high percentage of them likely to be offered for sale in the not too distant future. Finally, it is estimated that roughly 23% of homeowners with mortgages have outstanding mortgage balances that exceed or are quite close to the current value of their property.

Both employment and spending by the state and local government sector have been declining for some time, and the rate of decline intensified over the first half of 2011. State and local government employment is now down by 650,000 from its peak in the third quarter of 2008. As of 2011Q2, real spending by state and local governments was down by 2.3% from the same period in 2010, with most of that decline in the investment category, which includes spending on infrastructure such as roads, bridges, etc. While state and local government tax receipts have recovered to their previous peak level, grants in aid from the federal government, which increased substantially as part of the federal stimulus legislation of 2009, peaked at the end of 2010 and are now declining. Thus, spending and employment at the state and local government level are likely to continue to decline over the near future.

At the federal level, fiscal policy is evolving from providing a great deal of stimulus to the economy in 2010 to being essentially neutral in mid 2011. As referred to above, the stimulus provided by the increase of spending and tax relief incorporated in the American Recovery and Reinvestment Act of 2009 is thought to have peaked in mid to late 2010 and is now subsiding. Year over year growth of unemployment benefits is now negative as the number of people receiving emergency unemployment benefits is declining, in many cases due to the exhaustion of eligibility. Based on current law, in 2012 federal fiscal policy will begin to exert a significant drag on growth. The reduction of the employee's share of the OASDI payroll tax and the full expensing of qualified investment in equipment and software, enacted in late 2010, are both set to expire at the end of 2011. The recently enacted Budget Control Act of 2011 calls for about a $25 billion reduction of discretionary spending in FY2012, with additional deficit reduction measures likely once the Congressional Joint Select Committee on Deficit Reduction releases its proposals later this year.

In addition, reflecting events in the Euro area and elsewhere around the globe, projected growth of global GDP over the forecast horizon has also been reduced, leading to slower growth of US exports. Projected growth of real GDP in 2012 is 2¾% (Q4/Q4), only modestly above potential. As a result, the unemployment rate is likely to decline only modestly, to around 8¾% by 2012Q4. In 2013 the recovery gathers some additional momentum and credit conditions ease further, with real GDP growing 3½% and the unemployment rate falling below 8%.

While growth in 2011 has turned out to be weaker than expected, as mentioned above both total and core inflation have been somewhat higher than anticipated. As of September, the 12-month change of the total PCE deflator was up to 3.0%, the highest since September of 2008. As recently as November of 2010 that 12-month change was just 1.2%. As noted above, the bulk of the increase in headline inflation has been due to the direct effect of the run up of energy and other commodity prices, the impulse behind which was external to the US. As of September, the 12-month change of the price index for energy goods and services was up 20.7% versus 4.1% in September of 2010. Similarly, the 12-month change of the price index for food consumed at home was 5.1% versus 1.3% a year earlier.

Nonetheless, core inflation also moved up more than expected, with the 12-month change of the ex food and energy PCE deflator up 1.7% in September after having been running below 1% at the end of 2010. From an accounting sense, the bulk of that increase of core inflation is due to some faster increases in rents, followed by unusually rapid gains in prices for apparel and new vehicles. The annual rate of increase of rents, or the price of shelter, has gone from slightly negative in mid 2010 to 1.6% as of September. While still relatively low, household formations have begun to increase, with all of that increase among renters. We suspect that as rents firm, more of the quite substantial stock of vacant housing will move into rental usage, helping to limit further rent increases. The more rapid increase of apparel prices reflect the steep increases in cotton and other fiber prices over the past year. Similarly, the unusually large increase in new vehicle prices of the past six months or so appears to be the result of the supply disruptions discussed earlier.

Fortunately, energy and many other commodity prices have declined from their peak levels. Motor vehicle production is returning to more normal levels, which will boost inventories over the coming months. Thus, barring another energy price shock, which futures markets do not anticipate, it appears that year over year increases of headline and core inflation are at or near their peaks. Fundamentals remain consistent with a slowing in the rate of inflation. Even if we assume that the natural rate of unemployment has increased somewhat, the economy is operating with substantial slack. Profit margins are quite wide, prompting greater price competition going forward. Moreover, despite the recent run up of inflation, inflation expectations remain well anchored within the ranges of the past few years. Accordingly, we expect inflation to slow to around 1.5% (Q4/Q4) in both 2012 and 2013.

2.2 Alternative Scenarios and Risks

Both upside and downside risks to real activity have slightly increased over the intermeeting period, while the risks to inflation are roughly unchanged. This increase in risks for real activity reflects the developments in the intermeeting period. On the one hand, the continued uncertainty surrounding the European situation prompted an increase in the likelihood of the *Global Deflation* scenario. On the other hand, the recent spate of positive data releases led us to raise the probability associated with the most optimistic scenario, namely the *Faster Growth* scenario. We also decreased the probability of the *Fiscal Consolidation* scenario. However, the balance of risks remains skewed to the downside for both real GDP growth and inflation.

The *Fiscal Consolidation* scenario, which reflects the risks from fiscal consolidation, remains the most likely scenario, with an associated probability of about 35% [Exhibit C-1]. This probability decreased since September, mostly to make room for increases in the likelihood of the most extreme scenarios. The *Global Credit Crunch* is now the second most likely scenario, with a likelihood of almost 20%, slightly higher than in the September Blackbook. The likelihood of the *Global Deflation* scenario has also increased, although its overall probability remains small. Finally, the probability associated with the *Faster Growth* scenario more than doubled and currently stands at about 14%. The paths for core PCE inflation and real GDP growth associated with the various scenarios have changed relative to the previous Blackbook only to the extent that the *Central* scenario forecasts have changed, since the risks are defined relative to the *Central* scenario. Given that the *Central* scenario forecasts are quite similar to what they were in September, so are the paths associated with the various scenarios [Exhibit C-2].

These changes result in a modest widening of the forecast distribution for real GDP growth, while that of core PCE inflation is roughly unchanged [Exhibit C-3]. Since the near term uncertainty about the state of the economy has diminished with incoming data, the probability of a recession through the end of 2012 is slightly lower than in September. The "Depth of Recession" chart shows that should a recession occur, it would most likely be relatively mild, similar to that in 2001.

Exhibit C-3 also shows the mean forecasts from the FRBNY DSGE model. The inflation forecasts are very close to the expected value of the FRBNY forecast distribution. The forecasts for real GDP growth are closer to the *Central Scenario* through mid-2012 but more pessimistic thereafter, with the distance between the two increasing through 2013 and 2014.

3. Forecast Comparison

3.1 Comparison with Private Forecasters[1]

Real GDP Growth. The FRBNY forecast for real GDP growth in 2011Q4 and 2012 improved somewhat with respect to the August Blackbook, although most of the improvement was concentrated in the near-term. In comparison, private forecasters remain more pessimistic, reflecting to some extent the fact that their currently available forecasts were formulated before the recent improvement in the overall tone of the data.[2]

Inflation. The FRBNY projections for inflation over the medium term have not changed much since August, although both core and especially overall CPI inflation are now expected to be higher in 2011Q4. As a result, our expectations for core inflation in 2012 remain below those of private forecasters by about ¼ of a percentage point. Notably, none of the forecasts has inflation—core or overall—above 2% next year.

[1] The details of the forecast comparison are in Exhibit B-8. Quarterly numbers are SAAR.
[2] This is especially true for the SPF, which dates back to August 2011.

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Given our current forecast for output and inflation, our policy recommendation is to maintain the target range for the federal funds rate at 0–0.25% through 2014Q3. Our recommended policy accommodation goes beyond what is implied by the *Baseline* policy rule under all scenarios [Exhibit D-1]. This reflects our assessment that under the zero lower bound a commitment to maintain rates low for *longer* than implied by standard rules is needed to provide an appropriate accommodation.

Exhibit D-2 shows the prescription of various policy rules using the expected value of the forecast distribution as an input. The path implied by the *Baseline* policy rule under the expected paths for output and inflation implies a federal funds rate at 0–0.25% through the end of 2013. The *Nutter* rule, which puts weight only on inflation, is the only rule prescribing a liftoff earlier than 2013Q3. Exhibit D-2 also shows the implied nominal FFR for the *Outcome-based* rule, ignoring the zero bound constraint. Under the expected value of the forecast distribution, the unconstrained nominal FFR is about -8% by the end of 2013.

Exhibit D-3 shows the prescriptions from alternative policy rules under the various scenarios. The *Nutter* rule prescribes a lift-off before 2012 under most scenarios, including the *Central* scenario. FFR paths under the *Asymmetric Price Targeting* rule are at the lower bound (.25%) throughout the forecast horizon. For the *Outcome-based* rule, ignoring the zero bound, the paths are at or below zero through the end of 2013.

Exhibit D-1 shows the "shadow" real FFR rates implied by the *Baseline* rule under the various scenarios, ignoring the zero bound constraint. Under the *Central* scenario, this rule implies a very gradual renormalization of the real rate, increasing from about -5% in the current quarter to -2.5% by the end of 2013. Exhibit D-3 shows the real rate (under alternative scenarios) for the *Asymmetric Price Targeting*, the *Nutter*, and the *Outcome-based* rules. We also use the DSGE model to assess the current stance of monetary policy by performing a counterfactual exercise that eliminates current and past policy shocks. We find that the DSGE model predicts a counterfactual FFR for the current quarter roughly in line with the policy rate.

4.2 Comparison to Market Expectations

The expected FFR path implied by futures shifted up slightly relative to the September Blackbook, with a liftoff in 2013Q3. On the contrary, the median Primary dealer's expectation for the timing of the first tightening shifted from 2013Q4 to 2014Q1. Further, the entire distribution of the first policy rate hike shifted towards later dates. On average, respondents attach almost 60% probability to the first policy rate hike occurring in 2014Q1 or later, up from 45% in September.

5. Significant Developments

5.1 Economic Developments

Data releases during the intermeeting period generally indicated that real activity is improving. The balance of risks to the outlook, however, remains to the downside. There was some improvement in labor market conditions, but employment growth remains too modest to generate a decline in unemployment. Consumer spending rebounded from the second quarter low, but consumer confidence indicators continued to be at very low levels. Investment spending indicators were again fairly strong during the intermeeting period. Inflation indicators pointed to a change in the inflation outlook, with a decline in the rate of growth of both total and core measures of prices. Household inflation expectations continued to moderate.

Real Activity. *Labor market. Nonfarm payroll employment* increased by 103,000 in September, with *private payroll employment* rising 137,000. July and August payroll employment estimates were revised up to 42,000 and 57,000, respectively. Most of the upward revision to August payroll numbers was in the private service-providing sector and government, with government employment revised up from -17,000 to 15,000. Employment in the goods-producing sector edged up by 18,000 in September, while employment in the private service-providing sector increased by 119,000. The *diffusion* *index* of total private industries—the fraction of industries increasing employment—was essentially unchanged at 55.4 (55.6 in August). *Aggregate hours worked* by all private employees went up by 0.4% following a 0.2% decline in August. *Average hourly earnings* increased by 0.2% to $23.12. The 12-month change in average hourly earnings was 1.9%, down from 2.3% in July and up slightly from 1.8% in August.

The *unemployment rate* remained at 9.1% in September. The *labor force participation rate* increased again slightly, from 64.0% to 64.2%, an increase due primarily to the increase in participation of workers between age 16 and 24. The *employment-to-population ratio* rose from 58.2% to 58.3% but remains well below its peak of 64.7% in April 2000. The *median duration of unemployment* increased from 21.8 to 22.2 weeks, while the percentage of unemployed workers unemployed 27 weeks or more rose from 42.9% to 44.6%.

Labor market—unemployment insurance claims. Initial claims for unemployment insurance declined slightly over the intermeeting period and were at 402,000 in the week ending October 22. The four-week moving average was 405,500. Continuing claims were little changed at around 3.6 million.

Labor market—JOLTS. The August report showed essentially no change in the labor market statistics, with the *job openings rate* remaining at 2.3%, *total hires and separations rate* remaining respectively at 3.1% and 3.0%, and the *quits rate* again at a low rate of 1.5%. The *rate of discharges and layoffs* in August was 1.3%, the same as in July.

Consumer spending—retail sales. Total retail sales rose 1.1% in September, while *retail sales excluding motor vehicles* increased 0.6%**.** There were marked upward revisions in retail sales as well as in retail sales ex-autos for August, with more modest increases for July.

Consumer spending—motor vehicle sales. According to Autodata Corporation, *light motor vehicle sales* in September were 13.1 million units (seasonally adjusted annual rate), up from 12.1 million in August and above consensus expectation of 12.6 million units. This is the strongest monthly pace of sales since April's 13.2 million annual rate.

Consumer spending—PCE and personal income. Nominal personal income increased 0.1% in September. *Nominal disposable income*-increased by 0.1% in September, following an increase of less than 0.1% in July and a contraction of 0.1% in August. *Personal consumption expenditures (PCE)* increased by 0.6%, in line with the consensus expectation. In *real terms*, personal consumption expenditures increased by 0.5% in September, compared to a contraction of less than 0.1% in August and an increase of 0.5% in July. Real personal consumption expenditures in durable goods increased in September by 2.6%, following an increase of 2.3% in July and a 1.0% contraction in August. Real personal consumption of services increased in September by 0.1%, the same rate as in August, and below the 0.5% increase in July. The *personal saving rate* declined to 3.6% in September—its lowest level since 2007. The September data on personal income and expenditures indicate that the rebound of consumer spending was gaining momentum over the summer months. However, reflecting weakness in the labor market, real disposable income fell in the third quarter. The low level of the saving rate suggests that this recent firming of consumer spending may not be sustained without a rebound of growth of income.

Housing and construction—housing starts. Total housing starts rose 15% in September to 658,000 units (seasonally-adjusted annual rate). *Single-family starts* rose 1.7% to 425,000 units. This follows declines of 2.8% in August and 4.2% in July. *Multi-family starts* rose a strong 51.3% in September to 233,000 units, the highest since October 2008. *Total building permits* fell 5% in September to 594,000 (seasonally-adjusted annual rate), slightly below the consensus expectation of 610,000. Single-family permits were essentially unchanged at 417,000, while multi-family permits declined 14.5% to 177,000.

Housing and construction—home sales. Overall existing home sales (single-family and condos/coops) decreased 3.0% in September to 4.91 million units (seasonally adjusted annual rate) from an upwardly revised 5.06 in August. *Single-family existing home sales* fell 3.6% in September to a seasonally adjusted annual rate of 4.3 million units. The overall *months' supply of existing homes* was 8.5.

Sales of new single-family homes rose 5.7% in September to 313,000 units (seasonally adjusted annual rate). *Inventories of new homes for sale* expressed as months' supply at the current sales pace were 6.2 months in September, still somewhat high compared to the period from 1997 to 2004 when month's supply averaged around 4.

Housing and construction—home prices. The *CoreLogic national home price index* for August provided some further evidence that home prices may be stabilizing. With distressed sales excluded, the seasonally-adjusted CoreLogic national home price index rose 0.5% in August while the increase in July, originally reported as 1.1%, has been revised to 0.5%. Over the twelve months ending in August, this index is down a modest 0.8%. With distressed sales included, the seasonally-adjusted CoreLogic national home price fell 0.8% in August. The change of that index in July, originally reported as +0.1%, has been revised to +0.3%. Over the twelve months ending in August, this index is down 4.5%, the third consecutive month of moderating year-over-year declines.

Housing and construction—construction put-in-place. The *value of construction put in place* rose 1.4% in August after falling 1.4% in July. The 12-month change in total construction spending was +0.9% in August—the first time this change has been positive since October 2007. *Private residential construction* increased 0.7% in August after falling 3.2% in July. *Private nonresidential construction* increased 0.2% in August after a 0.3% rise in July. *Public construction* increased 3.1% in August after falling 1.5% in July.

Production. Total industrial production increased 0.2% in September, and manufacturing production rose 0.4%. Production rose solidly again for motor vehicles, and growth in other sectors of manufacturing was moderate in the month. *Manufacturing production* increased 0.4% in September after rising 0.3% in August. The 12-month change in manufacturing production was +3.9%, similar to that of the previous four months but below the corresponding changes in the first quarter. Production in high-tech industries rose 0.5% in September. Excluding autos and the high tech sector, manufacturing production increased 0.3% in September. The *overall capacity utilization rate* increased 0.1 percentage point in September to 77.4%. The *manufacturing capacity utilization rate* rose 0.2 percentage points to 75.1%. Capacity utilization remains low even though capacity is estimated to have risen modestly over the past year.

Manufacturing shipments and orders. New orders for durable goods manufacturers decreased 0.8% in September. Excluding transportation, orders increased 1.7%, after decreasing 0.4% (a moderate revision) in August. *Shipments of durable goods manufacturers* decreased 0.7% in September following a 0.1% increase (a small upward revision) in August. Excluding transportation, shipments fell 0.1% in September after rising 1.7% (an upward revision) in August. The book value of *inventories at durable goods manufacturers* increased 0.1% in September after rising 0.9% (little revised) in August. The *inventories-shipments ratio* in the manufacturing durable goods sector rose in September from 1.81 to 1.83, and it remains well above the levels seen during most of the 2000s. *Shipments of nondefense capital goods excluding aircraft* (a monthly proxy for equipment spending) decreased 0.9% in September after rising 3.1% (a small upward revision) in August. *Orders for nondefense capital goods excluding aircraft* rose 2.4% in September after increasing 0.5% (a small downward revision) in August.

Business inventories. Total business inventories rose 0.5% in August, the same as in July and still below the average monthly gain of the second quarter. *Manufacturers' inventories* rose 0.4% and retail inventories increased 0.8%, while wholesale inventories rose by 0.4%. *Total business sales* rose 0.3% in August, following a 0.7% increase in July. The *total business inventory-sales ratio* in August was unchanged from July at 1.28.

GDP. Based on the first estimate, *real GDP* grew at a 2.5% annual rate in 2011Q3, in line with consensus expectation. Real personal consumption expenditures (PCE) rebounded in the third quarter, growing at a 2.4% annual rate versus just 0.7% in the second quarter. This increase in consumer spending was associated with a full percentage point decline of the personal saving rate to 4.1%, the lowest level since the fourth quarter of 2007. The rate of growth of *business fixed investment* was quite strong in the third quarter, with growth of business investment in equipment and software rising at a 17.4% annual rate while investment in nonresidential structures rising at a 13.3% annual rate. *Net exports* provided a modest 0.2 percentage point growth contribution, while the growth contribution from inventory investment was -1.1 percentage points. *Output of the nonfarm business sector* increased at a 3.8% annual rate in 2011Q3, suggesting a sustained growth rate of productivity in the third quarter after the declines in the first half of the year.

Productivity and costs. There was no new data release in this inter-meeting period.

Inflation. *CPI.* The *overall CPI* increased 0.3% in September, after rising 0.4% in August and 0.5% in July. On a 12-month basis, the change in the total non-seasonally adjusted CPI crept up to 3.9%. The *core CPI* rose 0.1% in September, down from 0.2% in the previous two months. The 12-month change in the core index was stable at 2%. *Core goods* prices slipped 0.2% in September, after several months of sustained increases. *Core services* prices rose 0.2% in September for the third consecutive month, and are up 2% over a year ago. Overall, the September report indicates that the momentum behind the rise in core inflation of the last several months may be waning.

PCE deflator. The *total PCE deflator* rose 2.4% (annual rate) in the third quarter, down from 3.3% in the second quarter. On a year-over-year basis the PCE deflator was up 2.9% in September, the same as in August. Based on our current projections, the year-over-year change of the total PCE deflator will peak at 3.0% in the fourth quarter and then slow quickly in 2012. The *core PCE deflator* rose at a 2.1% annual rate in the third quarter, down from 2.3% in the second quarter. On a year-over-year basis the core PCE deflator decreased to 1.6% in September from 1.7% in August. The *"market-based" core* measure was also flat in September and its 12-month change was stable at 1.6%.

PPI. The *finished goods PPI* increased 0.8% in September, partly reflecting a rebound in energy prices, while *core PPI* increased 0.2%. Core consumer goods prices rose 0.3%. The changes in both core measures were in line with those of the past few months. At earlier stages of production, the *intermediate goods PPI* rose 0.6% and the crude goods PPI climbed 2.8%. Both increases reflected sharp increases in intermediate energy goods and in crude energy materials.

Inflation expectations. According to the final October reading, the University of Michigan survey of households, *the median of near-term (one-year ahead) inflation expectations* was 3.2% in October, slightly below the September figure of 3.3%. With this latest decline, the median of one-year expectations is at its lowest level since December of last year. The inter-quartile range decreased from 3.7 to 3.6 percentage points in October and remains at considerably lower levels compared to its readings since early 2008, suggesting a lower level of disagreement across households about the short-term inflation outlook.

The median of longer-term (five to ten years ahead) inflation expectations was 2.7% in the final October survey, down from 2.9% in September. The inter-quartile range decreased from 3.1 to 2.9 percentage points.

Surveys. *Consumer confidence.* The Reuters/Michigan consumer sentiment index rose to 60.9 for the full month of October—up 1.5 points from September and up nearly 3.5 points from the mid-month (preliminary) October reading. Most of the pickup in sentiment—both from September and mid-October—came from the Expectations component, which rose to 51.8 for the full month of October, up nearly 5 points from mid-month and up about 2.5 points from September. The Current Conditions component finished off October at 75.1, up a little more than a point from the preliminary reading and virtually unchanged from September. The *Conference Board's Consumer*

Confidence Index fell 6.6 points to 39.8 in October—its lowest level since March 2009 (the depths of the recession) and well below the median forecast of 46.0 on Bloomberg. The Expectations index fell 6.4 points to 48.7 in October—also the lowest level since the recession but still a good bit above its historic low of 27.3, set in early 2009. The Present Situation component fell 7 points and is also at an exceptionally low level, having declined for 6 consecutive months; this index is a fairly good coincident indicator.

Business surveys. The *ISM manufacturing composite index* edged up 1 point to 51.6 in September, a level suggesting modest growth in the manufacturing sector. Most of September's uptick was driven by the employment and production components. The prices paid index was virtually unchanged, edging up 0.5 point to 56.0 in September, after slipping in August to its lowest level in almost two years. The *ISM non-manufacturing composite index*, down 0.3 points to 53.0, remains within its narrow range of the past few months. The prices paid index edged down 2.3 points to 61.9 in September.

The most recent Federal Reserve Bank regional surveys on business conditions were mixed. In the *Empire State Manufacturing Survey,* the headline general business conditions index was -8.5 in October, little changed from September, indicating that conditions worsened for regional manufacturers for a fifth consecutive month. Price indexes were noticeably lower, indicating that increases in both input prices and selling prices moderated, and the six-month outlook remained subdued. The *Philadelphia Fed Business Outlook Survey* indicates that manufacturing conditions improved in the Third District in October. The headline general business conditions index increased a sharp 26 points to 8.7—its first positive reading since July—and input price increases moderated.

Economic forecasts. In the *October Blue Chip Economic Indicators survey,* the consensus forecast for real GDP growth in 2011 (Q4/Q4) was 1.4%, 0.1 percentage points higher than in the September survey. Note that the October survey was conducted on October 3-4, prior to the release of the September labor market report. The consensus forecast for 2012 (Q4/Q4) declined from 2.5% in September to 2.3%. The consensus forecast for the average unemployment rate in 2011Q4 was 9.1%, unchanged from September, and for 2012Q4 it was 8.9%, up 0.2 percentage points from September. The October consensus forecast for CPI inflation in 2011 (Q4/Q4) was 3.4%, up from 3.3% in September. The consensus forecast for 2012 (Q4/Q4) CPI inflation was reduced slightly to 2.0% from 2.1% in September. The October survey includes the long-run projections of the respondents. They expect the recovery in real GDP to remain subdued: the consensus forecast of the average growth rate of real GDP over 2013-17 is 2.8% (down from 3.0% in the March survey when these projections were last presented) and that over 2018-22 is 2.5% (down from 2.6% in the March survey). There was no new release from the *Survey of Professional Forecasters (SPF).*

Trade. The trade deficit was $45.6 billion in August, unchanged from a revised July deficit. Export volumes and nonoil import volumes fell slightly, whereas oil import volumes increased. Export volumes fell 0.7 percent in August over the previous month, following a surge of 4.8 percent in July. Over the 12 months ending in August, real exports moved up only 6.7 percent. Nonoil import volumes decreased 0.8 percent, taking back part of the small increase of 1.5 percent in July. Over the year, real nonoil import growth advanced only 4.3 percent. These data suggest that net exports will add 0.2 percentage point to GDP growth in Q3.

Foreign Data Releases. *Euro area*: Production was better than expected in August, with manufacturing up 5% over the year. However, the PMI data continued to weaken through October and are now well below the threshold that signals an expansion. The ECB bank lending survey in October also found a significant tightening of credit standards. The European Commission's economic sentiment index was stable in October at 5% below its long-run average. The index was 7% above its long-run average in Q1. The unemployment rate was unchanged at 10% in August.

U.K.: Manufacturing output fell in August and was below its Q2 average. The services PMI fell sharply in August although it managed a partial rebound in September and still signals a growing economy. The manufacturing PMI has been stable while consumer confidence remains at low levels. Inflation increased to 5.2% in September, up from 4.5% in August, in part because of higher energy taxes.

Japan: Industrial production rose for the fifth consecutive month in August, bringing it close to its year-ago level. A survey of producers' forecasts suggests output decreased in September, though this still implies a substantial jump in Q3 production relative to Q2. The September quarterly Tankan survey reported an improvement in business sentiment among large firms that is projected to last through the end of the year. However, other sentiment surveys turned negative in October. The CPI index was up 0.2% over the year, while the core index was down 0.4%.

EM Asia: China grew strong at 9.1% (saar) in Q3. Monthly data suggest that domestic demand remains relatively firm with property investment still robust despite cooling in property prices and transactions volumes. However, recent weakness in processing trade suggests that export growth is likely to slow. CPI inflation edged down to 6.1% over the year in September, with the sequential trend slowing more markedly, suggesting inflation has peaked. In the rest of the region, trade and production data were weak over the intermeeting period and regional manufacturing PMIs dipped below 50.

Latin America: Brazil production likely declined in Q3 after stagnating for roughly a year. Demand has moderated only mildly, however, with steady support from real income and credit growth. Inflation eased a bit lower in October to 7.1% but core price pressures remained elevated. Mexico's export-oriented manufacturing sector also appears to have contracted in the third quarter even though auto production held up relatively well. The moderation in domestic demand has been fairly mild, in part due to steady job creation. Headline inflation picked up a bit to 3.2% in October.

5.2 Financial Markets

Domestic Financial Markets. The most notable development in financial markets during the intermeeting period consisted of an intermittent spike of large financial institutions' CDS spreads in early October. The deteriorating funding conditions of the financial institutions were accompanied by declining yields due to a flight to quality, a declining equity market, and higher implied volatilities. However, the second half of the intermeeting period saw a reversal of these developments, with a notable appreciation of equity markets. Overall financial market conditions have improved considerably since early October due to the improvement in the economic outlook.

Nominal Interest Rates: The 10-year Treasury yield reached its lowest level in the post WWII period on the day after the September FOMC at a level of 1.72%. The 10-year yield has risen 49 basis points to 2.21% since then. The 2-year yield reached a low of 16 basis points on the day prior to the FOMC and has increased to 29 basis points since then. The 3-month yield remained just above zero over the intermeeting period. Treasury term premia have rebounded slightly. These movements reflect somewhat stronger economic data and a slightly better assessment of financial sector risk. (Exhibit A-3: Treasury Yields)

Expected Policy Rate Path: The expected path of the fed funds rate—as inferred from futures markets—has rebounded since the last FOMC meeting, but remains below the expectations prior to the August FOMC meeting. Despite the slight increases of fed funds futures, market prices continue to imply a target fed funds rate of 0.0-0.25% through the second quarter of 2013. The uncertainty around the implied path as inferred from options remains extremely low, indicating that market participants interpret the forward guidance language as an unconditional rather than a conditional statement. Professional forecasters revised their expected policy rate paths in the October Blue Chip Financial Forecasts Survey slightly upward, in line with the fed funds futures increase. The median survey expectation for the fourth quarter of 2012 is now 0.15%, up from 0.13% in September. Short term dollar funding rates have increased with the 3-month Libor-OIS spread now at 34.2 basis points, reflecting continued dollar funding strains of European banks. (Exhibit A-5: Policy Expectations)

Inflation Compensation: The real 5-year Treasury yield remains negative, currently at -.75%, only slightly less negative than prior to the last FOMC. The ten-year implied TIPS yield is now at 0.19%, giving a 5-year/5-year forward of 1.07%. Market based measures of inflation expectations have increased somewhat since the last FOMC, with the 5-year/5-years ahead inflation compensation standing currently at 2.57%. The small increase in inflation compensation is consistent with the slight improvement in the economic outlook. (Exhibit A-4: Real Yields and Implied Inflation)

Equity Markets: Equity market volatility has declined markedly. In the intermeeting period, the VIX peaked at 45.45% on October 3 and has since declined to 29.86%. The S&P 500 index also reached a low since the last FOMC on October 3, and has since gained 12.99%. The rebound in equity markets primarily reflects better than expected domestic economic data, improved sentiment about the European crisis, and the improved conditions of large financial institutions in the US as reflected in the CDS spreads. However, equity valuations for securities firms have not recovered substantially. (Exhibit A-6: Equity)

Credit Spreads: Corporate credit spreads have declined markedly during the intermeeting period, especially in the lower tiers of the credit spectrum. Compared to their levels at the September FOMC meeting, spreads on investment grade corporate bonds declined 5 basis points from 236 to 231 with a spike of 272 basis points on October 4. Spreads on high-yield corporate bonds declined from 761 to 720 basis points, with a spike of 910 on October 4. High yield CDS spreads went from 674 to 666, with a spike of 882 basis points on October 3. The peak levels of credit spreads corresponded to levels not seen since mid 2009. The improvement of credit conditions since early October reflect a combination of improved economic conditions and a substantial decline in financial sector risk. (Exhibit A-7: Credit)

Foreign Financial Markets. *Euro Area*: On October 27, euro-area leaders agreed to three policy measures: *(i)* enhancements to the European Financial Stability Facility, *(ii)* modifications to the Greek aid package with larger haircuts on some debt instruments, and *(iii)* the implementation of a bank recapitalization framework. While significant points of uncertainty remain, the announcements were fairly well received by market participants resulting in higher European and global equities prices, especially bank shares. Up to the October 27 announcements, Euro area peripheral sovereign spreads were largely wider up, after which these spreads narrowed significantly. The initial widening appears to have been driven by ongoing concern about fiscal slippage in Greece, a delay in its sixth aid funding disbursement, and the possibility that Greece could face larger haircuts than that envisioned in its current bond exchange. In addition to these factors, political uncertainty, possible fiscal slippage, ratings downgrades, and slow growth in Italy and Spain also played a role. Irish securities benefitted from stronger-than-expected growth and credible policy actions. Irish and Spanish spreads ended narrower over the inter-meeting period. The euro rose against the U.S. dollar over the period, with the bulk of the move coming after the policy announcements emerged.

Japan: From mid-August to mid-October the Japanese yen traded in a relatively tight range centered around ¥77 per dollar. More recently, however, increasing global risk aversion as the euro area sovereign debt crisis intensified caused a decline in the dollar-yen exchange rate to a post World War II record low of ¥75.78 per dollar. Despite the recent volatility in the dollar-yen currency pair, other Japanese financial asset prices have been relatively stable since the last FOMC meeting. The Nikkei 225 index has increased 4 percent while the benchmark 10-year Japanese government bond yield is approximately 3 basis points higher.

Emerging Asia: EM Asian currencies were unchanged on average against the dollar, while equities gained 1 percent. Local yields came in across the region, with declines most notable in Indonesia, as the Bank of Indonesia became the region's first central bank to initiate an easing cycle.

Latin America: Latin American currencies rose by 4 percent on average relative to the U.S. dollar, partially recouping steep losses in the first three weeks of September. Similarly, local yields declined by 25 basis points at the five-year sector, largely retracing a prior back-up in rates fueled by foreign de-positioning. Equities in the region rose by 1 percent, led by an 8 percent gain in Argentine shares, as President Fernandez was re-elected with a broad mandate.

5.3 Global Economic Policy

Euro Area: The ECB left its policy rate unchanged at 1.5 percent at its October meeting and offered up more “non-standard” measures. Regarding the latter, the ECB announced that it would conduct two, one-year open market operations under the fixed-rate, full allotment stance. In addition, it announced that it will undertake a €40 billion covered bond purchase program. Previously, in 2009 and 2010, the ECB already purchased €60 billion of covered bonds. The statement after the meeting noted that “the risks to the economic outlook remain on the downside in an environment of particularly high uncertainty.” This would seem to leave the door open for a rate cut in the near term. The ECB commitment to continue buying sovereign debt under its securities market program was restated on October 27.

Japan: The Bank of Japan is keeping its policy rate in a range of 0.0-0.10 percent and will continue to do so until its official projections suggest price stabilization in the near-to-medium term. At its October 27 meeting the Bank decided to expand its Asset Purchase Program by ¥5 trillion to ¥20 trillion. The action was to “ensure a successful transition to a sustainable growth path with price stability,” where an appreciating yen is seen as a key downside risk to growth through its potentially adverse effect on net exports. Continued upward pressure on the yen relative to the currencies of Japan’s main trading partners increases the likelihood of renewed currency interventions and additional monetary stimulus in the near term.

EM Asia: Monetary policy in EM Asia has shifted into a holding pattern given worries about the strength of external demand and signs that inflation has begun to slow. A general turn toward easing seems likely in the months ahead. Indonesia has already shifted course, lowering its policy rate by 25 basis points earlier this month, and authorities in Singapore announced a modest policy easing by lowering the pace of trend appreciation against the U.S. dollar. In India, rates were tightened again this month, but the central bank signaled a pause. In China, the authorities have recently moved to providing credit and tax support to SMEs—the sort of targeted measures that generally come in advance of broader monetary easing.

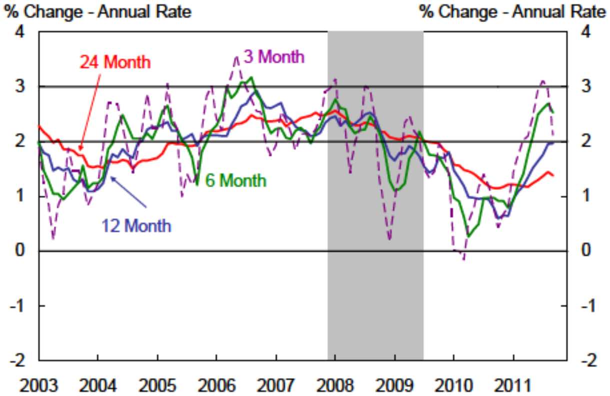
Latin America: Mexico's central bank held rates steady at 4.5 percent at its October policy meeting but signaled the possibility of a rate cut should global conditions deteriorate further. Analysts now expect a rate cut at either the December or January meeting. In Brazil, the central bank continued its easing cycle in October with a 50 basis points cut, bringing the policy rate to 11.5 percent. Analysts expect two additional cuts of 50 basis points in the current cycle. In response to sharp currency depreciation pressures—largely emanating from foreign de-positioning in the forward market—the central bank supplied $6 billion in forward dollar liquidity over the course of three auctions in late September and early October. In Argentina, the central bank responded to peso depreciation pressures by selling reserves and allowing the private bank benchmark 30-day deposit rate to rise to 20 percent, up 800 basis points since early August and at a level not seen since 2009.

A. Significant Developments

Exhibit A-1:
Measures of Trend Inflation

Core CPI Inflation over Various Horizons

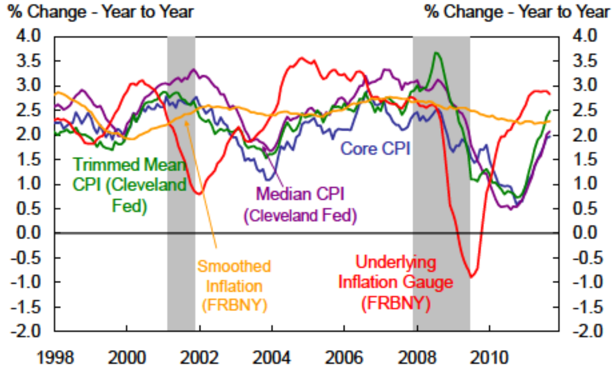
% Change - Annual Rate | % Change - Annual Rate



Source: Bureau of Labor Statistics

Alternative Measures of CPI Inflation

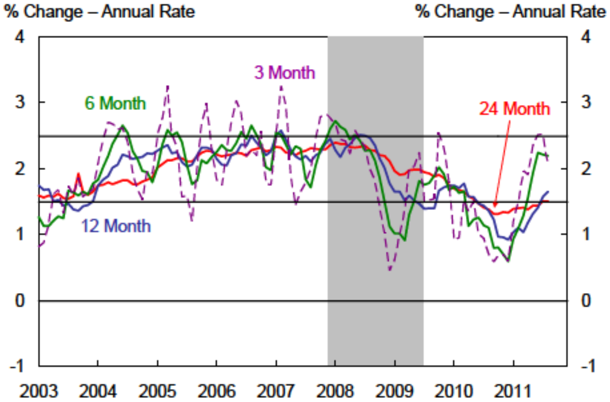
% Change - Year to Year | % Change - Year to Year



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

Core PCE over Various Horizons

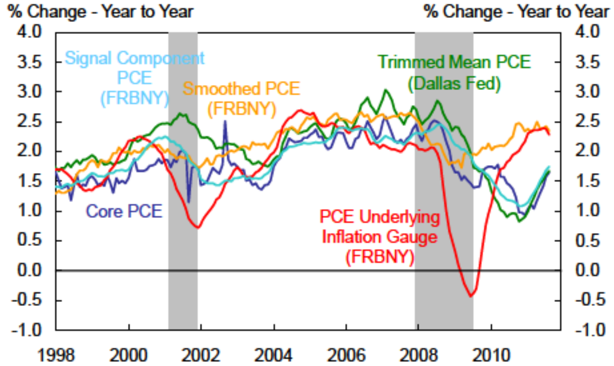
% Change – Annual Rate | % Change – Annual Rate



Source: Bureau of Economic Analysis

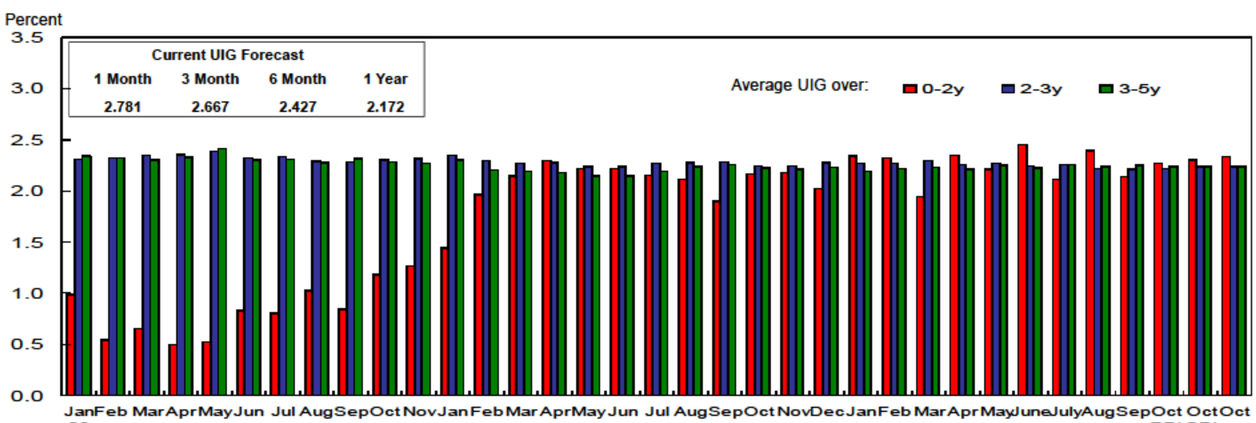
Alternative Measures of PCE Inflation

% Change - Year to Year | % Change - Year to Year



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

Exhibit A-2:
Underlying Inflation Gauge (UIG)

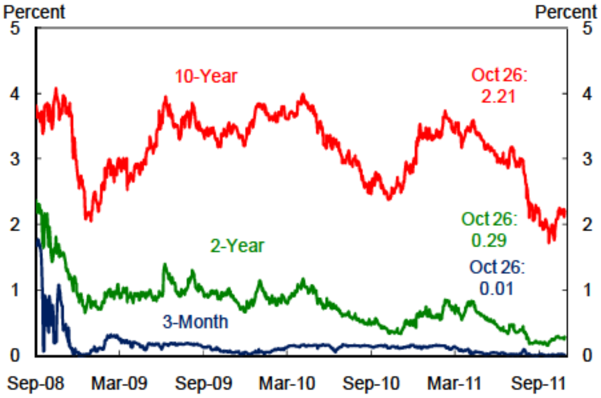


Source: MMS Function (FRBNY) and Swiss National Bank

FRBNY - cleared for release

Exhibit A-3:
Treasury Yields

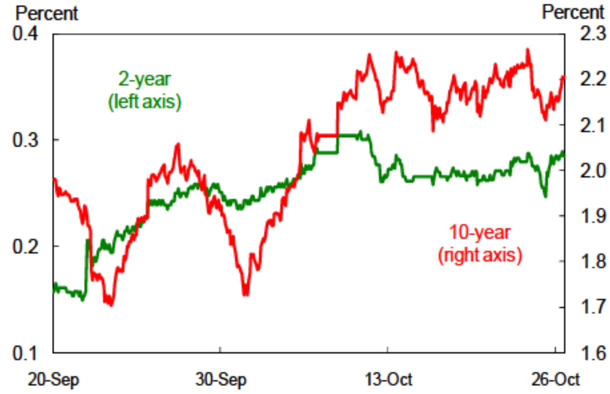
Short- and Long-Term Rates



Source: Bloomberg

Note: Yields of on-the-run securities.

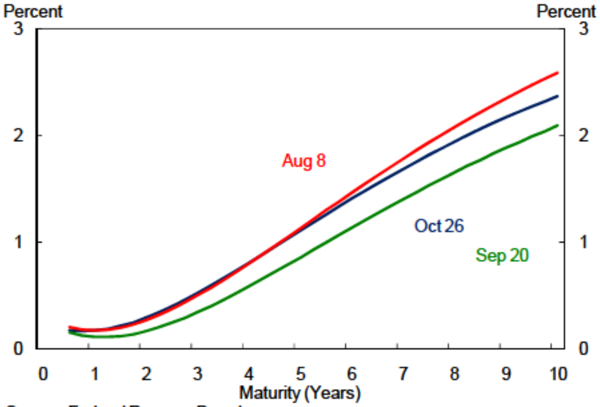
Short- and Long-Term Rates (Intraday)



Source: Bloomberg

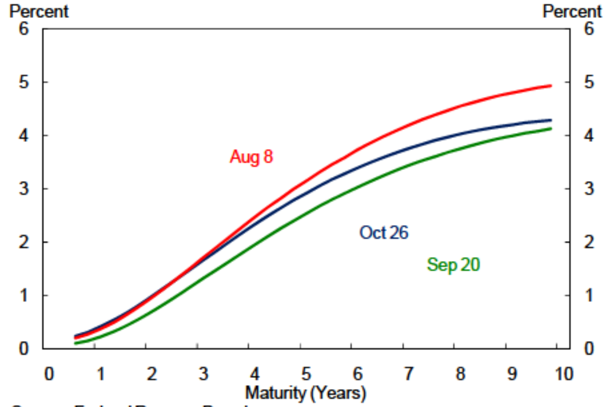
Note: On-the-run securities, 8:00 am to 4:00 pm.

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

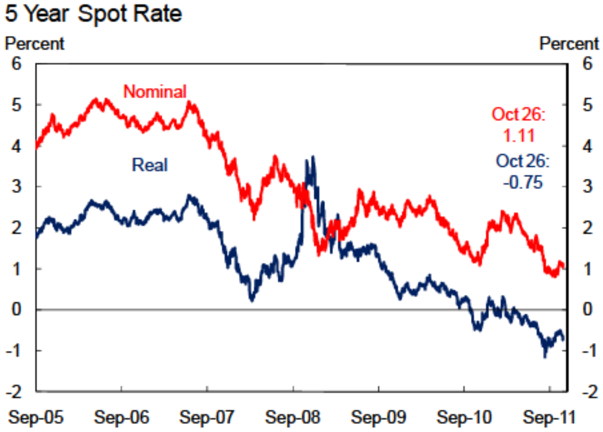
10-Year Treasury and Term Premia

Source: FRBNY calculations, Federal Reserve Board

A. Significant Developments

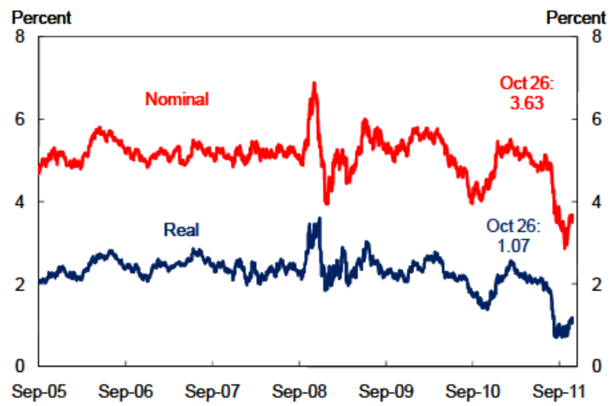
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



Source: Federal Reserve Board

5-10 Year Forward Rates



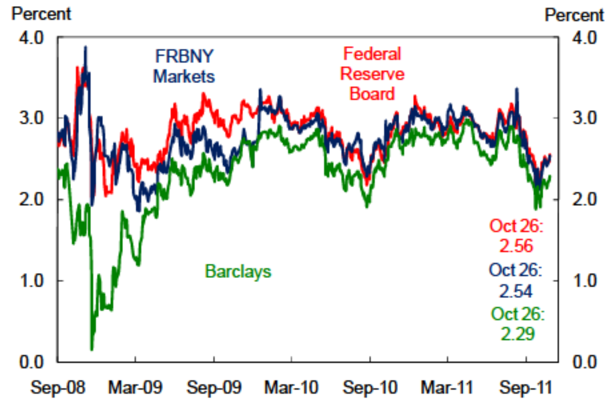
Source: Federal Reserve Board

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

Source: Federal Reserve Board

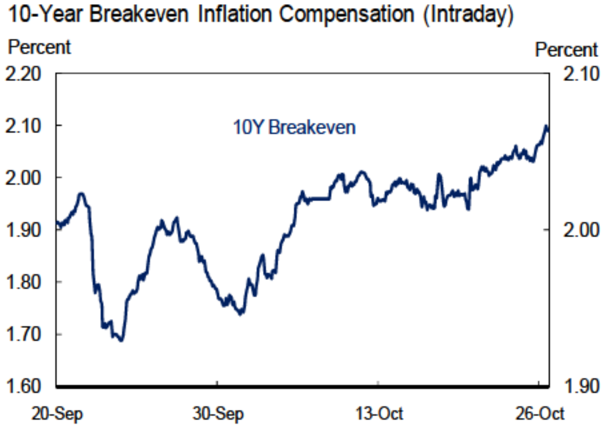
Note: Carry-adjusted.

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.

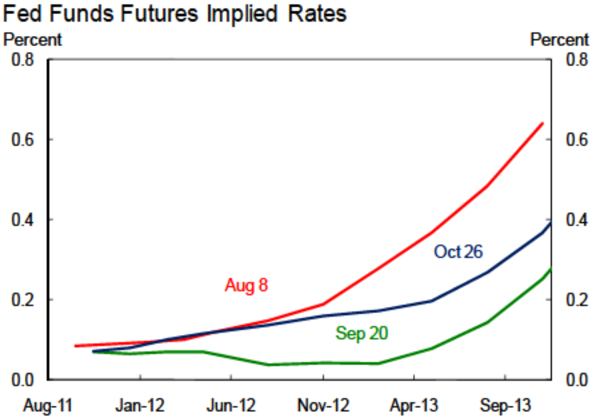
Implied Inflation from Inflation Swaps: 0-5, 5-10 Year Horizon

Source: Barclays

A. Significant Developments

Exhibit A-5:
Policy Expectations

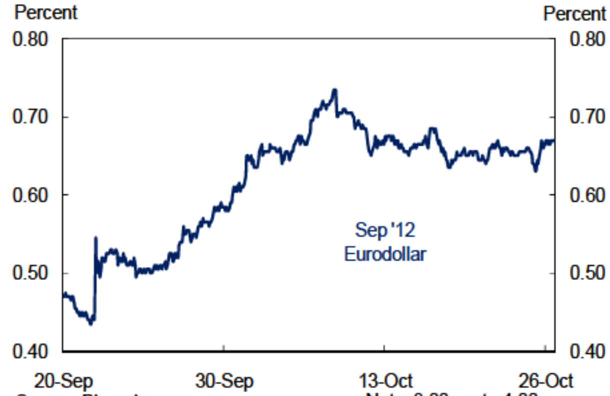
Fed Funds Futures Implied Rates



Source: Federal Reserve Board

Note: Estimated using fed funds and Eurodollar futures.

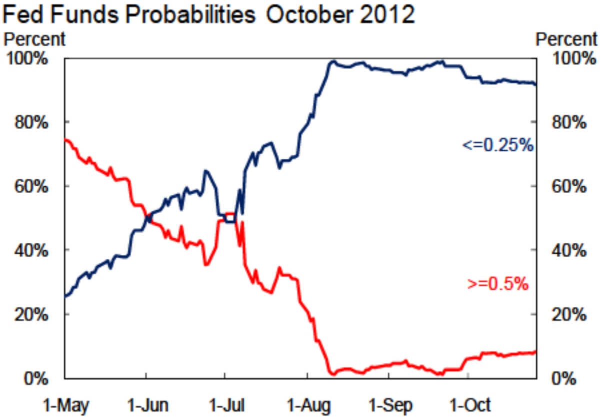
Implied Eurodollar Rates (Intraday)



Source: Bloomberg

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

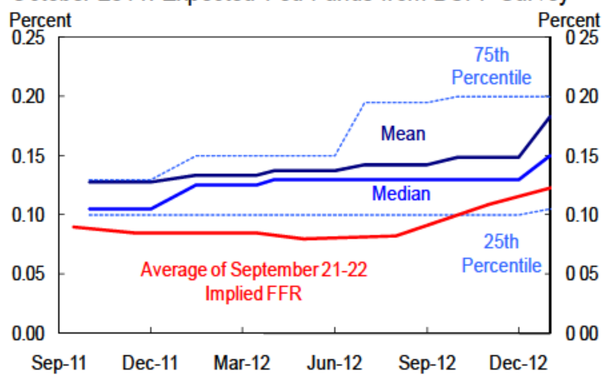
Fed Funds Probabilities October 2012



Source: Bloomberg

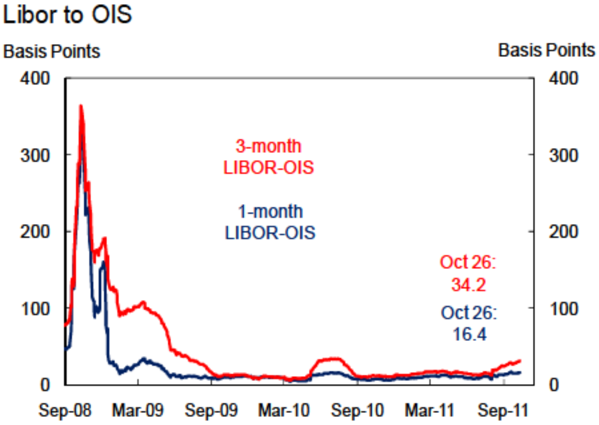
Note: Estimated from Fed Funds Futures

October 2011: Expected Fed Funds from BCFF Survey



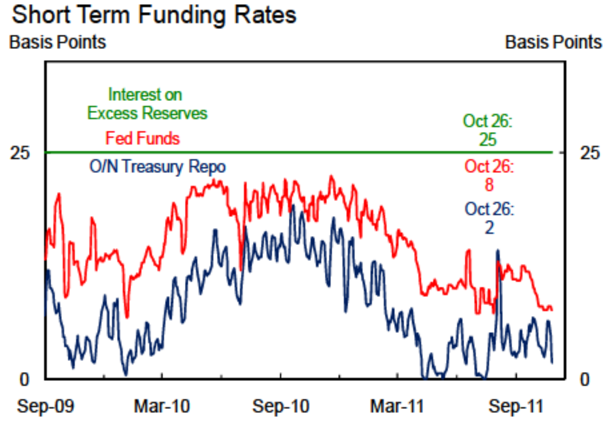
Note: Implied FFR are from Fed Funds and Eurodollar futures. The BCFF survey was conducted on September 21-22 .

Libor to OIS



Source: Federal Reserve Board, Bloomberg

Short Term Funding Rates



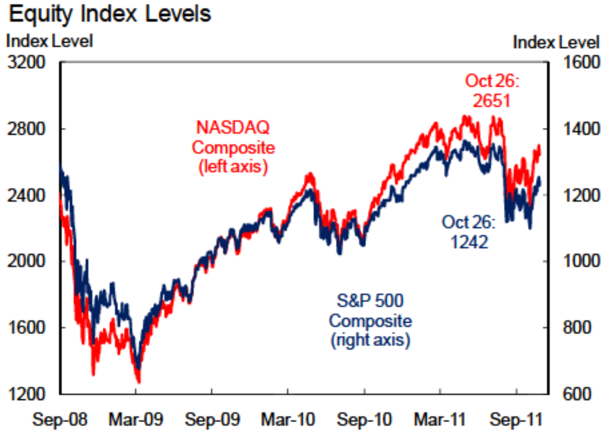
Source: Bloomberg, FRBNY calculations

Note: 1-week moving averages.

A. Significant Developments

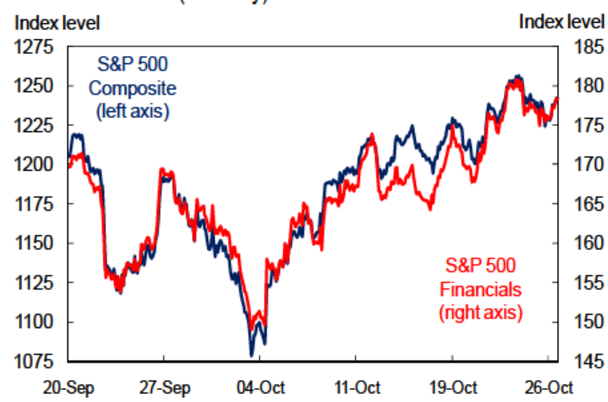
Exhibit A-6:
Equity

Equity Index Levels



Source: Datastream

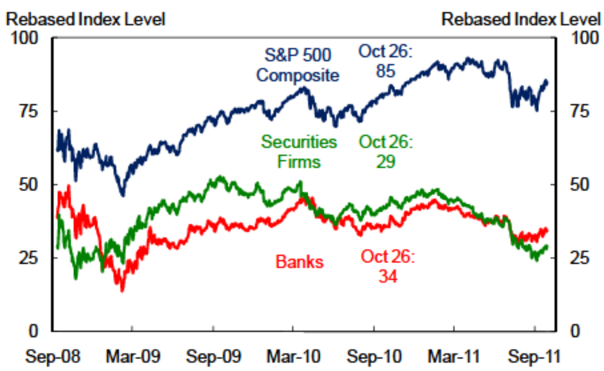
S&P 500 Indices (Intraday)



Source: Bloomberg

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

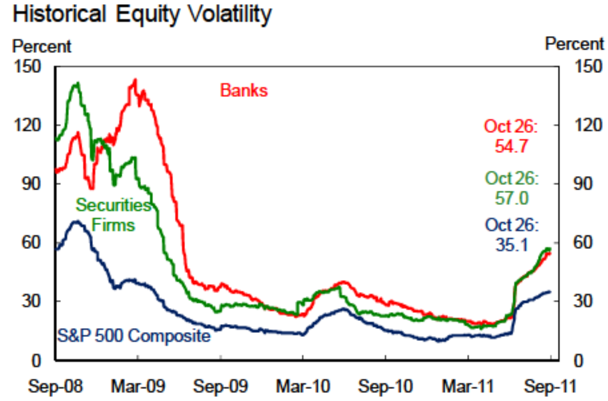
Equity Performance



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.

Source: Datastream

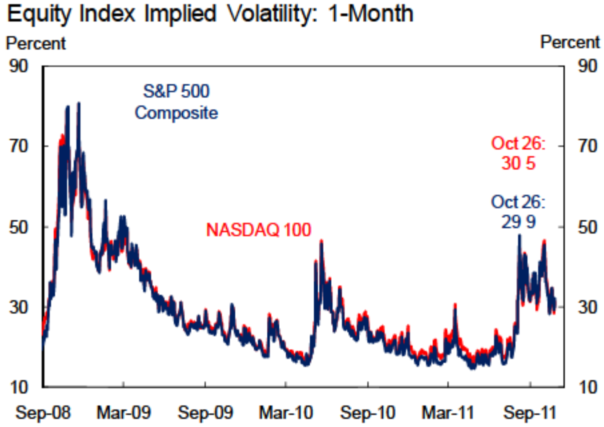
Historical Equity Volatility



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.

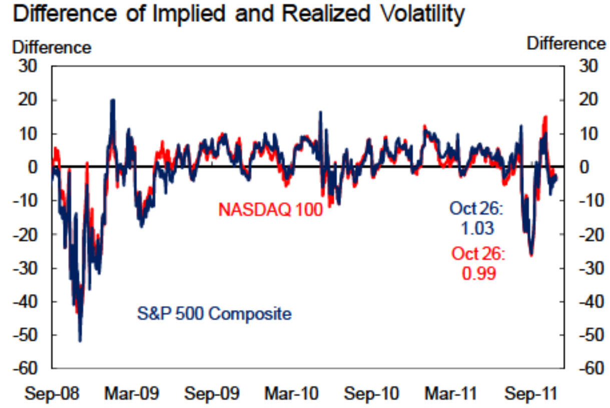
Source: Datastream

Equity Index Implied Volatility: 1-Month



Source: Datastream

Difference of Implied and Realized Volatility



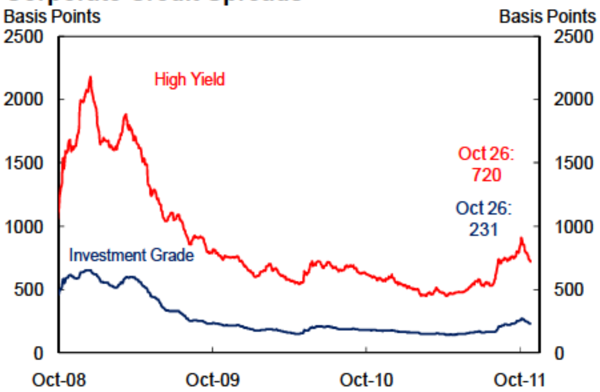
Source: Datastream

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

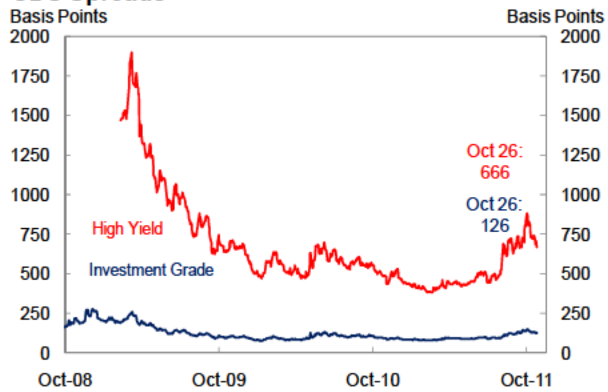
Corporate Credit Spreads



Source: Bloomberg

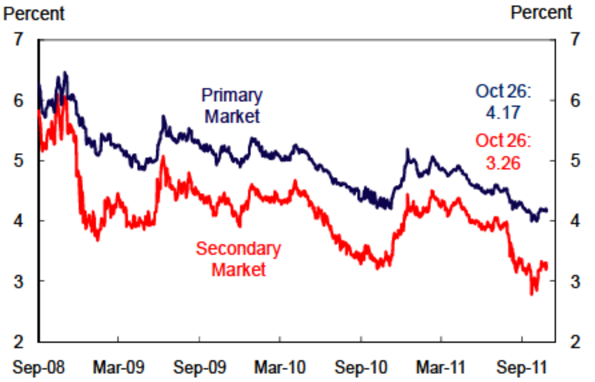
Note: Option-adjusted spreads.

CDS Spreads



Source: Bloomberg

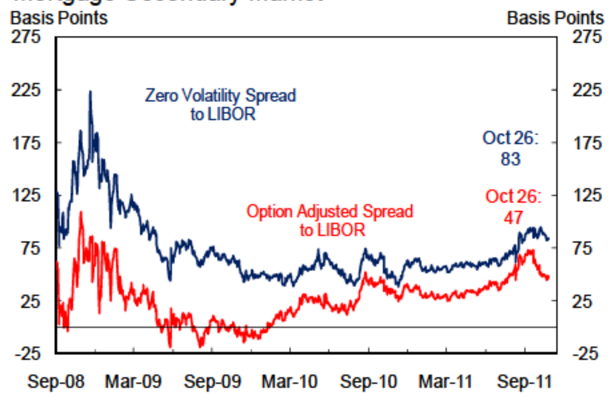
Mortgage Market Rates



Source: Bloomberg

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

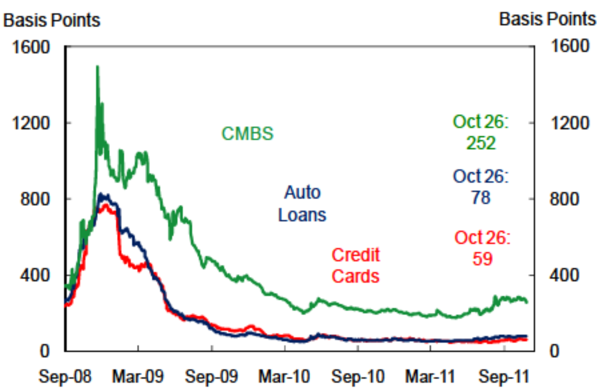
Mortgage Secondary Market



Source: J.P. Morgan

Note: 30 year current coupon Fannie Mae MBS.

AAA-Rated ABS/CMBS Spreads



Source: Merrill Lynch

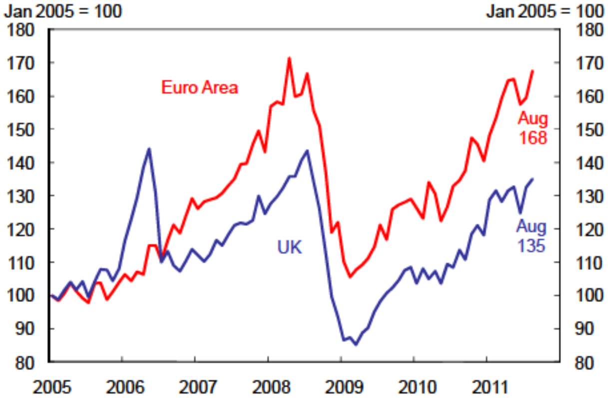
Note: Option-adjusted spreads.

A. Significant Developments

Exhibit A-8: Exports and Industrial Production

Exports

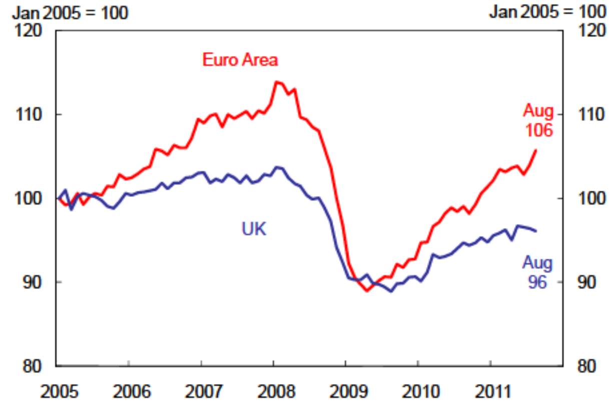
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

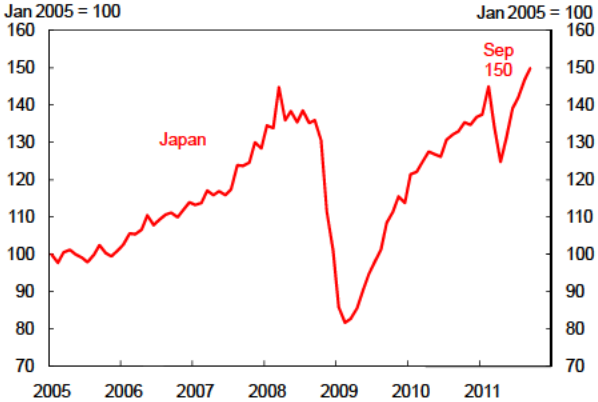
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

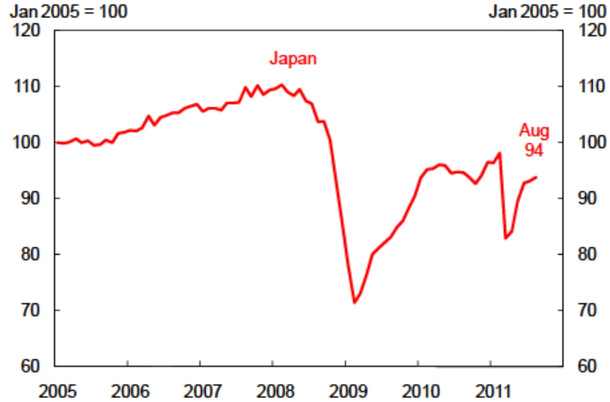
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

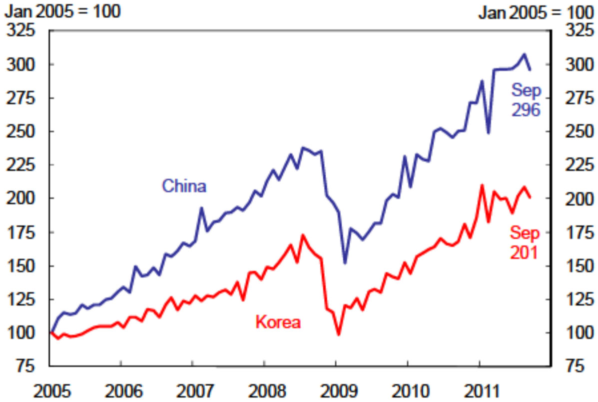
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

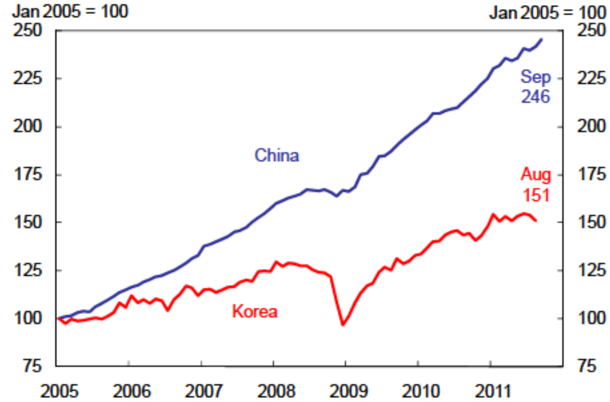
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

Jan 2005 = 100 Jan 2005 = 100



Source: Haver

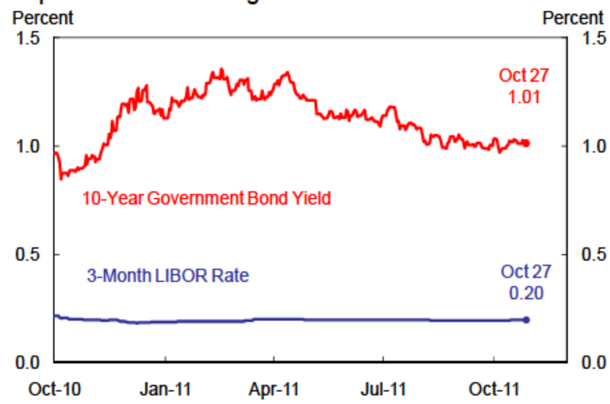
A. Significant Developments

Exhibit A-9:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates

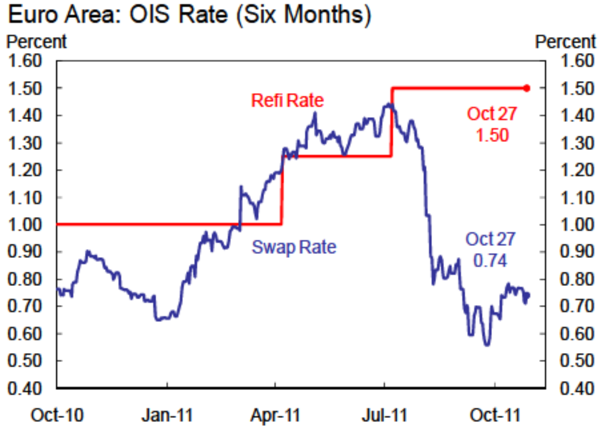
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



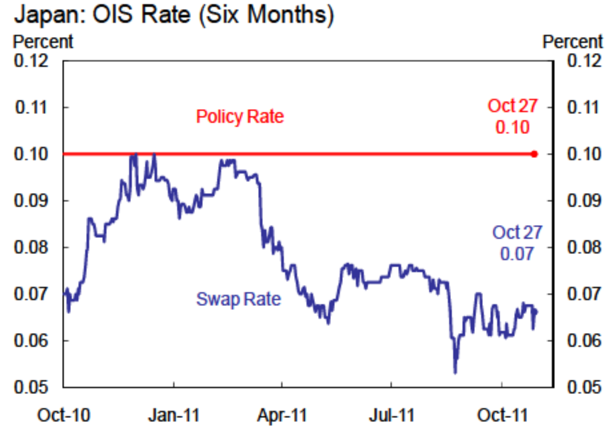
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



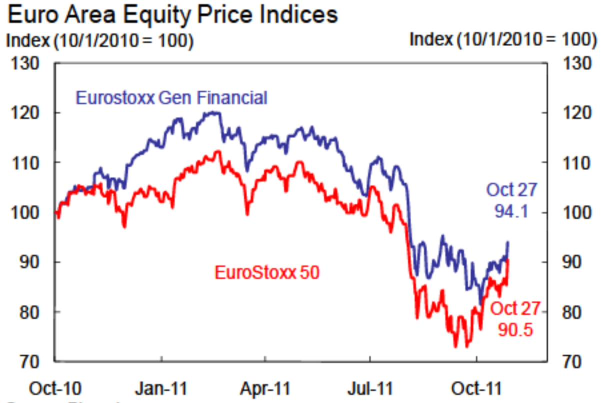
Source: Bloomberg

Japan: OIS Rate (Six Months)



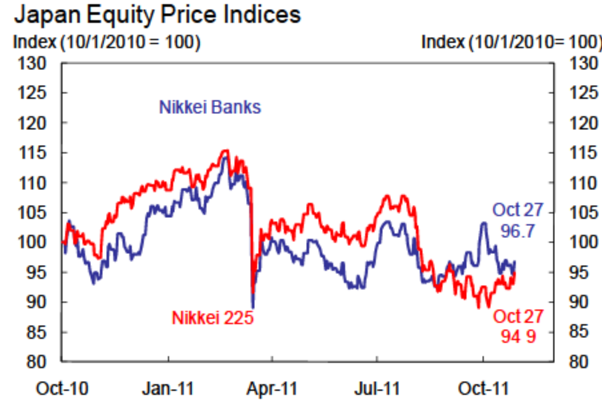
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

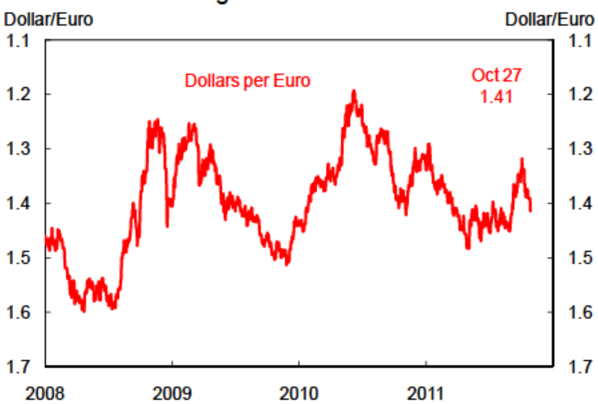


Source: Bloomberg

A. Significant Developments

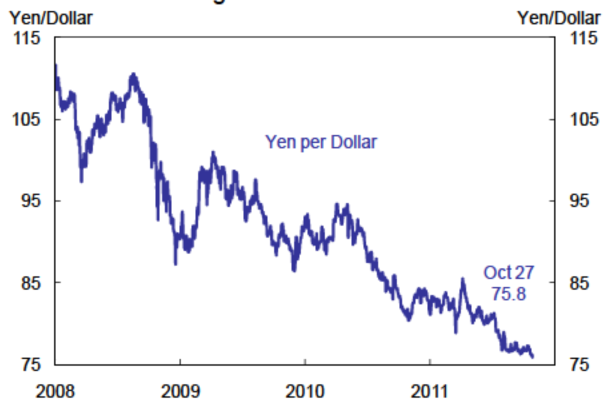
Exhibit A-10:
Exchange Rates

Dollar-Euro Exchange Rate



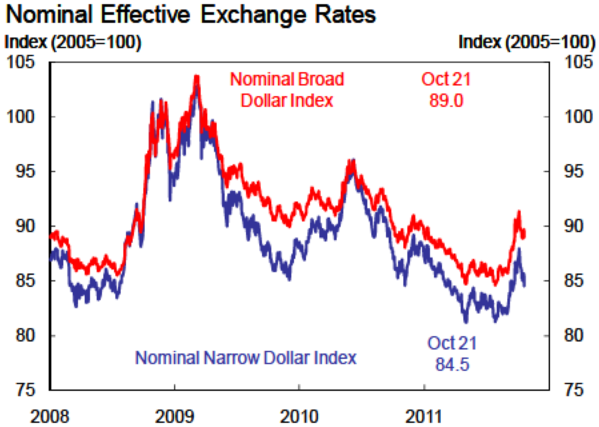
Source: Bloomberg   Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



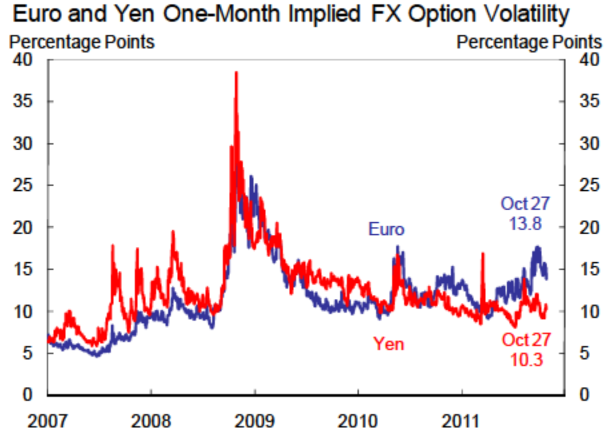
Source: Bloomberg

Nominal Effective Exchange Rates



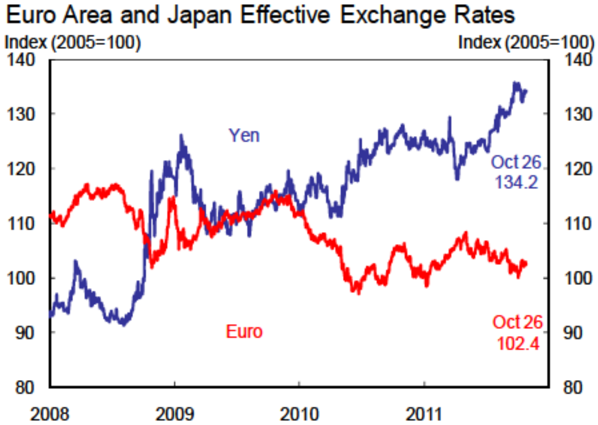
Source: Board of Governers

Euro and Yen One-Month Implied FX Option Volatility



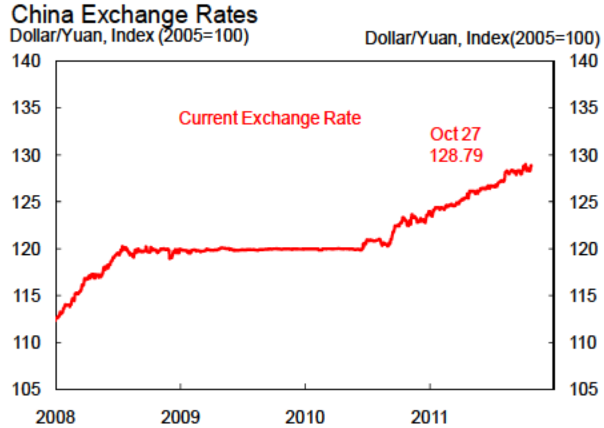
Source: Bloomberg

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

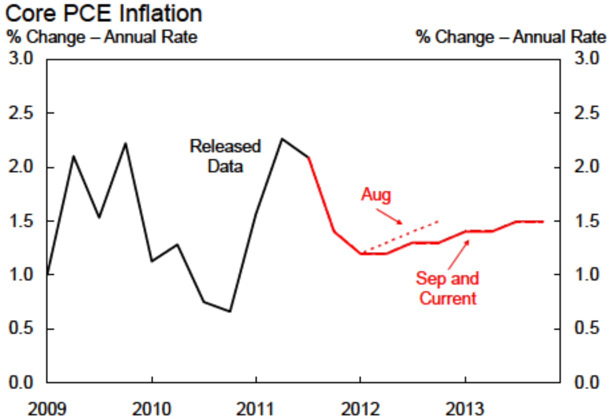
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Aug	Sep	Oct	Aug	Sep	Oct	Aug	Sep	Oct	Aug	Sep	Oct
2011												
Q1	1.5	*1.5*	*1.5*	0.4	*0.4*	*0.4*	8.9	*8.9*	*8.9*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	2.1	*2.1*	*2.2*	1.3	*1.0*	*1.3*	9.1	*9.1*	*9.1*	*0-0.25*	*0-0.25*	*0-0.25*
Q3	1.9	2.4	*2.1*	2.6	2.1	*2.5*	9.1	9.0	*9.1*	0-0.25	0-0.25	*0-0.25*
Q4	1.4	1.4	1.4	2.5	2.4	3.0	9.0	9.0	9.0	0-0.25	0-0.25	0-0.25
2012												
Q1	1.2	1.2	1.2	2.8	2.3	2.3	8.9	8.9	8.9	0-0.25	0-0.25	0-0.25
Q2	1.3	1.2	1.2	2.9	2.5	2.9	8.8	8.8	8.8	0-0.25	0-0.25	0-0.25
Q3	1.4	1.3	1.3	3.4	2.8	3.0	8.7	8.8	8.8	0-0.25	0-0.25	0-0.25
Q4	1.5	1.3	1.3	3.4	2.7	2.6	8.5	8.7	8.7	0.25	0-0.25	0-0.25
2013												
Q1	--	1.4	1.4	--	3.6	3.6	--	8.4	8.5	--	0-0.25	0-0.25
Q2	--	1.4	1.4	--	3.3	3.4	--	8.1	8.3	--	0-0.25	0-0.25
Q3	--	1.5	1.5	--	3.5	3.4	--	7.9	8.1	--	0-0.25	0-0.25
Q4	--	1.5	1.5	--	3.5	3.6	--	7.6	7.8	--	0-0.25	0-0.25
Q4/Q4												
2010	*1.0*	*1.0*	*1.0*	*3.1*	*3.1*	*3.1*	*-0.3*	*-0.3*	*-0.3*	*0.0*	*0.0*	*0.0*
2011	1.7	1.9	*1.8*	1.7	*1.5*	*1.8*	-0.7	-0.7	*-0.7*	0.0	*0.0*	*0.0*
2012	1.3	1.2	1.2	3.1	2.6	2.7	-0.1	-0.1	-0.1	0.25	0.00	0.0
2013	--	1.4	1.4	--	3.5	3.5	--	-0.8	-0.6	--	0.0	0.0

Note: 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.

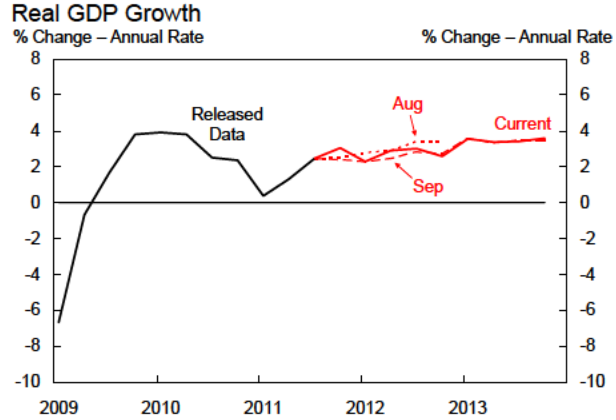
B. FRBNY Forecast Details

Exhibit B-2: Evolution of Projected Quarterly Paths of Key Indicators and Forecast Assumptions

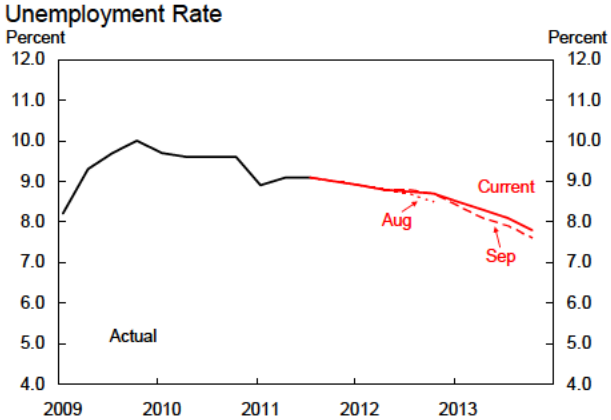
Core PCE Inflation



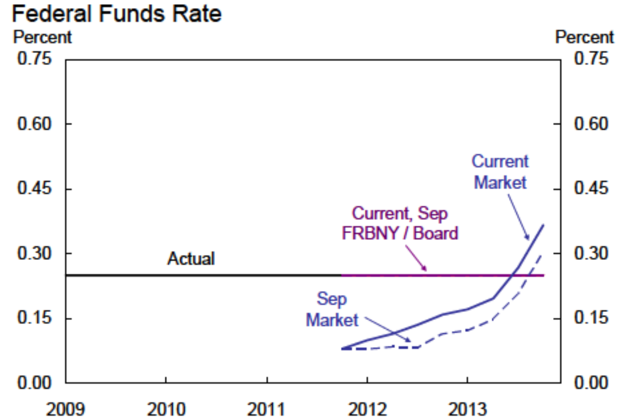
Real GDP Growth



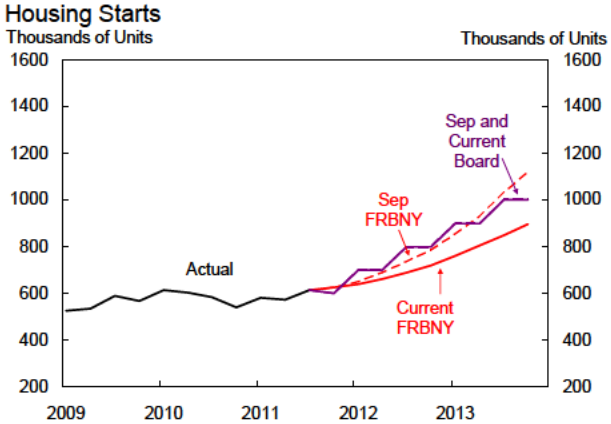
Unemployment Rate



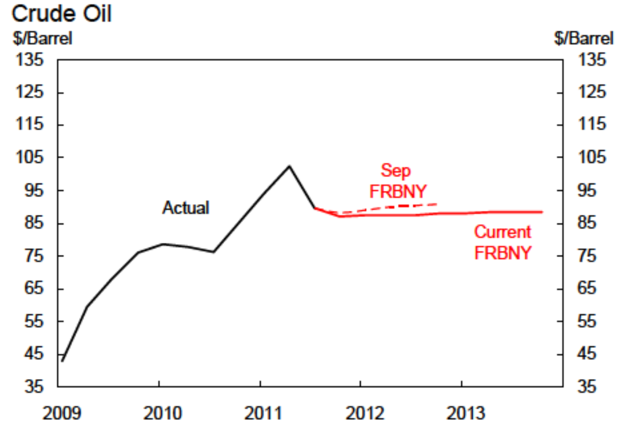
Federal Funds Rate



Housing Starts



Crude Oil



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)	
	2011Q4	2012Q1	2011Q4	2012Q1
OUTPUT				
Real GDP	3.0	2.3	3.0	2.3
	(2.4)	(2.3)	(2.4)	(2.3)
Final Sales to Domestic Purchasers	2.4	1.5	2.4	1.5
	(1.7)	(1.6)	(1.7)	(1.6)
Consumption	2.0	1.7	1.4	1.2
	(1.8)	(2.0)	(1.3)	(1.4)
BFI: Equipment and Software	12.0	8.0	0.9	0.6
	(6.0)	(6.0)	(0.4)	(0.4)
BFI: Nonresidential Structures	10.0	8.0	0.3	0.2
	(4.0)	(4.0)	(0.1)	(0.1)
Residential Investment	-4.0	-8.0	-0.1	-0.2
	(0.0)	(4.0)	(0.0)	(0.1)
Government: Federal	1.0	-3.3	0.1	-0.3
	(1.7)	(-3.3)	(0.1)	(-0.3)
Government: State and Local	-1.0	-0.7	-0.1	-0.1
	(-1.8)	(-1.2)	(-0.2)	(-0.1)
Inventory Investment	--	--	0.3	0.5
	--	--	(-0.1)	(-0.0)
Net Exports	--	--	0.3	0.3
	--	--	(0.7)	(0.7)
INFLATION				
Total PCE Deflator	2.2	1.4		
	(1.7)	(1.4)		
Core PCE Deflator	1.4	1.2		
	(1.4)	(1.2)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	1.3	1.8		
	(1.5)	(1.5)		
Compensation per Hour	2.0	2.3		
	(2.0)	(2.3)		
Unit Labor Costs	0.8	0.5		
	(0.5)	(0.8)		

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

B. FRBNY Forecast Details

Exhibit B-4: Real GDP and Inflation Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions		
	2011	2012	2013	2011	2012	2013
OUTPUT						
Real GDP	1.8	2.7	3.5	1.8	2.7	3.5
	(1.5)	(2.6)	(3.5)	(1.5)	(2.6)	(3.5)
Final Sales to Domestic Purchasers	1.8	2.0	3.1	1.9	2.1	3.2
	(1.2)	(1.8)	(2.7)	(1.2)	(1.9)	(2.7)
Consumption	1.8	1.9	2.7	1.3	1.3	1.9
	(1.5)	(2.0)	(2.4)	(1.1)	(1.4)	(1.7)
BFI: Equipment and Software	11.0	9.0	10.0	0.8	0.7	0.8
	(7.1)	(7.5)	(8.5)	(0.5)	(0.5)	(0.6)
BFI: Nonresidential Structures	7.0	8.0	8.0	0.2	0.2	0.2
	(2.7)	(5.0)	(7.7)	(0.1)	(0.1)	(0.2)
Residential Investment	0.0	9.0	14.0	0.0	0.2	0.3
	(1.0)	(7.0)	(12.0)	(0.0)	(0.2)	(0.3)
Government: Federal	-1.2	-3.3	-2.0	-0.1	-0.3	-0.2
	(-1.5)	(-3.3)	(-2.0)	(-0.1)	(-0.3)	(-0.2)
Government: State and Local	-2.1	-0.4	0.6	-0.3	0.0	0.1
	(-2.5)	(-0.7)	(0.4)	(-0.3)	(-0.1)	(0.0)
Inventory Investment	--	--	--	-0.2	0.3	0.2
	--	--	--	(0.0)	(0.0)	(0.2)
Net Exports	--	--	--	0.1	0.3	0.2
	--	--	--	(0.2)	(0.7)	(0.5)
INFLATION						
Total PCE Deflator	2.9	1.4	1.5			
	(2.8)	(1.4)	(1.5)			
Core PCE Deflator	1.8	1.2	1.4			
	(1.9)	(1.2)	(1.4)			
Total CPI Inflation	3.8	1.9	2.0			
	(3.3)	(1.9)	(2.0)			
Core CPI Inflation	2.2	1.6	1.8			
	(2.1)	(1.5)	(1.8)			
GDP Deflator	2.7	1.4	1.5			
	(2.6)	(1.2)	(1.4)			

Note: Numbers in parentheses are from the previous Blackbook.

B. FRBNY Forecast Details

Exhibit B-5: Projections of Other Key Economic Variables

	Q4/Q4 Growth Rates		
	2011	2012	2013
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	0-0.25	0-0.25	0-0.25
	0-0.25	0-0.25	0-0.25
10-Year Treasury Yield (Avg. Q4 Level)	1.5	1.5	1.5
	(1.9)	(1.6)	(1.5)
PRODUCTIVITY AND LABOR COSTS*			
Output	2.6	3.4	4.4
	(2.0)	(3.2)	(4.3)
Hours	1.5	1.6	2.6
	(1.2)	(1.7)	(2.8)
Output per Hour	1.1	1.7	1.8
	(0.8)	(1.5)	(1.5)
Compensation per Hour	3.1	2.3	2.5
	(3.3)	(2.2)	(2.5)
Unit Labor Costs	2.1	0.5	0.7
	(2.4)	(0.7)	(1.0)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	9.0	8.7	7.8
	(9.0)	(8.7)	(7.6)
Participation Rate (Avg. Q4 Level)	64.1	64.2	64.3
	(64.0)	(64.0)	(64.1)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	146	149	259
	(127)	(121)	(271)
INCOME			
Personal Income	5.0	3.2	4.0
	(5.8)	(2.3)	(4.6)
Real Disposable Personal Income	1.5	1.3	1.4
	(1.8)	(0.7)	(2.5)
Personal Saving Rate	5.5	4.9	3.4
	(5.7)	(4.6)	(4.6)
Corporate Profits Before Taxes	2.8	2.8	12.9
	(6.1)	(2.7)	(3.3)

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

B. FRBNY Forecast Details

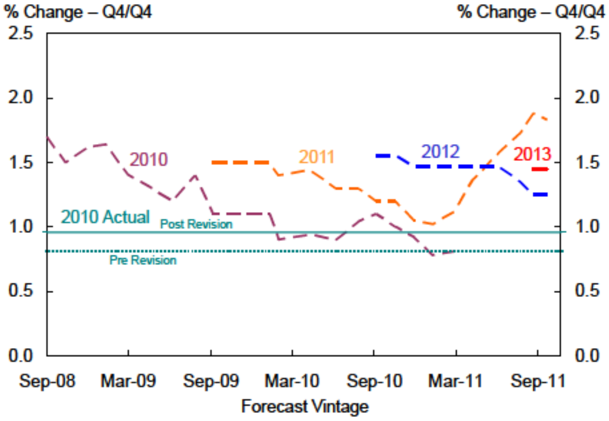
Exhibit B-6: FRBNY and Tealbook Forecast Comparison

	FRBNY (Q4/Q4)			Board (Q4/Q4)		
	2011	2012	2013	2011	2012	2013
OUTPUT						
Real GDP	1.8	2.7	3.5	1.7	2.5	3.2
	(1.5)	(2.6)	(3.5)	(1.5)	(2.6)	(3.4)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	1.9	2.1	3.2	1.5	2.0	2.7
	(1.2)	(1.9)	(2.7)	(1.0)	(2.0)	(2.7)
Consumption	1.3	1.3	1.9	1.2	1.7	2.2
	(1.1)	(1.4)	(1.7)	(0.9)	(1.6)	(2.2)
BFI	1.0	0.9	1.0	0.6	0.3	0.5
	(0.6)	(0.7)	(0.9)	(0.5)	(0.3)	(0.5)
Residential Investment	0.0	0.2	0.3	0.0	0.1	0.2
	(0.0)	(0.2)	(0.3)	(0.0)	(0.2)	(0.2)
Government	-0.4	-0.3	-0.1	-0.3	-0.1	-0.2
	(-0.4)	(-0.4)	(-0.1)	(-0.4)	(-0.1)	(-0.2)
Inventory Investment	-0.2	0.3	0.2	0.0	0.2	0.4
	(0.0)	(0.0)	(0.2)	(0.3)	(0.2)	(0.5)
Net Exports	0.1	0.3	0.2	0.1	0.3	0.1
	(0.2)	(0.7)	(0.5)	(0.2)	(0.5)	(0.2)
INFLATION						
Total PCE Deflator	2.9	1.4	1.5	2.7	1.4	1.4
	(2.8)	(1.4)	(1.5)	(2.6)	(1.2)	(1.3)
Core PCE Deflator	1.8	1.2	1.4	1.8	1.5	1.4
	(1.9)	(1.2)	(1.4)	(1.9)	(1.5)	(1.3)
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	1.1	1.7	1.8	1.0	1.2	1.7
	(0.8)	(1.5)	(1.5)	(0.8)	(1.3)	(1.8)
Compensation per Hour	3.1	2.3	2.5	2.9	2.3	2.2
	(3.3)	(2.2)	(2.5)	(2.8)	(2.3)	(2.2)
Unit Labor Costs	2.1	0.5	0.7	1.9	1.1	0.6
	(2.4)	(0.7)	(1.0)	(2.1)	(1.0)	(0.5)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	9.0	8.7	7.8	9.1	8.6	8.1
	(9.0)	(8.7)	(7.6)	(9.1)	(8.7)	(8.1)
Participation Rate (Avg. Q4 Level)	64.1	64.2	64.3	64.1	64.0	64.1
	(64.0)	(64.0)	(64.1)	(64.0)	(63.9)	(64.0)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	146	149	259	117	150	225
	(127)	(121)	(271)	(100)	(142)	(225)
SAVING						
Personal Saving Rate (Avg. Q4 Level)	4.3	3.6	3.4	5.1	5.1	5.1
	(5.7)	(4.6)	(4.6)	(5.4)	(5.7)	(5.5)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	625	720	895	600	700	900
	(625)	(785)	(1120)	(600)	(700)	(900)

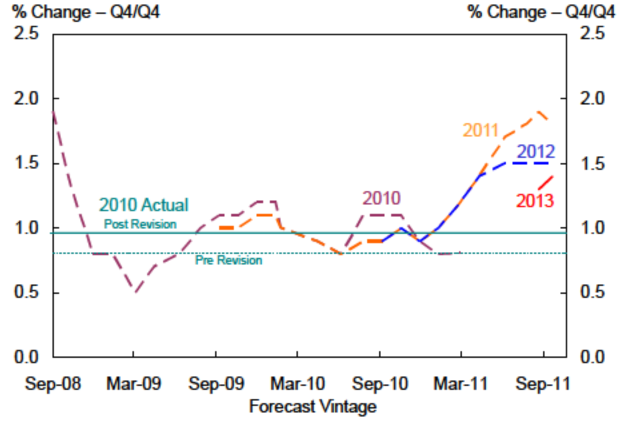
B. FRBNY Forecast Details

Exhibit B-7: Evolution of FRBNY and Board Forecasts since Mid-2007

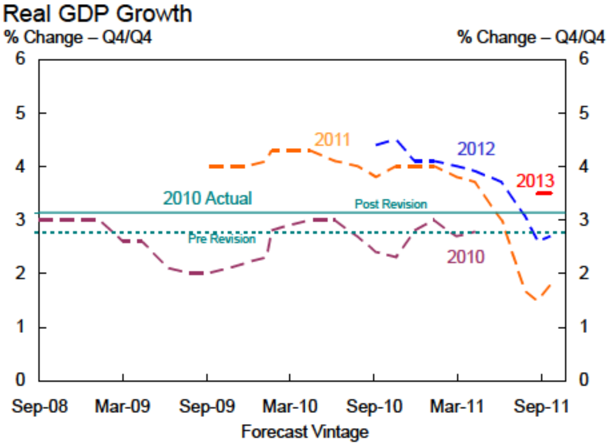
Core PCE Inflation **FRBNY**



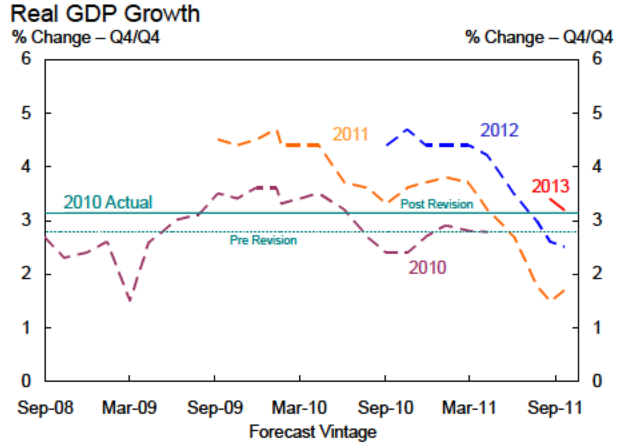
Core PCE Inflation **Board**



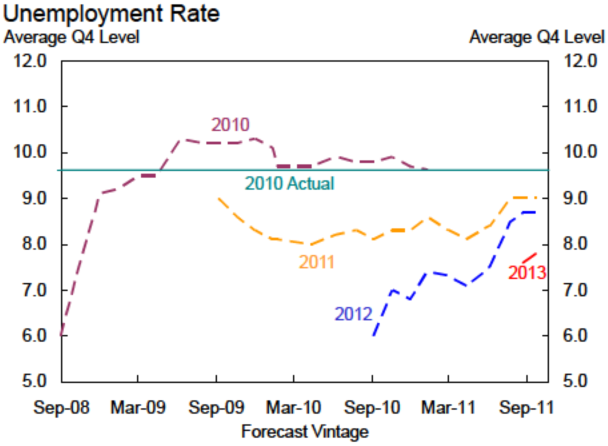
Real GDP Growth



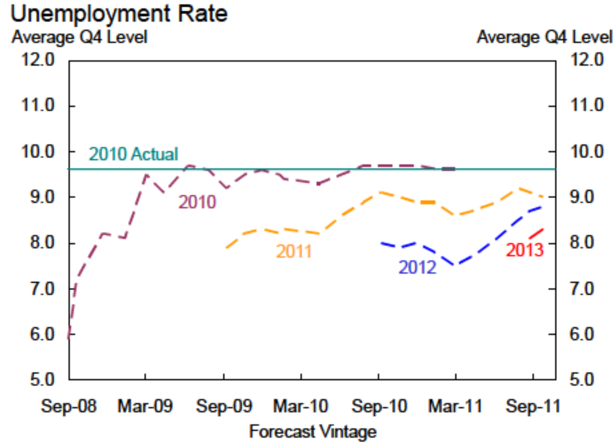
Real GDP Growth



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	2011Q4	2012Q1	2011 Q4/Q4	2012 Q4/Q4
FRBNY	10/27/2011	3.0	2.3	1.8	2.7
		(2.4)	(2.3)	(1.5)	(2.6)
Blue Chip	10/7/2011	1.9	1.9	1.4	2.3
		(2.1)	(2.1)	(1.3)	(2.5)
Median SPF	8/12/2011	2.6	2.6	1.6	--
		(2.6)	(2.6)	(1.6)	--
Macro Advisers	10/14/2011	2.3	2.3	1.6	2.5
		(2.0)	(2.3)	(1.3)	(2.6)

Core PCE Inflation

	Release Date	2011Q4	2012Q1	2011 Q4/Q4	2012 Q4/Q4
FRBNY	10/27/2011	1.4	1.2	1.8	1 2
		(1.4)	(1.2)	(1.9)	(1 2)
Median SPF	8/12/2011	1.5	1.5	1.7	1.6
		(1.5)	(1.5)	(1.7)	(1.6)
Macro Advisers	10/14/2011	1.6	1.4	1.9	1.5
		(1.4)	(1.4)	(1.8)	(1.4)

CPI Inflation

	Release Date	2011Q4	2012Q1	2011 Q4/Q4	2012 Q4/Q4
FRBNY	10/27/2011	3.0	2.0	3.8	1 9
		(1.4)	(1.9)	(3.3)	(1 9)
Blue Chip	10/7/2011	1.8	2.0	3.4	2 0
		(1.8)	(2.1)	(3.3)	(2.1)
Median SPF	8/12/2011	2.0	2.0	3.2	2 0
		(2.0)	(2.0)	(3.2)	(2 0)
Macro Advisers	10/14/2011	1.3	1.6	3.4	1.7
		(2.2)	(1.6)	(3.5)	(1.6)

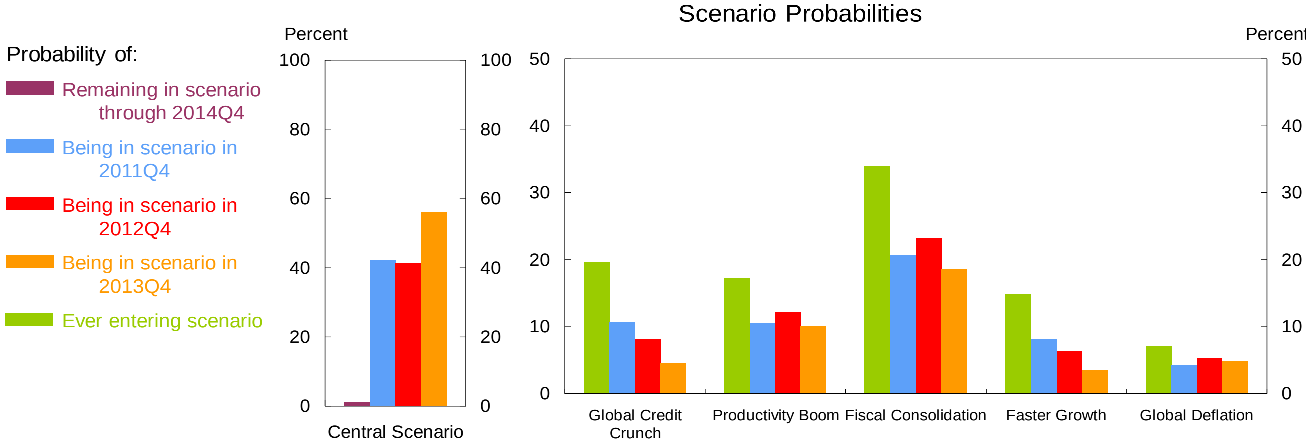
Core CPI Inflation

	Release Date	2011Q4	2012Q1	2011 Q4/Q4	2012 Q4/Q4
FRBNY	10/27/2011	1.7	1.6	2.2	1.6
		(1.4)	(1.4)	(2.1)	(1.5)
Median SPF	8/12/2011	1.7	1.7	2.0	1.8
		(1.7)	(1.7)	(2.0)	(1.8)
Macro Advisers	10/14/2011	2.2	2.0	2.3	1 9
		(2.1)	(1.8)	(2.3)	(1.7)

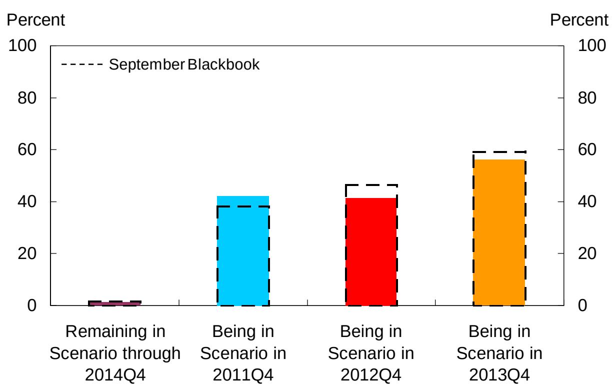
C. FRBNY Forecast Distributions

Exhibit C-1: Risks

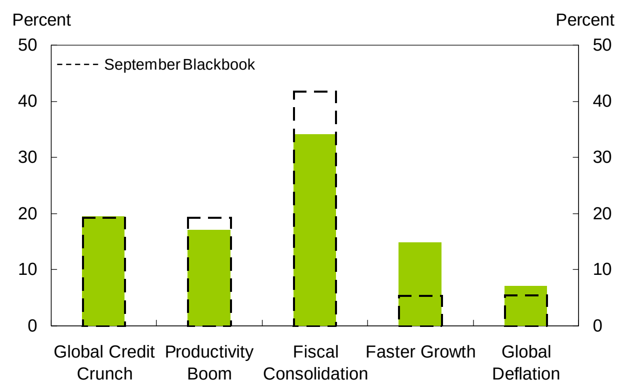
Scenario Probabilities



Change in Central Scenario Probabilities



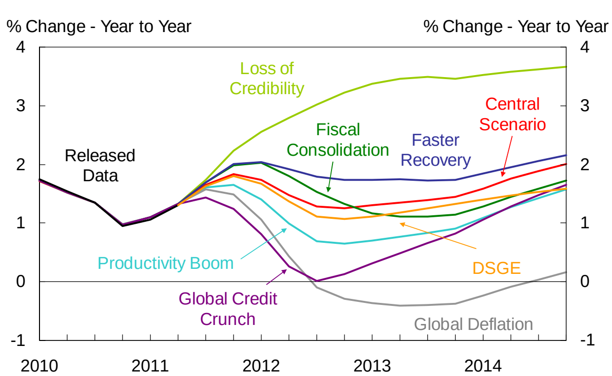
Change in Alternative Scenario Probabilities*



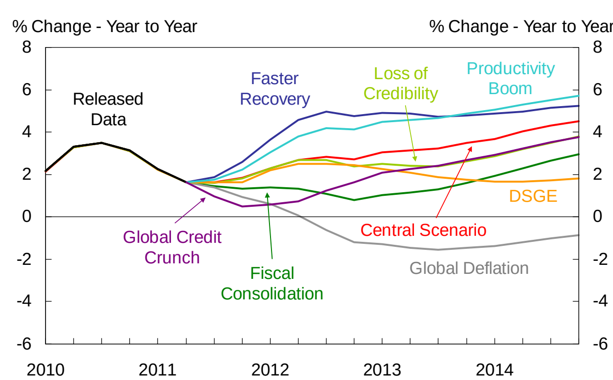
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

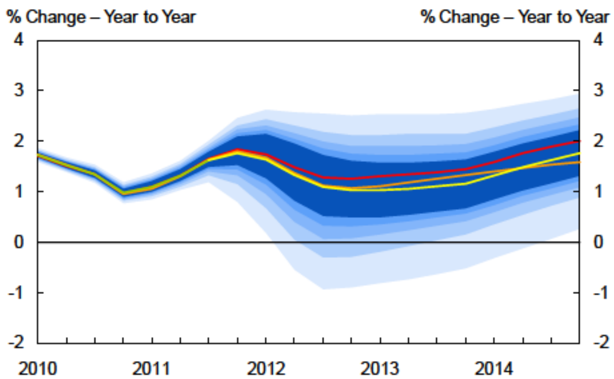


Source: MMS Function (FRBNY)

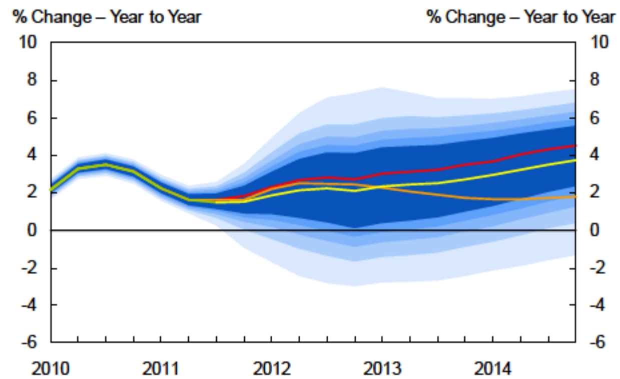
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

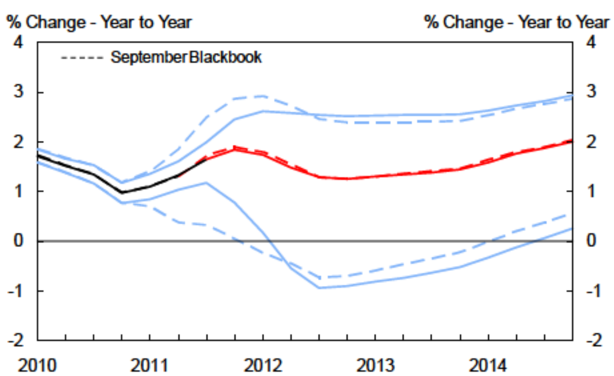


Real GDP Growth Forecast Distribution

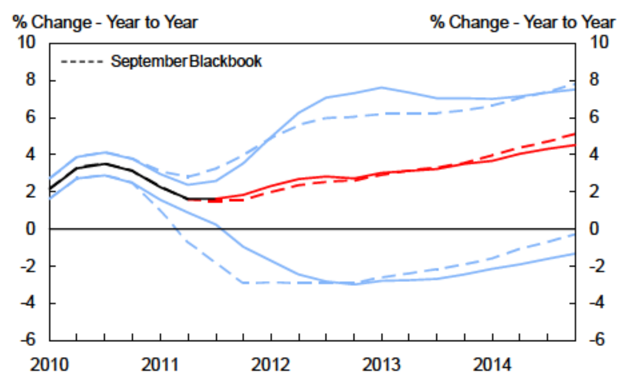


The yellow line represents the expected value of the forecast distribution, the red line represents the FRBNY central projection, the orange line represents the DSGE forecast, and the green line represents released data. The shading represents the 50, 60, 70, 80 and 90 percent probability that the four-quarter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

Change in Core PCE Inflation Forecast Distribution

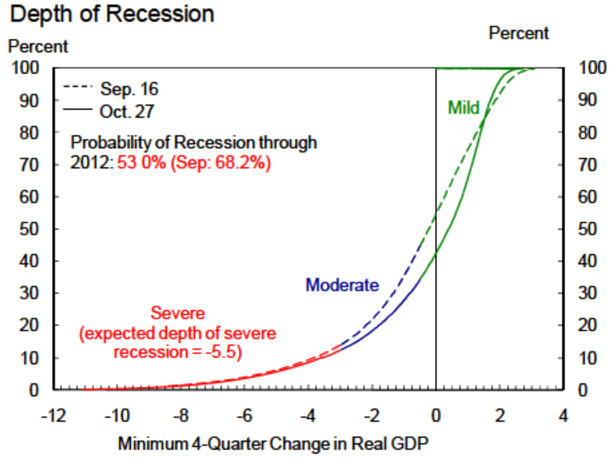


Change in Real GDP Growth Forecast Distribution

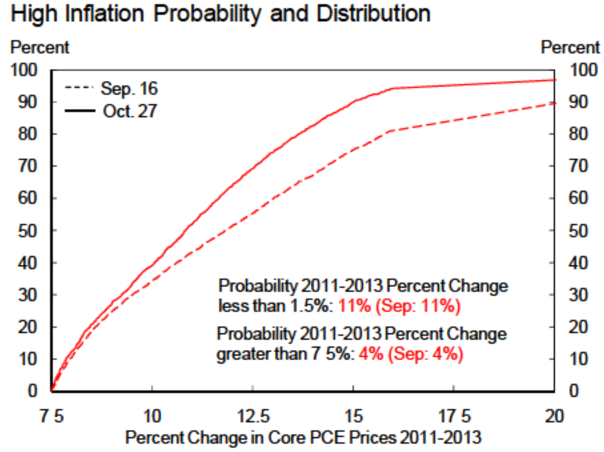


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from the previous Blackbook.

Depth of Recession



High Inflation Probability and Distribution

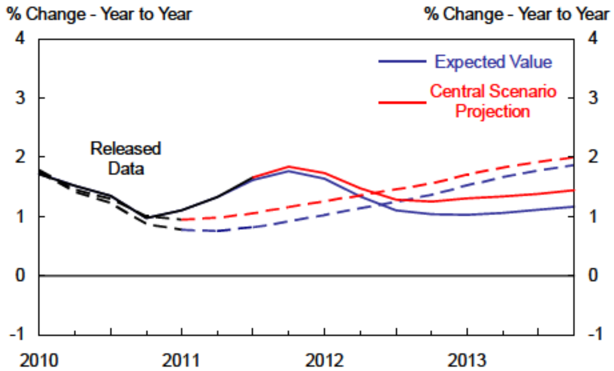


Source: MMS Function (FRBNY)

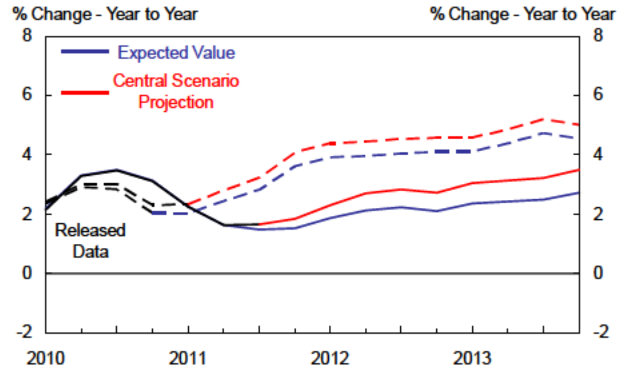
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

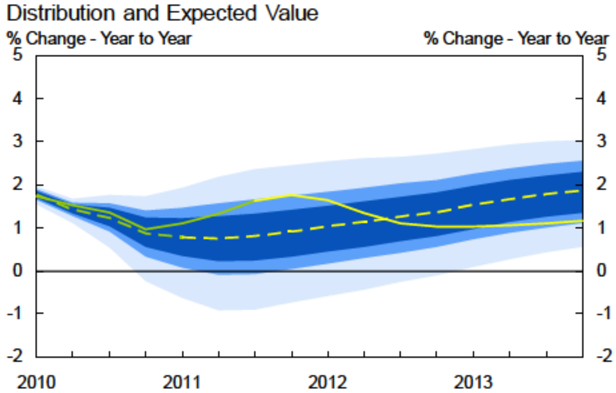


One-Year Comparison of Real GDP Growth Forecast

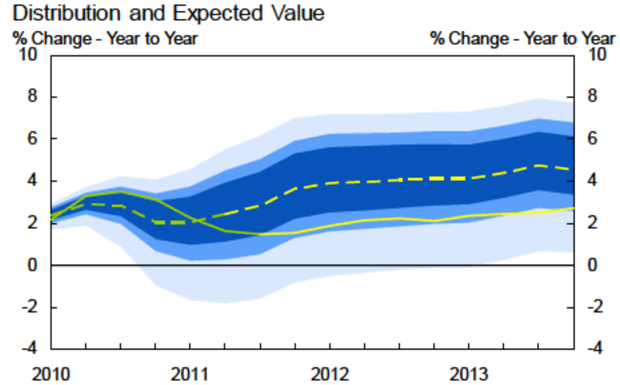


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

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



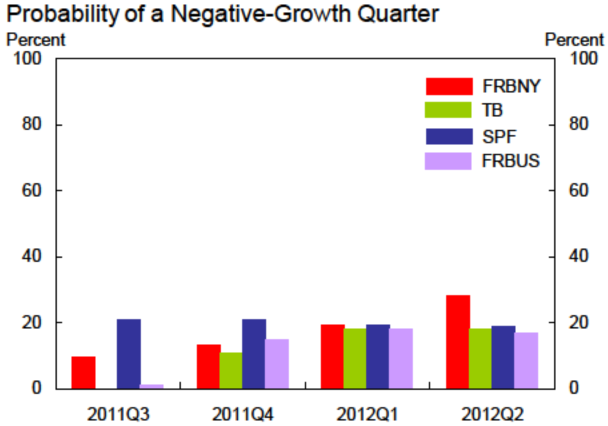
One-Year Comparison of Real GDP Growth Forecast Distribution and Expected Value



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 green lines are released data.

Exhibit C-5: Probability of a Negative Growth Quarter

Probability of a Negative-Growth Quarter

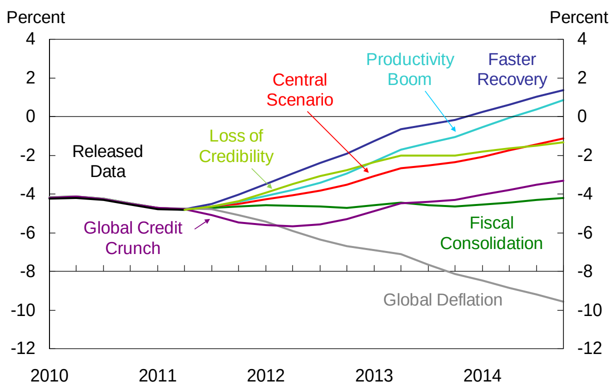


Source: MMS Function (FRBNY)

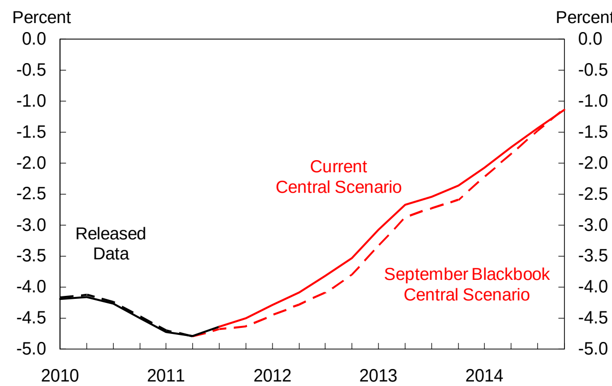
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

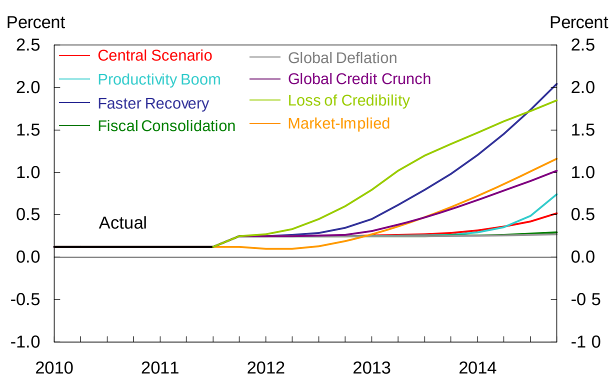
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

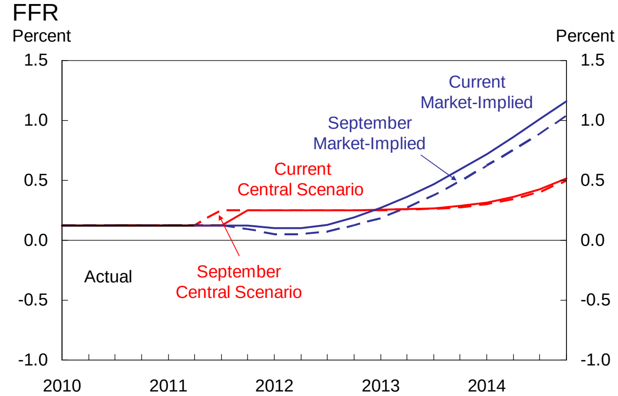
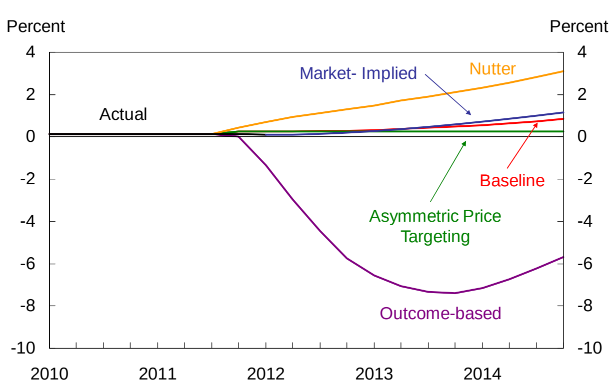


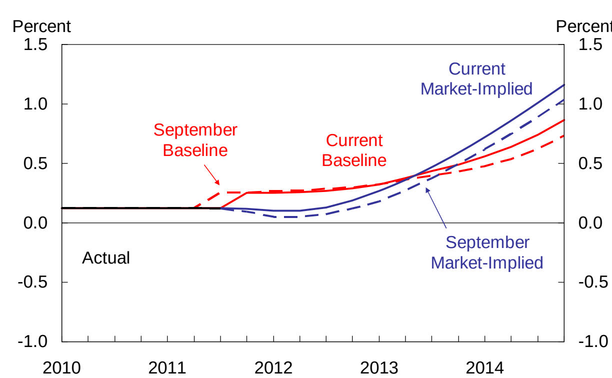
Exhibit D-2: Alternative Policy Rules under
Expected Value of Forecast Distribution

Nominal FFR using Alternative Policy Rules*



*Evaluated using yellow line from C-3

Change in *Baseline** and Market-Implied Nominal FFR



*Evaluated using yellow line from C-3

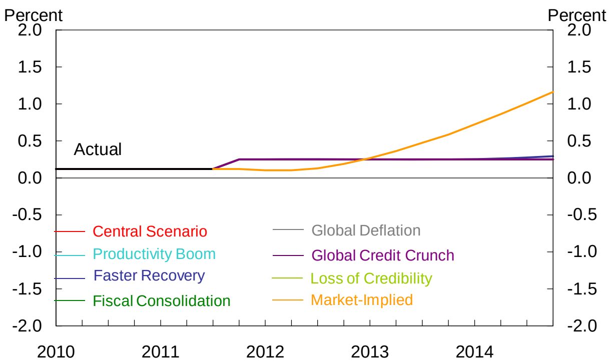
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

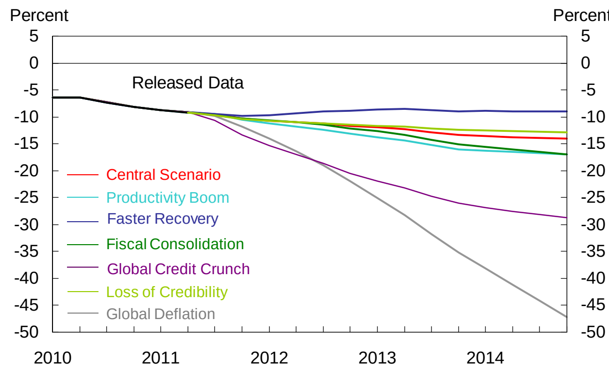
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

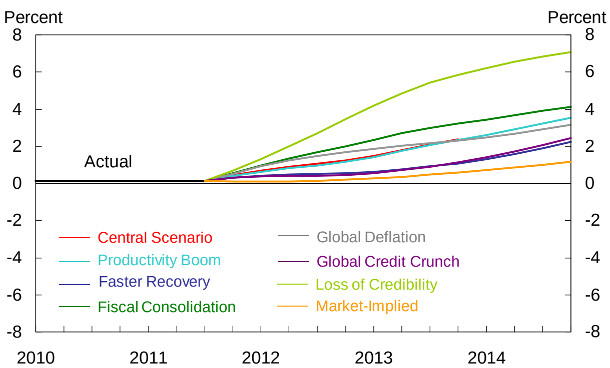


Real FFR under Alternative Scenarios

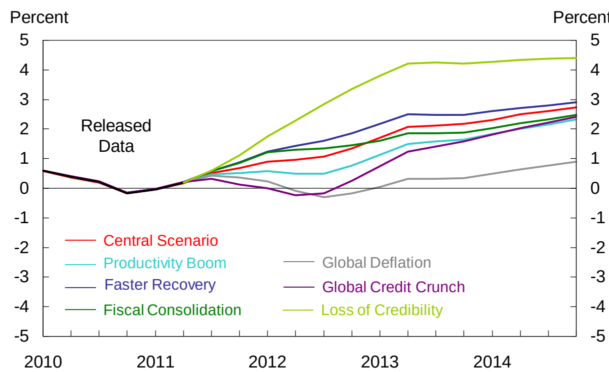


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios



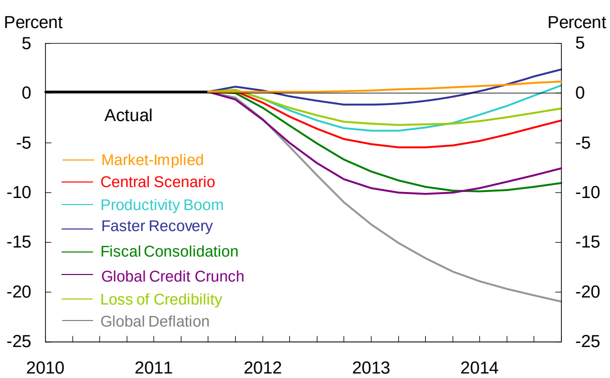
Real FFR under Alternative Scenarios

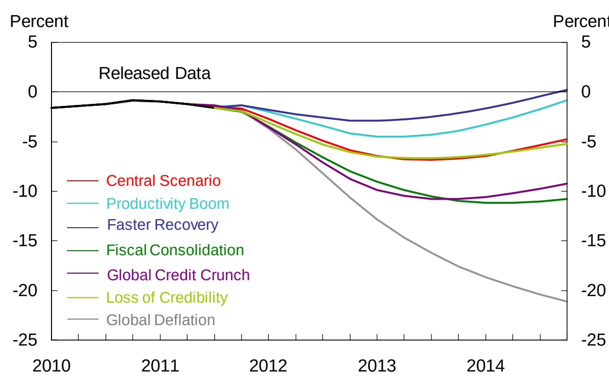


Policy Rule: *Outcome-based*

Real FFR under Alternative Scenarios

Nominal FFR under Alternative Scenarios

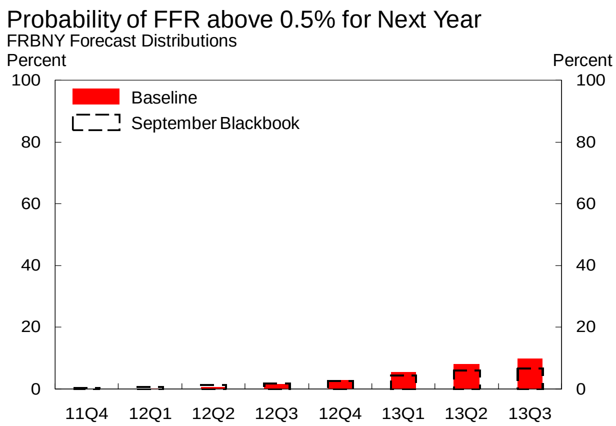


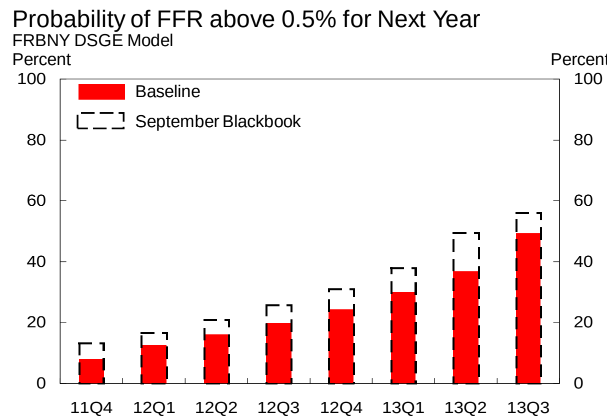


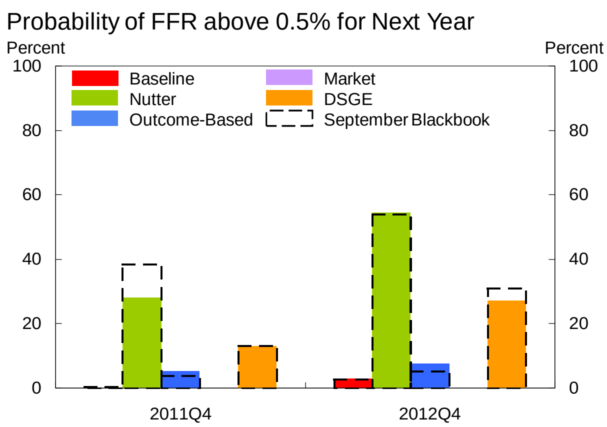
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-4: FFR Probabilities







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)

Alternative Scenario Descriptions

In this abbreviated version of the Exhibit C documentation, we include brief descriptions of the alternative scenarios used in this Blackbook. Full documentation, including a description of the methodology, is included in the Appendix.

Our first alternative scenario considers the impact of above-trend productivity growth. Our current assumption of trend productivity growth is around 1.75% 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 a new scenario (*Faster Growth/Recovery*). We also currently consider four additional scenarios. In one (*Faster Growth/Recovery*), the recent "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*), the recent stresses in global financial and economic conditions continue to 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*

After a lull in the mid-2000s, productivity growth has been robust and above our current estimate of trend productivity growth. This rapid growth raises the possibility that the lull in productivity growth in mid-decade was a cyclical development and that medium- and long-term productivity growth will be closer to that of previous post-WWII periods of high productivity growth (pre-1973 and the mid-1990s through the mid-2000s). 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 subdue inflation.

Alternative 2: *Fiscal Consolidation*

Events in Europe in 2010 and so far in 2011 concerning the fiscal position of several euro zone countries raise issues about the possible economic consequences if similar concerns were to develop about the sustainability of the U.S. government's fiscal position. 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 a decline in output growth below that of the central forecast. As the U.S. government responds to those concerns by 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 likely depreciation of the dollar and possible increases in inflation expectations[3]. [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/Recovery*

The recovery from the 2007-09 recession has been quite weak, especially given the severe drop in real activity during the recession. Factors behind the slow pace of recovery 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

[3] 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.

recent real PCE and other aggregate demand indicators raise the possibility that the process of mending may be beginning to reach an end. The *Faster Growth/Recovery* 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 and from the fiscal stimulus associated with the fiscal agreement passed in December 2010, 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 continued elevated levels of some commodity prices are consistent with such commentary. Even though the FOMC has made its commitment to low rates contingent on "subdued inflation trends" and "stable inflation expectations," it is possible that market participants may begin to believe that the FOMC is not credibly committed to keeping inflation around the presumed implicit target level, especially if the unemployment rate remains high. 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 a rise in inflation and inflation expectations above forecast.

Alternative 5: *Global Credit Crunch*

Although financial markets are generally notably healthier than they were during the most extreme periods of 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 wealth losses during the crisis, of which only a small part has been recovered, and volatility in equity markets is still elevated. 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 it to be between 3.00% and 3.75% over the near-term). 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 point to low inflation in many regions of the world. With inflation at such levels, sluggish growth in some parts of the world, 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 get 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, and in many simulations in which the economy enters the *Global Deflation* scenario the level of output in 2013 does not surpass the 2009Q2 peak.

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/Recovery*: 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.

Policy Rule Descriptions

In this abbreviated version of the Exhibit D documentation, we include a description of policy rules used in this Blackbook. Full documentation, including the methodology description, is included in the Appendix.

In both our *Baseline* and alternative policy rule specifications, the policy rate responds to deviations of inflation from target and of output from potential (except for the *Nutter* rule, which ignores output deviations), while incorporating some degree of inertia. For each of the FFR paths and each of the policy rules, we determine these deviations using the inflation and output paths generated in Exhibit C.

Baseline Policy Rule Specification:

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

$\rho = 0.8$ (interest rate smoothing parameter)
$i^* =$ 3.75 in short-term, moving to 4.25 (neutral FFR)
$\pi^* = 1.75$ (core PCE inflation target)
$\varphi_\pi = 1.5$ (weight on inflation deviations)
$\varphi_x = 0.5$ (weight on output gap)
π_t : core PCE, 4-quarter average
x_t : output gap, using 2.7% potential growth rate, moving to 2.6%
i_{t-1} : interest rate in previous quarter

The two variants of the *Baseline* rule that we use are the *Asymmetric Price Targeting* and *Nutter* rules. The *Asymmetric Price Targeting* rule is designed to combat deflation by instituting price-level targeting. This rule reacts more slowly than the *Baseline* rule to initial increases in inflation, maintaining a lower policy rate for a longer period of time.[4] In each quarter over the forecast horizon, the rule reacts to the cumulative gap between a 1.5% price level path and the actual path on the downside; the rule is asymmetric because price-level targeting is only implemented on the downside. When the cumulative gap in

[4] All of the policy rules are subject to an effective lower bound of 0.25%.

inflation is greater than 1.5% per year, the policy rule reverts to targeting the gap between four-quarter changes in inflation and the inflation objective, just as in the *Baseline* rule.

The *Nutter* rule reacts more strongly than the Baseline rule to changes in inflation. Specifically, the *Nutter* rule increases the weight on deviations of core PCE inflation from the target (φ_π = 2 instead of 1.5). The *Nutter* rule does not react to changes in the output gap.

In addition to the *Baseline* rule and the two variants, we also consider the FFR paths generated by the Board staff's *Outcome-based* rule. The most significant difference between the three FRBNY rules and the *Outcome-based* rule is that the FRBNY rules offer a prescription for future behavior based on policymaker preferences and views of the economy, whereas the *Outcome-based* rule is a statistical description of the average of past FOMC behavior. Specifically, the *Outcome-based* rule calculates an FFR for a given quarter as a function of the FFR in the previous two quarters, the current quarter's four-quarter core PCE inflation, and the output gap for the current and the previous quarter using parameters estimated from real-time historical data (1988-2006)[5].

We also want to compare the policy paths and distributions calculated using these rules with the market-implied path and distribution. In these charts, we use the standard path of market policy expectations derived from fed funds and Eurodollar futures contracts that is pictured in Exhibit A-5. For Exhibit D-4, we construct a distribution for the market-implied path by assuming it has a normal distribution centered at the standard, market-implied path, with a standard deviation derived from options markets (pictured in Exhibit A-6).

Using a weighting scheme, it is possible to combine the *Baseline* and the two variants into an *Average* rule that may better reflect market beliefs about FOMC preferences and views of the structure of the economy than does any individual rule. (That is, we can think of the market-implied path as reflecting an amalgam of different perceived FOMC

[5] *Outcome-based* rule: $i_t = 1.20*i_{t-1} - 0.39*it\text{-}2 + 0.19*(1.17 + 1.73*\pi_t + 3.66*x_t - 2.72*x_{t-1})$

preferences, etc.) Each cycle we construct the *Average* rule by taking the weighted average of the *Baseline* rule and the two FRBNY-derived variants that matches the market-implied path as closely as possible. (We do not currently display the *Average* rule or the weights used to calculate the *Average* rule in the Blackbook). Examining the change in the weights used to construct the *Average* rule from one cycle to the next can provide insight into the reasons behind shifts in the market path not explained by changes in the outlook.