FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

January 2010

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK

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CONTENTS

EXHIBITS

EXHIBIT OVERVIEW

1. Policy Recommendation and Rationale

Our policy recommendation is to maintain the target range for the federal funds rate at 0–0.25% until the end of 2010, as well as to retain the current "extended period" language in the FOMC statement. We also suggest no changes in the large scale asset purchase programs.

Data releases on real activity and inflation in the intermeeting period have largely been consistent with our forecast. In particular, the December labor market report was consistent with our forecast of tepid growth in the first half of 2010 and stronger growth in the latter part of 2010 and 2011. On the inflation front, the recent data, particularly the December CPI, indicated that underlying inflation remains subdued. This is consistent with low levels of resource utilization exerting downward pressure on inflation.

Developments in financial markets since the last FOMC indicate the presence of some upside risks to our outlook for both real activity and inflation. Equity prices were little changed but credit spreads narrowed, indicating the possibility of a stronger recovery in 2010. Perhaps more importantly, TIPS-implied forward inflation compensation measures remain in the upper end of historical ranges despite the current benign inflation outcomes. These developments imply that market participants might be expecting a pick-up in inflation to materialize sooner than we project.

In light of our outlook, we recommend maintaining the current accommodative stance of monetary policy until the economy appears to be on a self-sustained path to recovery, which in our central scenario does not occur until the end of 2010. We therefore recommend retaining the "extended period" language in the FOMC statement. Regarding the large scale asset purchase programs, partly to address the upside risks implied by recent financial market developments, we recommend that the FOMC re-iterate that the program is to be completed by a specific deadline, and will not be further expanded unless economic and financial market conditions substantially deteriorate.

In terms of communication, it is also crucial to convey the FOMC's confidence in the available tools for the eventual exit from the extraordinarily accommodative policy stance. In broad terms, the FOMC has three instruments at its disposal to implement the exit strategy: the federal funds rate target, as well as both the size and composition of the Fed's balance sheet. We believe that the federal funds rate target should continue to be used primarily to address changes in the projections for inflation and real activity. In contrast, changes in the size and composition of the Fed's balance sheet should be primarily dictated by financial conditions.

Accordingly, our recommendation is that the sequencing of the tools should depend on the evolution of economic and financial conditions. If upside risks to inflation and real activity should materialize, then the renormalization of the FFR may need to start sooner than 2011. The option of raising rates in response to unwelcome inflation developments remains readily available to the Committee, given the conditionality of the commitment to keep rates low for an extended period of time. Independently of the evolution of economic conditions, if conditions in the financial sector improve to the extent of allowing an easy absorption by the private sector of the assets currently held by the Fed, the FOMC may consider changing the asset composition and/or reducing the size of the balance sheet via asset sales before beginning the renormalization of the FFR.

Both steps – early renormalization of the FFR and asset sales – carry considerable downside risks during a fragile recovery. We therefore recommend that, unless general economic or financial conditions change drastically, the FOMC should not take any of these steps in the near future. However, a situation may arise in which 5-10 year forward inflation compensation moves to a level of 4% or higher despite low readings on inflation and weak improvement in the economic outlook. In this case, if overall economic and financial conditions do not justify either starting the renormalization of the FFR or proceeding to assets sales, the FOMC may consider reducing the amount of excess reserves via reverse repurchase agreements and/or term deposits. Note that we do not view a decrease in the amount of excess reserves as a pre-condition for the renormalization of the federal funds rate, but rather as a potentially effective tool for assuaging concerns that the large amount of excess reserves is inflationary. Given the current level of excess reserves, we expect this measure to have smaller adverse effects on economic activity than early normalization of the FFR or asset sales.

The process of withdrawing reserves while also maintaining the current stance on interest rate policy poses substantial communication problems: the public may view the withdrawal as an indication of an imminent rate increase. The FOMC statement should make it very explicit that this is not the case. This communication problem is challenging, but arguably less difficult than removing the "extended period" language from the statement in the absence of a substantial improvement in the economic outlook.

2. Evolution of Outlook and Risks

2.1 Central Forecast

In our central projection, the recovery of the US economy began in 2009Q3 after a post-WWII record four-quarter decline of real GDP of nearly 4%. Indeed, at this writing it appears that real GDP rose 3.7% (annual rate) over the second half of 2009, somewhat stronger than expected last October. After falling 1.7% over the preceding four quarters, real personal consumption expenditures increased 2.8% (annual rate) in 2009Q3, led by a significant increase in light-weight vehicle sales fueled by the "cash for clunkers" program. Similarly, single-family housing starts rose by nearly 40% from 2009Q1 to 2009Q3, reflecting a larger-than-anticipated response to the first-time home buyer tax credit as well as the success of the Fed's purchases of agency MBS in lowering mortgage interest rates. Despite a very low capacity utilization rate, business investment in new equipment and software eked out a modest gain in Q3 and looks to have increased at a roughly 10% annual rate in Q4, likely due in part to the pending expiration of the bonus depreciation provision of the stimulus bill. Finally, the economy experienced an unusually strong inventory cycle which we estimate contributed a full 2 percentage points to growth over the second half of 2009.

Despite the stronger-than-expected second half growth of real GDP, labor market conditions turned out to be roughly as expected. Based on available data, it appears that productivity growth remained very high in 2009Q4 and that hours worked continued to decline, although at a much slower rate than over the preceding seven quarters. The unemployment rate averaged 10.0% in the fourth quarter, slightly below our expectations, due to a steeper than expected decline of the labor force participation rate.

Total PCE deflator inflation will likely be 2 1/2% (annual rate) in the second half of 2009 after being essentially zero over the first half of the year. This is somewhat higher than previously expected due to larger than assumed energy price increases. The core PCE deflator over the second half of 2009 moved in line with our expectations, rising at a 1.2% annual rate versus 1.6% over the first half of 2009. This is consistent with our view that the high degree to which resources are underutilized has put downward pressure on core inflation.

Conditioning assumptions. We continue to assume that potential GDP growth is between 2 ½% and 2 ¾%. This is composed of 1% to 1 ¼% trend hours growth (although we assume this growth will begin to decline in 2010) and trend productivity growth of around 1 ½% (on a GDP basis, which is equivalent to about 1 ¾% on a nonfarm business sector basis). The Board staff estimates of potential in the January Greenbook are 2.2% for 2010 and 2.4% for 2011, both up 0.1 percentage point from December. This increase is due to a slight upward revision in trend productivity stemming from a somewhat faster pace of growth of business investment.

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 the 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 outlook for foreign growth is essentially unchanged over the intermeeting period. Foreign GDP (on a GDP-weighted basis) is expected to increase 3.1% in 2010 and 3.2%

in 2011. The Board staff expects somewhat more rapid growth of foreign GDP. Over the forecast horizon the path of oil prices is somewhat higher than it was projected in the last Blackbook ($86.50 per barrel by 2010Q4 versus $84.00, and $89.00 per barrel by 2011Q4 versus $87.00). Our assumed path for oil prices is modestly higher than that of the Greenbook.

Our assumptions regarding fiscal policy are the same as that of the Greenbook. In particular, it is assumed that an additional $75 billion of grants to state and local governments, along the lines of a bill passed by the House in December, will be enacted in the near future. Finally it is assumed that most of the 2001 and 2003 tax cuts will be extended and the lower AMT exemption amount will be extended for the entire forecast horizon.

As is our usual practice, our assumptions for equity prices and the real exchange value of the dollar are similar to those of the Greenbook. Equity prices are assumed to increase at a 15 % annual rate through 2011 from a base that is about 4% above that of December. This increase in equity values is driven to a large extent by an assumed decline in the equity premium. The exchange value of the dollar (trade-weighted basis) is assumed to decline 0.9% in 2010 and 1.0% in 2011.

Our assumption regarding the future path of the Loan Performance Home Price Index is also essentially the same as the Board's. That index declined 34% from 2006Q2 through March 2009, rose 6.3% from March to August, but then declined 1.2% from August to October. The Greenbook assumes that this index declined at a 6 ½% annual rate over the entire fourth quarter of 2009 and then projects that it will fall 2 ½% over 2010 as foreclosure-related sales increase. In 2011 home prices are expected to edge higher.

The Outlook. For 2010 we have raised our projected growth rate to 2 ¼% (Q4/Q4) from 2%, reflecting an upward revision to labor compensation which feeds through into somewhat more rapid growth of real consumer spending. As before, we expect the first half of the year to be notably weaker than the second half. With growth in 2010 below our estimate of potential, there is some further upward movement of the unemployment rate to around 10 ¼% by midyear. This is very sluggish growth for the first full year of recovery and is below the consensus. A key feature of our modal forecast is that the current cycle is qualitatively different from the typical post-WWII cycle such that we are unlikely to see the robust growth of consumer spending that normally occurs over the first year of recovery. Nonfarm payroll employment has declined for two years and is almost 6% below its previous peak. Overall, employment is down by 8 million, representing nearly all the increase of the previous expansion. As bad as that is, hours worked in the nonfarm business sector have declined for nine consecutive quarters for a cumulative decline of 9 ½%. This takes the index of hours worked back down to the level that prevailed in the first half of 1996. As of November, nominal private sector wage and salary disbursements were 4 ½% below their level in December of 2007, the deepest and most sustained income shock of the post-WWII period. The household sector has made only minimal progress in reducing its substantial debt overhang. The effects of the stimulus bill on taxes and transfers are largely behind us, and energy prices have increased from their recent lows. While the stock market and home prices have recovered somewhat, we estimate that as of the fourth quarter of 2009 the ratio of household net worth over disposable income remains over 20% below its peak. Finally, while financial conditions appear to be gradually easing, we expect credit availability to be tight relative to the standards of the recent past.

A second key feature of our modal forecast is that while it appears that the correction in housing production is over, it is unlikely that we will experience the surge of residential investment typical of the early stages of most post-WWII recoveries. In addition to tightened mortgage underwriting standards, high volumes of existing homes will continue to come onto the market through the foreclosure process. Finally, new construction of multifamily units has taken a distinct movement downward reflecting excess supply of condos and high rental vacancy rates. With consumption and residential investment recovering on a gradual path, it follows that any recovery of business investment in new equipment and software and new structures is likely to be delayed. This is even more the case given the steepness of the decline of output during the recession, which has led to capacity utilization rates at historic lows, rapidly rising retail and office vacancy rates, and sharply declining prices for existing commercial real estate. Also contributing to the relatively tepid growth expected for 2010 is the ongoing structural adjustment taking place in the state and local government sector which is expected to result in significant declines in employment in this sector for much of the first half of the year. Finally, while growth prospects for our trading partners have generally improved, suggesting a continued rebound of exports, improving final demand as the US recovers will be associated with increasing imports. Thus, while net exports will not be a major drag on growth, they are unlikely to be a major positive contributor to growth over the forecast horizon.

By the second half of 2010 and into 2011 we expect the recovery to gather steam with growth of 4% (Q4/Q4) in 2011, placing the level of real GDP very close to the consensus forecast. We expect the recovery to gather further steam in 2012 with a 5% growth in GDP and a fall in the unemployment rate below 7%. Underlying this projection is the expectation that financial market functioning continues to return to more normal conditions and that consumer and business confidence and the general appetite for risk continue to recover. With household income and balance sheets improving and credit flowing more normally, the substantial pent-up demand for consumer durables, housing, and business equipment and software will start to be satisfied. Moreover, the structural adjustments of state and local governments and of the commercial real estate sector will likely have run their course by that time.

Barring a significant decline in either or both the level of the economy's potential output or its potential growth rate, this point forecast implies that a large output gap will persist over most of the forecast horizon. Accordingly, we expect core inflation to slow to around 1% (Q4/Q4) in 2010. But by late 2010 and into 2011, as final demand firms within the context of anchored inflation expectations, we expect core inflation to move up to the "mandate consistent" range.

The risks to our central projection for real activity are somewhat more balanced than in

December but remain skewed to the downside. A key downside risk is that the loss of income and wealth suffered by the household sector induces a steeper-than-expected increase of the personal saving rate, keeping consumer spending weaker for longer. The sharp decrease in the prime age employment to population ratio during the current cycle, combined with the large share of workers nearing retirement age, make this risk particularly acute. Finally, an important risk over the medium term is the uncertainty surrounding our assumption of the economy's potential growth rate. There is considerable concern that with the weakness of business investment and the reallocation of labor and capital that needs to occur, the economy's potential growth rate has slowed significantly. On the other hand, current estimates of labor productivity continue to surprise to the upside.

Another source of risk to the forecast is on the fiscal policy front. Under current law many of the tax provisions enacted in 2001 and 2003 are scheduled to expire at the end of 2010. The outcome of the debate over these provisions could potentially have a significant impact on both growth prospects and inflation expectations. Finally, relatively modest changes in variables such as productivity growth, the participation rate, and the average work week could end up having a significant impact on the ultimate path of the unemployment rate.

The risks around the central scenario for inflation are relatively balanced. Clearly, the significant downside risk to the growth projection combined with the possibility of no meaningful decline in potential implies downside risk to the inflation projection. In contrast, with the aggressive global monetary and fiscal policy response to the financial crisis, there is a risk of higher inflation.

The heightened uncertainty associated with the shape of recoveries from periods of banking and financial crisis as well as the uncertainty associated with the timing and synchronization of the removal of global policy accommodation result in highly elevated uncertainty around our central projection compared to typical levels over the last twenty years.

2.2 Alternative Scenarios and Risks

The risk assessment has changed in three dimensions since the last Blackbook. First, the probability associated with the *Global Credit Crunch* scenario has further decreased since December, reflecting the general improvements in financial market conditions. Second, the likelihood of the *Loss of Credibility* scenario has increased, albeit mildly, partly reflecting the relatively elevated level of TIPS breakeven rates at both short and long horizons, as well as headline concerns about the size of the fiscal deficit and the level of reserves. Third, there has been a forward shift in the quarter during which alternative scenarios receive non-negligible probability. Currently, the uncertainty around the forecasts starts to materialize only in 2009Q4, since we do not expect major revisions to GDP and inflation.

The *Productivity Boom* scenario is currently the most likely scenario, as was the case in December [Exhibit C-1]. Its likelihood is currently just above 30%, following the strong labor productivity numbers in recent quarters. The other three most likely scenarios, the *Global Credit Crunch*, *Effects of Overheating,* and *Loss of Credibility* scenarios are assigned roughly similar probabilities.

The paths for core PCE inflation and real GDP growth associated with the various scenarios have not changed much in the intermeeting period [Exhibit C-2]. One exception is the path associated with the *Loss of Credibility* scenario, where inflation rises more gradually than in December during the first half of 2010, but then accelerates rapidly in the second half. These changes, together with the changes in the probabilities of the various scenarios, as well as the forward shift in the quarter during which risks start to materialize, affect the uncertainty surrounding the forecasts for core PCE inflation and real GDP [Exhibit C-3]. The upside risk to inflation has been removed over the short term, but looms larger in the medium and long term, with the 95% percentile of the distribution increasing to around 4% in early 2012. Changes to the 95% band grossly overstate the changes in the overall distribution since December, since the bulk of this distribution has shifted very little. As a consequence of the diminished likelihood of the *Global Credit Crunch* scenario the probability of deflation has decreased further, as shown in the Depth of Deflation chart. Changes in the output forecasts distribution mainly reflect the diminished uncertainty about the state of the economy in the short run, especially on the downside. The "Scale of Recovery Through 2011" chart, which shows the distribution of the maximum 4-quarter change in GDP after the trough, is essentially the same as it was last month.

Finally, Exhibit C-4 shows the evolution of our forecasts relative to 12 months ago. The actual paths for output and inflation are mostly within the 50% probability bands generated a year before, indicating that by the end of 2008 the probability distribution embedded in the forecasts appropriately reflected the risks the U.S. economy was to face in the following 12 months.

3. Forecast Comparison

3.1 Greenbook Comparison

The Greenbook forecasts for output and inflation changed modestly during the intermeeting period. The forecast for output growth is now closer to our projection in the short-term, but continues to be notably more optimistic for 2010 and, to a smaller degree, for 2011.

The Blackbook and Greenbook forecasts for inflation for 2010 are similar and little changed since December; however, a notable discrepancy between the two appears for 2011. The Blackbook forecasts higher inflation for 2011 as the combination of somewhat stronger growth and anchored inflation expectations is expected to begin to push inflation toward the FOMC objective. In contrast, the Greenbook expects that the still significant output gap, combined with greater assumed persistence, will keep inflation well below the objective.

Conditioning Assumptions. The Greenbook projects the Federal Funds Rate (FFR) to remain in the current target range of 0–0.25% until 2011Q4 while the Blackbook central forecast assumes that the FFR will reach 1.50% by the end of 2011. Both the Greenbook and the Blackbook maintain their assumptions about nontraditional policy actions.

The Board's staff revised up the path of equity prices relative to their December forecast, following equity price increases. In particular, they have equity prices rising about 15 percent per year, on average, in 2010 and 2011. The 10-year Treasury yield is assumed to follow a steeper path compared to the December Greenbook, mostly reflecting the movement of the 10-year valuation window. The Greenbook assumes that the conforming mortgage rate will follow a steeper path than the one assumed in December as a result of the expected increase in long-term Treasury yields and a possible widening of mortgage rate spreads following the end of MBS purchases.

Both the Greenbook and the Blackbook assume lower labor force participation rates compared to December. However, in contrast to the Board staff, we continue to expect the labor force participation rate to bounce back in 2011. The Board staff revised down their projection for the labor force participation rate from 64.9% to 64.8% for 2010 and from 64.8 to 64.7% for 2011. We assume a higher rate in both years, expecting rates of 65.0% and 65.2% for 2010 and 2011, respectively.

The Board staff assumes that the extended and emergency unemployment benefits have caused a temporary increase in the "effective" NAIRU from 5.25 % to 6.25%. They expect these programs to wind down in 2012 and the "effective" NAIRU to fall from 6.25% to 5.25% by early 2013.

International trade. The FRBNY forecast for the net export contribution to GDP growth is 0.9 percentage points in 2009, very close to the Board's forecast of 1.0 percentage points. For 2010, the FRBNY forecast is for the contribution of net exports to GDP growth to be neutral whereas the Board's forecast is for net exports to subtract 0.2 percentage points. These small differences for 2010 arise from the Board expecting similar growth paths in U.S. domestic demand and in its major export partners, which is in contrast to the FRBNY expectation that the U.S. recovery will be weaker than its major trading partners. For 2011, the FRBNY and Board's forecast of the net export contribution to GDP growth are the same, at negative 0.1 percentage points.

Inflation. Both the Greenbook and the Blackbook forecasts for core PCE inflation in 2010 (Q4/Q4) remain unchanged relative to December and very similar to each other at 1.2% and 1.1%, respectively. While both forecasts are very similar for 2010 (Q4/Q4), our forecast core PCE inflation for 2009Q4 (1.2%) and 2010Q1 (1.0%) is lower than the Board staff's which is 1.6% for 2009Q4 and 1.2% for 2010Q1. As in December, we disagree with the Board Staff on the core PCE projections for 2011: the Greenbook projects core PCE to continue falling to 1.1% in 2011, while we see it increasing to 1.5%. This difference reflects different assumptions about the impact of the output gap on inflation and the intrinsic persistence of the inflation process.

Real Activity. Compared to December**,** the Board staff's forecast of real GDP growth in 2009Q4 rose from 3.8% to 5.3% (annual rate), while our forecast increased from 4.6% to 5.3%. The bigger revision in the Greenbook occurred mostly as a result of the upward revision in inventory investment. Both the Greenbook and the Blackbook lowered the projections of real GDP growth in 2010Q1 to reflect this earlier than expected inventory correction. For 2010Q1 our forecast of 1.8% is lower than the Board's projection of 2.8%. The composition of our 2010Q1 projections also differs substantially. In our projections we assume that inventory investment continues to contribute significantly to growth while consumption stays sluggish. The Board forecast projects instead that the contribution of inventories will recede while consumption will step up as the main growth contributor in the current quarter. The two forecasts continue to diverge significantly throughout 2010. In particular, we expect a growth rate of real GDP of 2.3% (Q4/Q4), while the corresponding Board staff forecast is 3.6%. The main reasons for the diverging projections are the Board staff's higher consumption, business investment, and Federal spending projections for 2010. There is little change in the GDP growth projections of the Greenbook and the Blackbook for 2011, with our forecast (4.1%, Q4/Q4) remaining below the Board's estimate (4.7%).

The unemployment rate projections were somewhat lower both in the Greenbook and the Blackbook compared to December. These changes brought the two forecasts closer. The Greenbook forecasts an unemployment rate of 9.5% in 2010Q4 and 8.2% in 2011Q4, while we expect the unemployment rate to be at 10.0% in 2010Q4 and to decline to 8.1% by 2011Q4. There is, however, a more substantial difference between the two projections for payroll employment, especially for 2010. The Greenbook forecasts payroll employment to grow by 2.5 million in 2010 while we expect it to grow only by 604,000; in part, this difference reflects our expectation that productivity growth will not moderate as much as the Board staff anticipates. For 2011 our projection for payroll employment is an increase of 4.7 million, while the Board staff expects an increase of 4.2 million. In both projections, the recovery in the labor market trails real activity by a significant length of time, following a recovery pattern similar to those observed after the 1990-91 and 2001 recessions.

Both the Greenbook and the Blackbook expect high productivity growth for 2009Q4, but the Board's forecast is less optimistic for 2010. We project output per hour to grow by 1.7% while the Board forecasts only 0.8% growth. This discrepancy narrows in 2011.

Uncertainty around forecasts. Despite the evidence that a sustained recovery is under way, there was little change in our and the Board staff's risk assessment. The FRBNY forecast continues to have more downside risk to inflation in 2010 as captured by the lower bounds on the 70% confidence intervals. In contrast, for 2011 the Board forecast assigns a much higher probability to lower inflation realizations. The Board staff's low inflation rate projection for 2011 (1.1%) continues to be in the left tail of our inflation forecast distribution.

The Greenbook distribution continues to give a lower probability to low growth realizations for 2010 and 2011 than does the FRBNY forecast distribution. Even though we have increased the lower bound on the 70% probability interval for 2010 from 0.1 to 0.3, our forecast continues to have substantially more downside risk than the Greenbook forecast. As a result, the Greenbook's point forecast remains in the right tail of our output forecast distribution for both 2010 and 2011.

Table 1: Comparison of 70% Intervals around FRBNY and Board Forecasts

	Core PCE Inflation		Real GDP Growth	
	FRBNY	*Board*	*FRBNY*	*Board*
2009	1.1, 1.6 (1.0, 1.8)	1.3, 1.6 (1.3, 1.7)	-0.6, 0.6 (-0.9, 0.8)	-0.2, 0.2 (-0.8, 0.2)
2010	0.1, 1.9 (0.1, 1.9)	0.6, 1.7 (0.5, 1.8)	0.3, 3.9 (0.1, 3.8)	2.0, 5.2 (1.9, 5.3)
2011	0.6, 2.4 (0.7, 2.4)	0.2, 1.9 (0.1, 2.0)	1.9, 5.8 (1.9, 5.6)	3.1, 6.4 (3.1, 5.9)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2009	74 (55)	45 (36)
2010	59 (60)	80 (81)
2011	33 (32)	66 (65)

Alternative Greenbook Forecasting Scenarios. The January Greenbook considers seven alternative scenarios. The first two explore upside and downside risks to aggregate demand. As in the December Greenbook, the *Stronger recovery* scenario assumes a rebound in the demand for durable goods above the baseline, and more in line with typical recoveries. As a result, real GDP growth is stronger than in the baseline, leading to a faster drop in the unemployment rate. With less slack in the economy, renormalization of the FFR starts two quarters earlier than in the baseline. In contrast, in the *Weaker aggregate demand* scenario constrained credit availability and weak economic conditions damp spending more than assumed in the baseline. This implies lower growth, a higher unemployment rate, and slightly lower inflation than in the baseline scenario. As a result the renormalization of the FFR is delayed to 2012. The evolution of GDP growth under the *Weaker aggregate demand* scenario comes closest to our baseline forecast.

The next three scenarios entertain risks to aggregate supply. In the *Stronger productivity* scenario, productivity is assumed to grow at 3.25% through the end of 2011, well above the Greenbook baseline forecast, and to revert to baseline growth in 2012. Real GDP growth is higher than in the baseline, but remains below potential growth. As a result, the unemployment rate peaks above its baseline projection level, and inflation drops to 0.4% in 2011 and 2012. The FFR only departs from the effective lower bound towards the end of 2012. The *Lower potential output* scenario assumes that the level of potential output is currently overestimated, so that the output gap is in fact 2.25 percentage points narrower than in the baseline. Moreover, monetary policymakers are assumed to recognize this estimation error slowly, only reaching the right assessment by the end of 2014. Despite this misperception, the renormalization of the FFR starts earlier than in baseline, because smaller deflation pressures allow inflation to be higher. The *Impaired credibility* scenario explores further inflation risks by adding an assumption of higher long-run inflation expectations to the *Lower potential output* scenario. The rationale is that the public is unaware that the monetary authority is overestimating potential output, and interprets the slow renormalization of the FFR as an indication that the monetary authority has a higher inflation objective. Long-run inflation expectations are assumed to increase to 3% in late 2010, pushing up inflation significantly relative to both the *Lower potential output* and baseline scenarios. As a result the FFR actually increases somewhat faster than in those two scenarios. Real growth is lower through the end of the forecast horizon.

Finally, in the *Greater disinflation* scenario, long-run inflation expectations fall in response to low realized inflation and the large amount of economic slack. As in the analogous scenario described in the December Greenbook, real GDP grows faster than in the baseline from 2012 onwards, and core prices are essentially flat through 2011-2013. The renormalization of the FFR takes place at a much slower pace than in the baseline. Similarly to the December Greenbook, the *Greater disinflation* scenario features a higher path for the GDP growth and a lower path for the unemployment rate than the baseline forecast.

Of all the scenarios, the *Impaired credibility* features the most difficult trade-off for monetary policymakers. With inflation at 2.1% in 2010 and long-run inflation expectations at 3%, the Taylor rule assumed in the FRB/US model simulations prescribes a somewhat earlier and stronger tightening of the monetary stance, despite an unemployment rate of 9.7% at the end of 2010.

3.2 Comparison with Private Forecasters[1]

The main point to note is that FRBNY forecast for GDP growth is below private forecasts for 2010, while FRBNY inflation forecasts are generally in line with private forecasters'. Forecasts are reported in Exhibit B-8. Note that the Median SPF forecasts are from the November 2009 release.

GDP Growth. All private forecasts and the PSI model's estimate of GDP growth for 2009Q4 have been revised up since the last FOMC. Our estimate is above those of the private forecasters with the exception of Macro Advisers, which projects 5.5% growth vs our 5.3%. Our projections for 2010 are instead in general more pessimistic than those of private forecasters. For 2010Q1, our 1.8% projected growth is 1.1 percentage points below Macro Advisers' and Blue Chips' forecasts. For 2010 (Q4/Q4) our projection of 2.3% growth is below the optimistic estimate of 3.8% from Macro Advisers, and the 2.9% and 2.6% forecasts of Blue Chip and Median SPF, respectively. The PSI model stands at the low end of the projection spectrum, with GDP growth forecasts of 2.0% and 1.1%, respectively, for 2009Q4 and 2010Q1.

[1] Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (1/10), SPF (11/16), Macro Advisers (1/19), and the PSI Model (1/21). Quarterly numbers are SAAR.

Inflation. The FRBNY estimates for inflation are generally in line with private projections. Our and private forecasters' projections for core PCE and core CPI are within a 1.2-1.5% range for 2009Q4, and within a 1.0%-1.4% range for 2010 (Q4/Q4). For headline CPI inflation, our forecast for 2009Q4 (3.9%) is higher than private forecasts (range of 2.1%-3.4%) while the differences are much smaller for 2010 (Q4/Q4).

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Our current policy recommendation is unchanged from the last Blackbook, and consists of keeping the target federal funds rate in the 0–0.25% range through 2010. The zero bound implies that all but large upside changes in the output and inflation outlooks have no effect on the predictions for most of our interest rate rules, and no such change has occurred in the intermeeting period. As a consequence our recommendation is still consistent with the *Baseline* policy rule under the expected value of the forecast distribution [Exhibit D-2], and also under all scenarios except the *Loss of Credibility* scenario [Exhibit D-1]. Under all scenarios but this last one rates begin to rise only late in 2011. Under the *Central* Scenario the FFR is still at 1% by the end of 2012.

We now discuss the prescriptions of alternative policy rules. The (inflation) *Nutter* rule has a strong response to inflation and no response to the output gap, and implies a path for the FFR close to that from market expectations under the expected value of the forecast distribution. Given that inflation under the *Central* scenario is forecast to remain subdued, the policy prescriptions from the *Nutter* rule are consistent with our policy recommendation under this scenario. All other rules (*Asymmetric Price Targeting* and *Outcome-based*) result in a FFR path that is close to zero until the end of 2011. Instead of displaying the *Outcome-based* rule along the same zero-bound constrained path as we display the *Asymmetric Price Targeting* rule, we show the nominal FFR suggested by the *Outcome-based* rule ignoring the zero bound. Under the expected value of the forecast distribution the unconstrained nominal FFR is -4% by mid-2011, returning to zero only by the end of 2012 [Exhibit D-2].

Exhibit D-1 shows the *shadow* real rates - that is, the real FFR rates implied by the various rules under the various scenarios *ignoring* the zero bound constraint. The "shadow" real rate implied by the *Baseline* rule under the *Central* scenario is between -3 and -4% in the current quarter. Given that the nominal FFR is constrained by the zero bound, this number indicates the desired level of expected inflation. Exhibit D-3 shows the real rate (under alternative scenarios) for *Asymmetric Price Targeting*, the *Nutter*, and the *Outcome-based* rules.

As a robustness check, we also use the DSGE-VAR and the DSGE models to assess the current stance of monetary policy. We perform a counterfactual exercise eliminating past policy shocks. We find that the DSGE-VAR model predicts a counterfactual FFR for the current quarter in line with the policy rate, while the DSGE model predicts a counterfactual FFR that is higher (about 1.5%).

4.2 Comparison to Market Expectations

The market-implied FFR path shifted downward on net during the intermeeting period, and in the near term it is aligned with our recommended path. The anticipated start of the renormalization process, as implied by the expected FFR from the market path (using the standard Board staff assumptions concerning term premia), appears to occur in the second half of this year. The combined responses from the primary dealers and buy-side surveys about the expected time of the first FFR increase displays similar timing: the modal forecast is 2010Q3, while the mean forecast is November 2010, essentially the same as in the December survey. Respondents to the surveys expect that the "extended period" language will be retained in the FOMC statement following the January meeting. Since the last FOMC, uncertainty across primary dealer economists about the FFR path 6-months ahead is unchanged, while disagreement has increased somewhat.

5. Significant Developments

5.1 Economic Developments

U.S. Data Releases. Data releases on real activity and inflation in the intermeeting period have largely been consistent with our outlook. In terms of real activity, we envision a strong 2009Q4 but a subsequent decline in the pace of recovery. The December labor market report was consistent with our forecast of a tepid rebound in 2010. On the inflation front, the releases during the intermeeting period confirmed that most measures of underlying inflation remain subdued. This is consistent with low levels of resource utilization exerting downward pressure on inflation.

Real activity. *GDP:* Real GDP rose at a 2.2% annual rate in 2009Q3, a downward revision from the earlier estimate of a 2.8% rate of growth, reflecting small downward revisions in a wide range of spending categories (consumer spending, business fixed investment, and government spending, along with a faster rate of inventory liquidation).

Personal income rose 0.4% in November, slightly below consensus expectations, while the personal saving rate was unchanged at 4.7%. Real personal consumption expenditures rose 0.2% in November, down from 0.4% in October and considerably weaker than we had anticipated.

Production: Industrial production rose 0.6% in December, in line with the median forecast. The gain was an artifact of cold weather boosting utility output. Indeed, manufacturing production edged down 0.1%. While output of machinery and computers and electronic equipment rose briskly, these gains were offset by marked declines in nonmetallic minerals, electrical equipment, paper, and petroleum. Growth in manufacturing was less in 2009Q4 than in Q3, suggesting that forward momentum in activity might have dissipated toward year-end. Although manufacturing production fell in December, the capacity utilization rate in manufacturing edged up from 68.5% in November to 68.6%–a consequence of the fact that manufacturing capacity is estimated to be declining every month.

Orders and Shipments: Overall orders for manufactured goods rose 1.1% in November, well above the median forecast, with durable goods orders rising 0.2%. The increase in new orders for nondefense capital goods ex-aircraft, a key barometer of near-term demand for capital goods, was 3.6%. These figures hint at some signs of underlying strength, partially masked by a drop in orders for civilian aircraft and parts. Shipments rose 1.0%, and the book value of inventories edged up 0.2%. The ratio of inventories to shipments fell from 1.34 months in October to 1.32 months in November. The combination of increased orders and declines in the inventory-shipments ratio is a favorable sign for ongoing recovery in manufacturing.

Retail Sales: Retail sales unexpectedly fell in December, dropping 0.3% in total and 0.2% ex-autos, but there were upward revisions to the November numbers. On balance, the figures suggest that Q4 as a whole saw growth in real consumer spending in line with our expectations, while the tepid December numbers suggests some of the economy's forward momentum was ebbing.

Inventories: The book value of business inventories rose 0.4% in November, and the October gain was revised up from 0.2% to 0.4%. Retail inventories fell 0.2% in November, with a 0.4% decline excluding autos. The inventory-sales ratio has continued to drop, falling from 1.31 months in September to 1.30 in October and 1.28 in November, the latter being the lowest reading since July 2008. These numbers are in line with the view that the downward correction in inventories is over: Not only are inventory overhangs no longer a major drag on output, but also there's a chance that some businesses will see the need to ramp up production to rebuild depleted stocks. Our projection for 2009Q4 assumes a major contribution to GDP growth from inventory investment, and these numbers are consistent with that view.

Productivity: No data releases during the intermeeting period.

Home Sales: Existing home sales rose a strong 7.4% in November, well above the consensus expectation. This marks the third consecutive month of strong gains, over which period existing home sales rose at a 173% annual rate. The month's supply of existing homes on the market fell to 6.5, the lowest since 2006. Sales of new single-family homes fell instead a steep 11.3% in November while the levels of home sales over the period from August through October were revised down by a combined 49,000 units. The number of unsold new homes declined to 235,000 units, the lowest level since early 1971. The National Association of Realtors' Pending Home Sales index plunged 16.0% in November following nine consecutive monthly increases, while the consensus expectation had been for a 2% decline.

Housing starts. New Residential Construction data for November and December were released in the intermeeting period. Housing starts rose 10.7% in November and then fell by 4.0% in December, which implied an increase from 524,000 in October to 557,000 in December. The gain was centered in the multi-family component, which saw a big increase by 69.81% in November, followed by a modest increase of 12.2% in December. Nonetheless, multi-family starts in December were still 38% below year-ago levels. Single-family housing starts were weak both in November and December. In particular, single-family housing starts rose 4% in November and then fell by 6.9% in December to 456,000 units.
The data on housing permits was much more encouraging. Permits rose by 6.9% in November and 10.9% in December. There was improvement in both single-family and multi-family permits. Single-family permits rose a strong 8.3% in December following a 4.5% increase in November, likely supported by the extension and expansion of the first time homebuyer tax credit. After being relatively stable around 460,000 over the preceding five months, single-family permits moved significantly higher to 508,000, 37% above year-ago levels. Multi-family permits also increased by 17.6% in November and 20.8% in December. However, as with starts, multi-family permits were well below year-ago levels.

House Prices: The Federal Housing Finance Administration (FHFA) national, purchase-only, seasonally-adjusted home price index rose 0.6% in October, above consensus expectations. On a year-over year basis this price index is down just 2% after having been essentially unchanged for the past eight months. The seasonally-adjusted S&P/Case-Shiller composite home price index for 20 large US metro areas rose 0.37% in October—its fifth consecutive monthly gain—following a (downwardly-revised) increase of 0.15% in September. Details of the report show less strength than earlier in the year with only 7 of 20 cities posting a month-to-month gain. On a year-over-year basis the 20-city composite index was down 7.2% versus 9.3% in September, in line with expectations.

Construction Spending: Total construction spending fell 0.6% in November, close to the consensus expectation of a 0.5% decline. However, the October level of construction spending was revised lower and is now reported to have declined 0.5% as opposed to the initial report of no change.

Flow of Funds: No data releases during the intermeeting period.

Labor market The labor market remained quite weak during the intermeeting period, with continuing job losses and weak household statistics. The relatively positive November labor market report (which showed a 4,000 employment gain after the revision) was followed by a much weaker December report. Nonfarm payroll employment fell by 85,000 in December, a number close to the low end of the range of forecasts. Employment declines were widespread across industries but more concentrated in the goods-producing industries and government. Employment in goods-producing sectors fell by a total of 81,000, while employment in government declined by 21,000. On a brighter note, employment in the private service-providing sector increased by 17,000. Temporary employment increased by 47,000, the fifth consecutive monthly increase. Since reaching a bottom in July, temporary help services employment has risen by 166,000. Employment also increased in financial services, education and health care but elsewhere job losses continued. Aggregate hours worked and average weekly hours were mostly unchanged relative to November. Average weekly hours, which dropped from the 2007 average of 33.8 hours per week to a low of 33.0 in October, were 33.2 in November. As the economy recovers, it is possible that firms will increase workers' hours before hiring additional workers. The earnings situation was somewhat better. Average hourly earnings rose by 0.2% in November and increased 2.2% on a year-to-year basis. Average weekly earnings increased by 0.2%.

In the household survey, the unemployment rate remained unchanged at 10.0%, despite a big decline in employment (-589,000), due to the decline in the labor force participation rate from 64.9% to 64.6%. Similarly declining was the employment to population ratio, which fell from 58.5% to 58.2%. The prime-age male unemployment rate declined from 10.0% to 9.6%. Since its peak of 10.3% in September, prime-age male unemployment has declined by 0.7 percentage points. This drop is however a result of the large decline in the labor force participation rate for that group rather than of an improvement in employment, as reflected in the drop in the employment to population ratio from 80.8% to 80.3%. The average duration of unemployment was at a new record high of 29.1 weeks, indicating a record low unemployment-outflow rate.

Initial claims for unemployment insurance declined in the first half of the intermeeting period and then started to increase, possibly reflecting post-holiday-season employment adjustments. As a result, for the first time since August 2009 the four-week moving average of initial claims increased. The level of the four-week average of initial claims in the latest week was 448,000. Continuing claims under the regular state programs fell to just under 4.6 million, and the insured unemployment rate fell from 3.8% in early December to 3.5% in the latest week. This is a time of the year in which the seasonal movements in both new and continuing claims are enormous. The large, erratic, seasonal moves, combined with the very high numbers of people collecting benefits under the extended and emergency unemployment programs, make it difficult to make any sensible judgment about what the claims numbers imply for the underlying state of the labor market. In summary, the labor market report and claims data suggest that inflows into unemployment have subsided considerably and that job creation remains the biggest challenge for recovery in the labor market.

Trade. The trade deficit widened from $33.2 billion in October to $36.4 billion in November. Export volumes declined slightly in November, following two months of strong growth, while non-oil import volumes were up 2%, continuing the pattern of large increases we saw in the last two months. Oil volumes were flat following a large decline in the previous month. A large part of the deterioration in the trade balance in November was due to a $1.7 billion jump in the oil bill, entirely due to higher oil prices. These data suggest the net export contribution to GDP growth will turn around from a negative 0.8 percentage points in Q3 to a positive contribution of 0.1 percent points in Q4.

Inflation. *CPI:* Total CPI rose 0.1% in December, below the median forecast of a 0.2% gain. Ex-food and energy the index also rose 0.1%, in line with the median forecast. The details show that, on the upside, used car prices, which have been rising briskly, were up another 2.5%, lodging away from home increased 0.5%, and apparel prices rose 0.4%. On the downside, new vehicle prices fell 0.3% and recreation prices were off by 0.4%. Both tenants' and owners' equivalent rents were unchanged, and medical prices were up only 0.1%. The broad core services index, reflecting the weakness in rents, rose 0.1% for a fourth straight month, while core goods prices rose 0.2% for the second month in a row. While core goods price increases remain higher than those for core services, they seem to be less marked than a few months ago. The moderation could dispel concerns about some firming in overall inflation led by goods.

PCE Deflator: The overall PCE deflator rose 0.2% in November. Energy prices rose sharply, contributing to a 0.9% increase in prices of nondurable goods. However, service prices rose just 0.1%. On a year-over-year basis, the total PCE deflator was up 1.5% versus a decline of 0.9% in July as the effect of the steep decline of energy prices at the end of 2008 began to fade. The core PCE deflator was essentially unchanged in November versus the consensus expectation of a 0.1% increase. On a year-over-year basis the core PCE deflator was up 1.4%, down from 2.1% in November of 2008.

Surveys. *ISM Manufacturing:* The December ISM manufacturing survey points to a renewed pickup in activity. The headline index rose 2.3 points to 55.9 and closed out

2009 at its highest level since the spring of 2006. The prices paid index rose, partly reversing November's sizable decline.

ISM Non-Manufacturing: The ISM non-manufacturing composite index rebounded modestly to about 50 in December, reversing most of November's dip. Survey results point to ongoing weakening in employment and moderate price pressures.

Foreign Macroeconomic Conditions

Emerging Asia did well in 2009, while the euro area and Japan are still struggling to achieve a meaningful recovery. Excess capacity and high unemployment will restrain growth, but the global upswing in exports and broad improvements in business confidence are positive developments. Foreign output is expected to increase 3.1% (Q4/Q4) in 2010 after being essentially flat in 2009.

Europe: Preliminary data imply no German growth in Q4, as weak consumption and investment spending likely offset contributions from inventories and exports. Euro area production continues to recover at a slow pace. Business confidence improved again in December, but responses to questions about expectations continue to be much more positive than questions about current orders. The unemployment rate hit 10.0% in November.

Asia: Japanese production is finally responding to the rebound in exports with survey responses pointing to better data for December and January. The unemployment rate is stabilizing at just above 5%. Core prices were down 1.0% over the year in November.

China's economy grew 10.7% (Q4/Q4) last year, close to expectations. Data continue to come in strong with exports jumping in December and the official manufacturing PMI moving higher. Credit growth was quite robust in Q4, but well below the torrid pace set in the first half of the year.

Latin America: Mexico is emerging from one of the worst recession in its history. Data suggest strength in the export-oriented sector while domestic demand indicators remain soft. Brazil's economy likely accelerated in Q4 as policies to support employment and income have encouraged consumer spending.

5.2 Financial Markets

Domestic Financial Markets

Policy rate expectations shifted down modestly over the intermeeting period. Treasury yields, longer-term inflation compensation, and equity markets were little changed, while credit spreads narrowed. Amounts outstanding under the Fed's liquidity facilities continued to decline over the intermeeting period as short-term funding conditions remained stable.

Policy rate expectations shifted down since the last FOMC meeting as Federal Reserve communication reinforced expectations of the target rate remaining exceptionally low for an extended period [Exhibit A-5]. Implied fed funds and Eurodollar futures rates suggest that market participants expect the policy rate to remain within its current range into the summer and then rise to about 50 basis points by late 2010 and to about 1.75% by late 2011.

Nominal Treasury yields changed little, on net, since the last FOMC meeting, despite the shift in policy rate expectations [Exhibit A-3]. The 2- and 10-year yields both increased 25-30 basis points between the December FOMC meeting and the end of 2009, before declining similar amounts in the first three weeks of 2010. The 3-month yield, in contrast, traded between 4 and 6 basis points for most of the intermeeting period.

Real yields declined modestly over the intermeeting period, especially at the short end of the curve, causing inflation compensation to increase [Exhibit A-4]. The carry-adjusted 5-year real yield declined 12 basis points to 0.38% on January 20, whereas the nominal yield rose 10 basis points to 2.43%, causing 0-5 year inflation compensation to increase

21 basis points to 2.04%. 5-10 year inflation compensation declined 4 basis points to 3.09%.

Equity markets increased slightly over the intermeeting period, with broad indices up about 1% as of the January 21 close [Exhibit A-7]. The S&P 500 is now 65% above its March 2009 low, but still 29% below its October 2007 high. Equity index implied volatility continued its longer term decline for much of the intermeeting period, but then jumped higher on January 20 and 21 [Exhibit A-6]. Credit spreads continued to narrow since the last FOMC meeting, with single A spreads down 22 basis points to 158 basis points and BB spreads 56 basis points narrower to 456 basis points.

Amounts outstanding under the Fed's liquidity facilities continued to decline over the intermeeting period as short-term funding conditions remained stable [Exhibit A-8]. Outright purchases of agency debt and agency MBS continued as planned [Exhibit A-9]. On net, total Federal Reserve assets increased modestly since the last FOMC meeting to $2.3 trillion [Exhibit A-12].

Commercial and industrial loans continued to decline in December and at a year-over-year annual rate commensurate with November [Exhibit A-10]. Loans outstanding continued to decline through January 6 (the latest data).

Foreign Financial Markets

Global funding conditions are close to normal with three-month LIBOR-OIS spreads across Europe and Japan remaining broadly unchanged since the last FOMC meeting at levels within the 15-25 basis point range. Concerns about the fiscal positions of peripheral euro area member states continue to haunt European financial markets. Relative to Germany, sovereign CDS and bond yield spreads of Portugal, Ireland, Spain, and in particular Greece increased further over the intermeeting period. Concerns regarding Greece's fiscal outlook continue to escalate, and investors await a credible plan to materially reduce the deficit over the next few years.

Liquidity conditions in emerging market economies have improved further. The remaining $0.5 billion of Korea's swap line with the Federal Reserve rolled off in mid-December, with a peak level of swap borrowing in 2009 equal to $16 billion. Last April, Mexico made its only draw on its swap line with the Federal Reserve for $3.2 billion, auctioning the proceeds to banks. These loans matured on January 12 and Mexico's central bank is scheduled to repay the swap line on February 1. Emerging market external debt spreads decreased about 15 basis points over the period. External debt issuance by Emerging Market economies reached a record level at the end of 2009, with syndicated loans for Asian private sector industrial companies picking up substantially in December and the first weeks of January.

Encouraging data releases in the U.S., Japan and Emerging Asia improved the global economic outlook of investors resulting in equity rises over the intermeeting period, in particular in Europe and Japan. Equities in Emerging Asia and Latin America lagged in terms of growth pace, as concerns that Chinese credit growth could slow more abruptly than expected had an adverse impact towards the end of the period. In Japan equities were up about 9%, as production and trade data releases surprised on the upside. Euro area and U.K. bond yields were up 7 and 17 basis points, respectively, on account of a worsening fiscal outlook and, in case of the U.K., a surprisingly high inflation outturn for December.

The trade-weighted U.S. dollar index appreciated since the last FOMC meeting. Relative to the euro and the Japanese yen, however, the dollar strengthening was more pronounced than implied by the overall index, with gains of about 4%. More broadly, both the euro and the yen depreciated - respectively, 3% and 2% - compared to other major currencies. The moves in the euro seem to have been driven by a perception that the economic recovery in the euro area will be less strong relative to other developed economies, as exemplified by recent data releases. Next to that, concerns about the fiscal outlook for a number of member countries also contributed significantly to the path of the common currency in recent weeks. In the case of Japan, the currency moves appear to be mainly caused by an expectation that domestic interest rates will remain persistently low relative to interest rates abroad, coupled with declining risk aversion amongst investors. The dollar remained stable against the Chinese yuan.

5.3 Global Economic Policy

Developed nations central banks have kept their policy stance at a very accommodative level over the intermeeting period. It is unlikely that this policy accommodation will be withdrawn in the short term. However, some institutions took tentative steps towards preparing for a modest turnaround in their policy stance, especially with respect to their liquidity support operations. In contrast, monetary authorities in emerging markets and commodity-oriented economies are either close to, or have already implemented, an explicit tightening of their policies.

As has been the case since March, the ECB kept its policy rate unchanged at 1.0% at its January meeting, with Trichet signaling that there remain substantial downside risks to the growth outlook. However, the ECB put through a number of changes to its liquidity support facilities. Firstly, it ended its 12-month refinancing operations in December, whereas the last 6-month refinancing operation will be held in April. The last 1-year operation pushed up the ECB's balance sheet to €1.9 trillion from €1.8 trillion at the time of the last FOMC meeting. This leaves the ECB with refinancing facilities that have maturities of up to 3 months. The ECB will discuss at its March meeting whether to scale back the size of these remaining operations to pre-crisis levels.

The Bank of Japan is keeping its policy rate close to the zero-bound, at 0.10%. To battle the fear of a prolonged deflation period, the Bank will continue to operate its ¥10 trillion special lending facility for corporate financing, as introduced at a special policy meeting on December 1. Furthermore, the Policy Board of the Bank of Japan issued on December 18 a statement that explicitly said it will not tolerate zero inflation or deflation over the medium term. The prospect of persistent consumer price deflation and yen strengthening might force the Bank of Japan to pursue more aggressive options. These include an expansion of the current credit program, a duration commitment for the near-zero policy rate, currency interventions, and increased monthly purchases of government bonds.

China initiated a tightening of its monetary policy on January 12, the first since June 2008, encompassing a 50 basis point rise in reserve requirements for both small and large banks, as well as an 8 basis point increase in the central bank's 1-year sterilization bill rate. The timing and aggressiveness of this move was unexpected, and appears to be motivated by strong production and trade data releases, accelerating inflation, and very strong loan growth in the first week of January. In a follow-up action, the Chinese bank regulator imposed stricter credit quota on large banks in order to stem what has become a burst of exceptional lending activity. Chinese monetary authorities are expected to continue along a path of incremental increases in banks' reserve requirements and sterilization bill rates, with increases in policy rates expected from April onwards. A continued strength in exports might lead to a possible resumption of a gradual upward adjustment of the exchange rate in the second half of the year. Nonetheless, Chinese monetary policy stance will remain relatively loose in 2010, compared to the tightening expected by the markets, as credit growth is projected to hit another historical high this year and inflation is accelerating faster than it has since 2007.

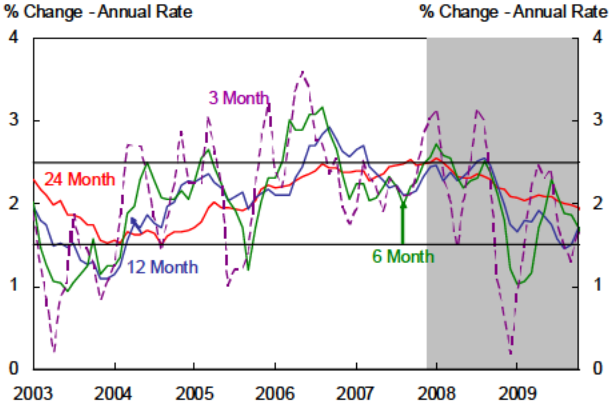
Most of the remaining central banks, such as the Bank of England, Bank of Canada, the Swedish Riksbank and the Mexican central bank, kept their policy rates unchanged at historically low levels. In addition, the Bank of England kept its asset purchase program at £200 billion and it is due to complete this program by the end of January.

Bond markets in Brazil and Mexico are pricing in policy rate hikes by March, where it is very likely that the Brazilian central bank will precede such a move with increases in reserve requirements for banks. Also, the rapid rate of economic recovery in Emerging Asia (excluding China) has made it clear that most central banks in this region will start hiking rates in the first half of 2010, with India and Korea expected to have started their policy tightening by March. U.S. dollar reserves in emerging markets continue to increase, albeit at a more moderate pace than in late 2009. This occurred as authorities continued to limit the appreciation of their domestic currencies relative to the dollar, particularly in China and the rest of Emerging Asia.

A. Significant Developments

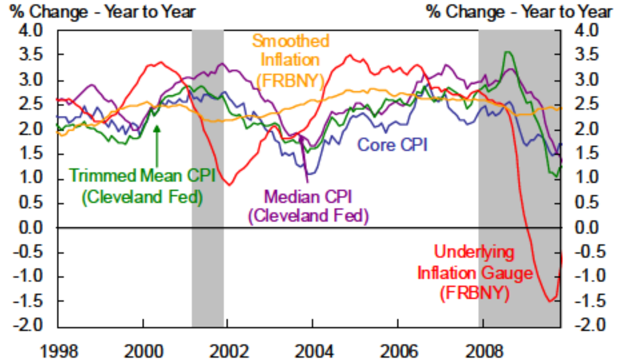
Exhibit A-1:
Measures of Trend Inflation

Core CPI Inflation over Various Horizons



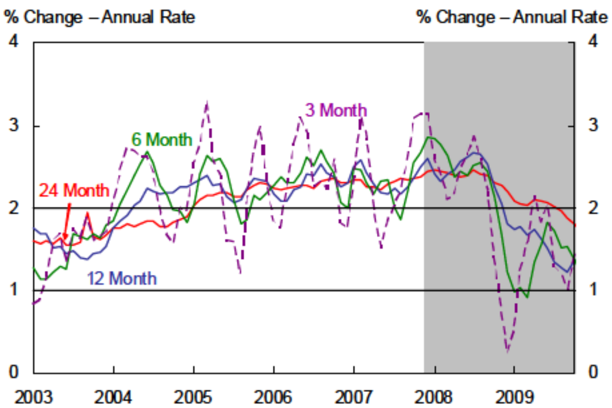
Source: Bureau of Labor Statistics

Alternative Measures of CPI Inflation



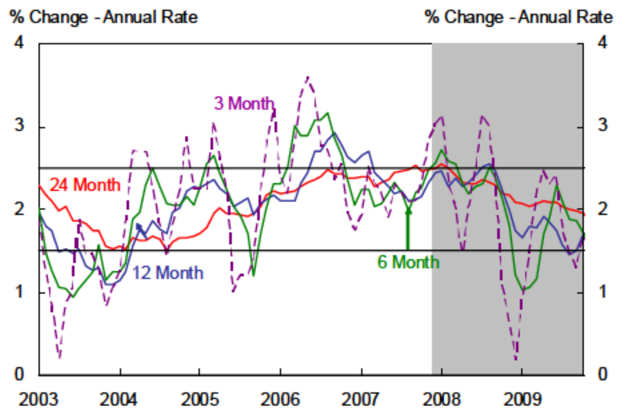
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



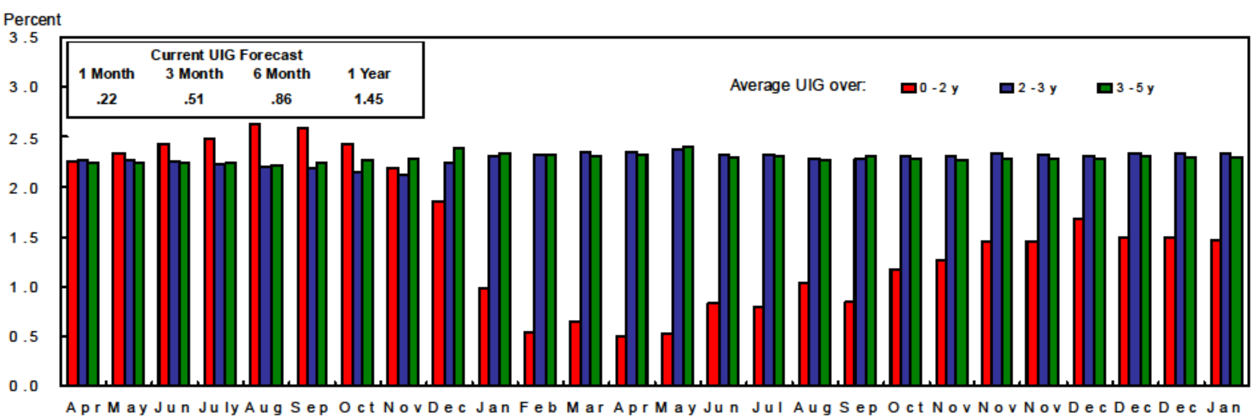
Source: Bureau of Economic Analysis

Core CPI Inflation over Various Horizons



Source: Bureau of Labor Statistics

Exhibit A-2:
Underlying Inflation Gauge (UIG)



Source: MMS Function (FRBNY) and Swiss National Bank

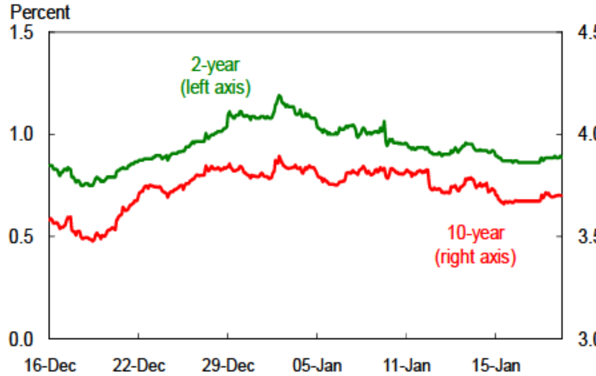
A. Significant Developments

Exhibit A-3:
Treasury Yields

Short- and Long-Term Rates

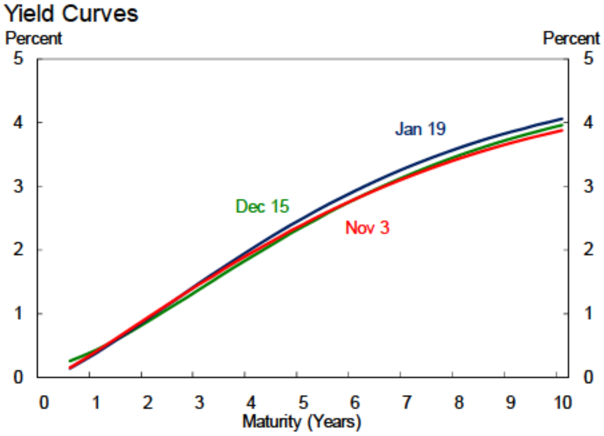
Source: Bloomberg Note: Yields of on-the-run securities

Short- and Long-Term Rates (Intraday)



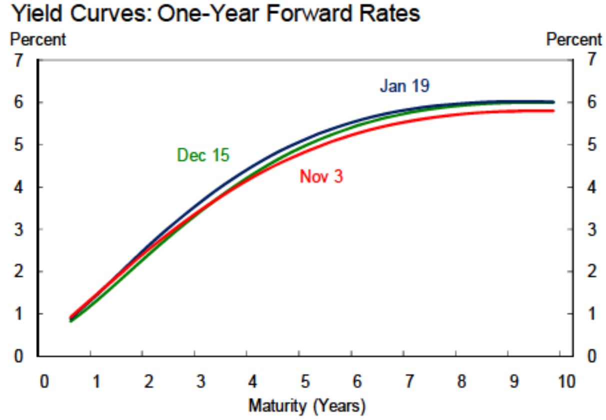
Note: On-the-run securities, 8:00 am to 4:00 pm.

Yield Curves



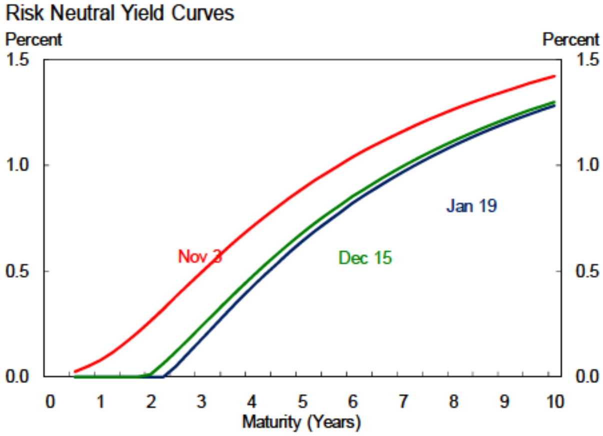
Source: Federal Reserve Board

Yield Curves: One-Year Forward Rates



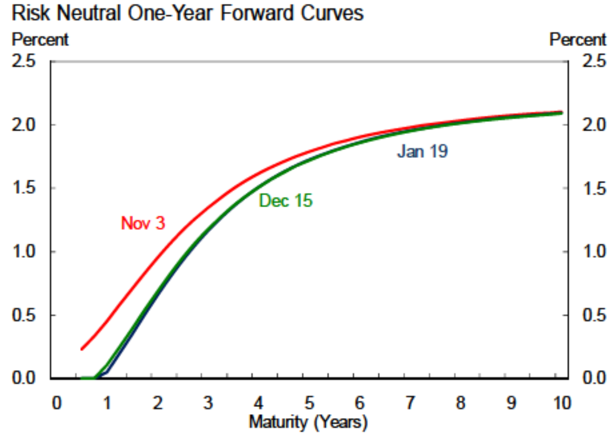
Source: Federal Reserve Board

Risk Neutral Yield Curves



Source: FRBNY calculations

Risk Neutral One-Year Forward Curves

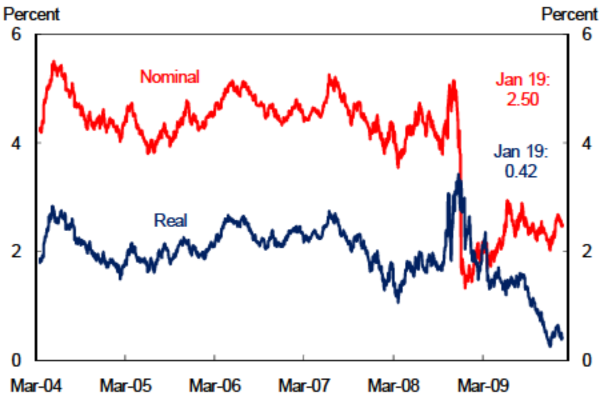


Source: FRBNY calculations

A. Significant Developments

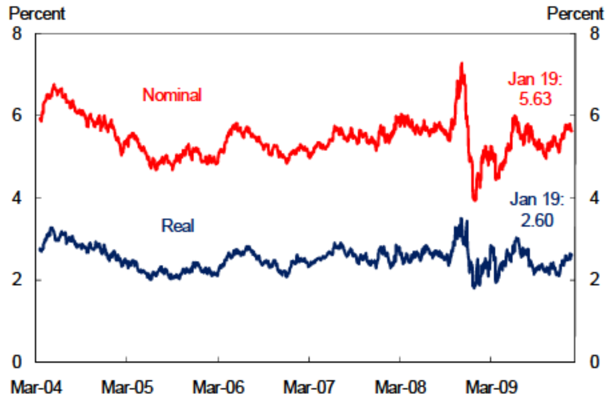
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



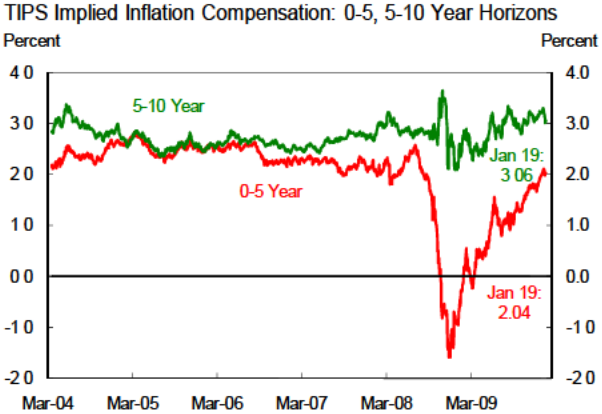
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

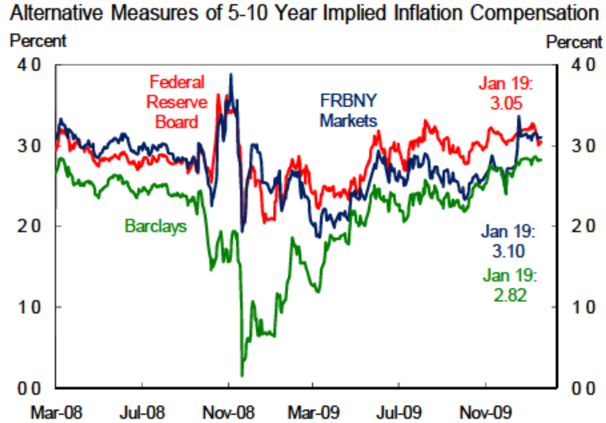
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

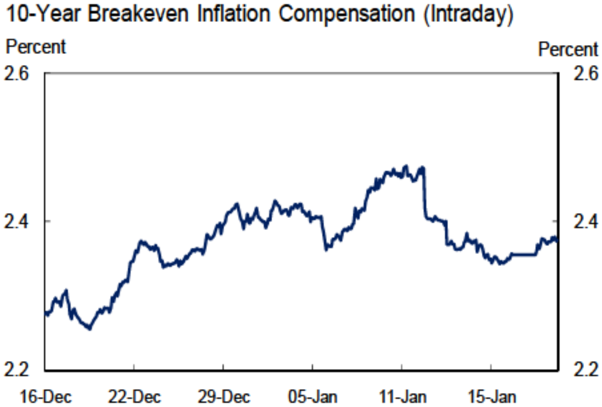
Note: Carry-adjusted

Alternative Measures of 5-10 Year Implied Inflation Compensation



Source: Federal Reserve Board, Barclays, and FRBNY calculations

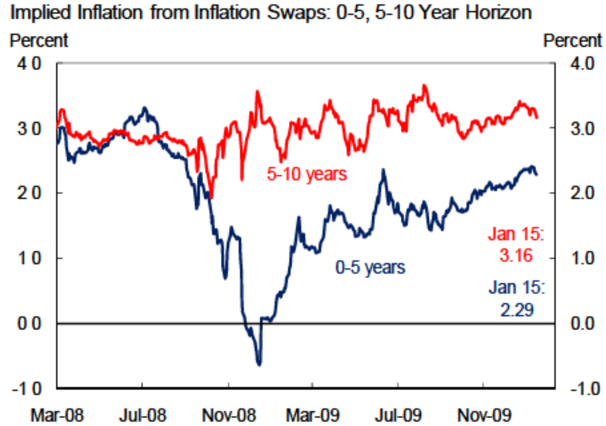
10-Year Breakeven Inflation Compensation (Intraday)



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

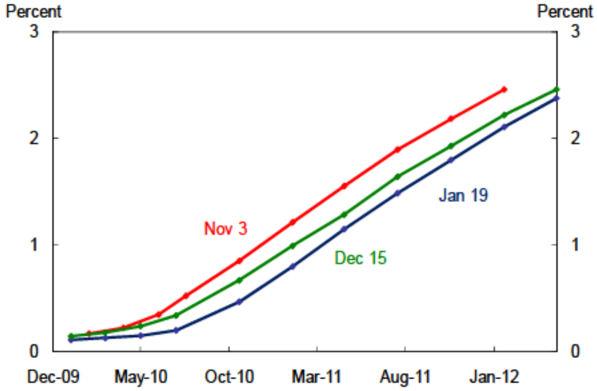


Source: Barclays

A. Significant Developments

Exhibit A-5:
Policy Expectations

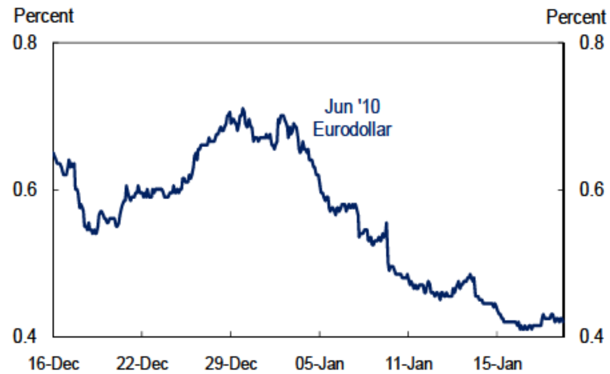
Fed Funds Futures Implied Rates



Source: Federal Reserve Board

Note: Estimated using fed funds and Eurodollar futures.

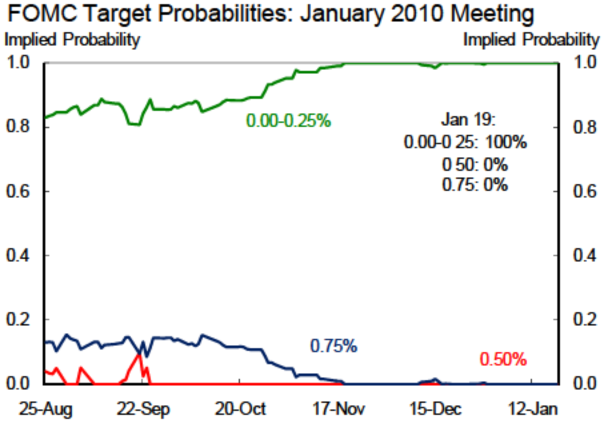
Implied Eurodollar Rates (Intraday)



Source: Bloomberg

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

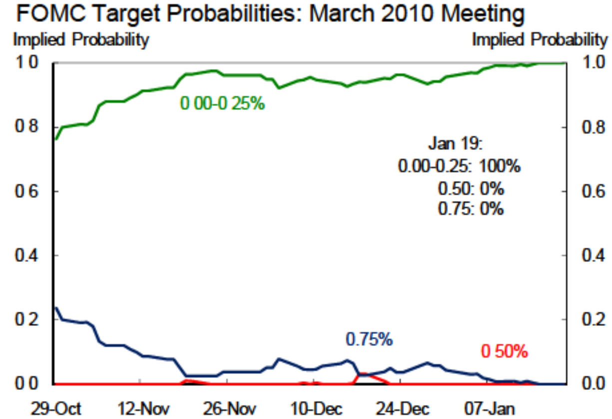
FOMC Target Probabilities: January 2010 Meeting



Source: Cleveland FRB

Note: Estimated using options on fed funds futures.

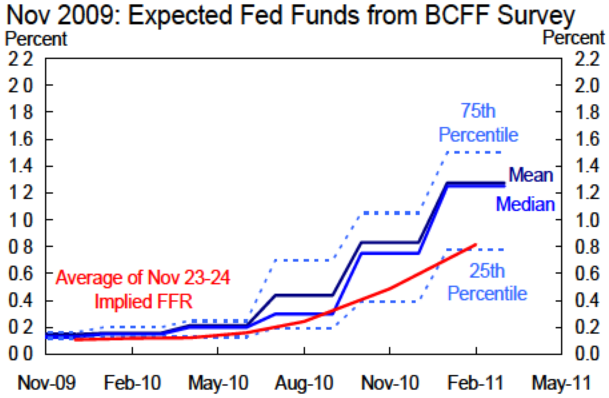
FOMC Target Probabilities: March 2010 Meeting



Source: Cleveland FRB

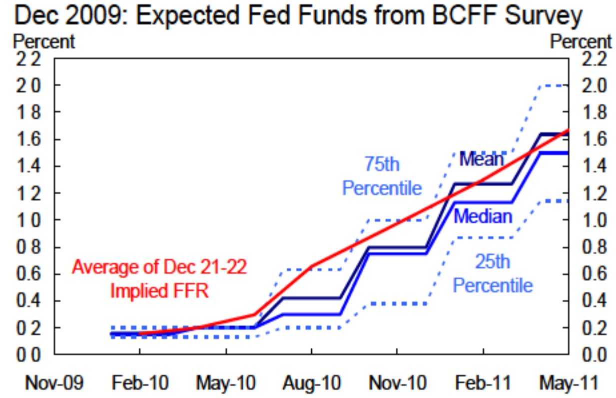
Note: Estimated using options on fed funds futures.

Nov 2009: Expected Fed Funds from BCFF Survey



Note: Implied FFR are from fed funds and Eurodollar futures.
The BCFF survey was conducted on Nov 23-24.

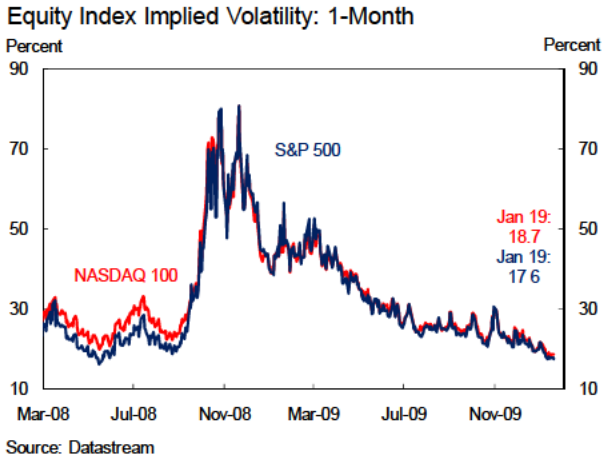
Dec 2009: Expected Fed Funds from BCFF Survey

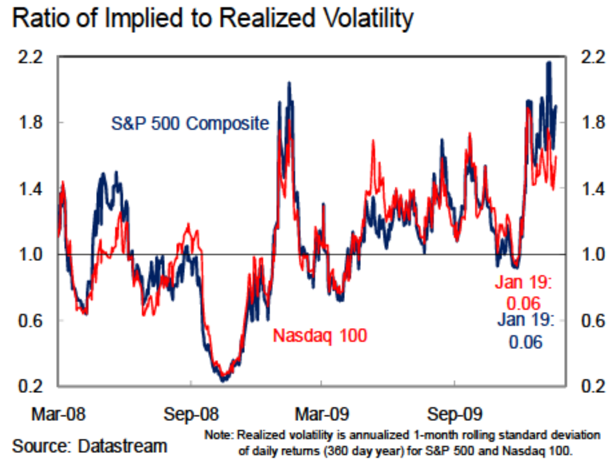


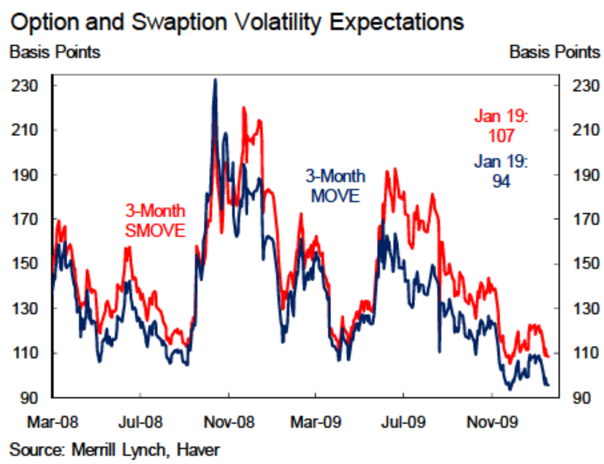
Note: Implied FFR are from fed funds and Eurodollar futures.
The BCFF survey was conducted on Dec 21-22.

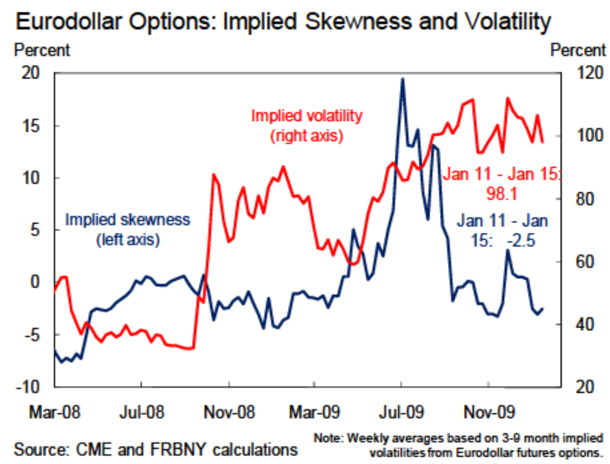
A. Significant Developments

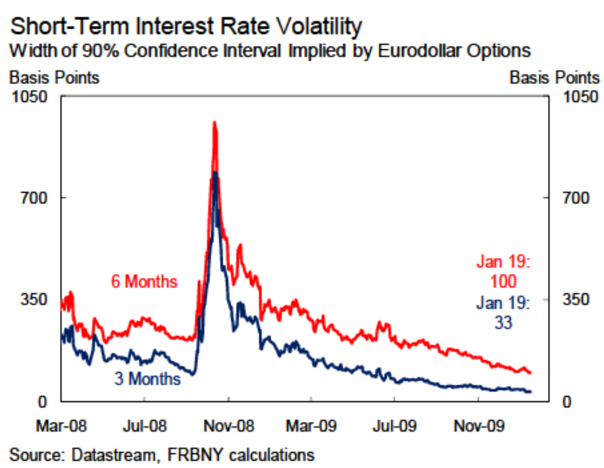
Exhibit A-6:
Implied Volatility

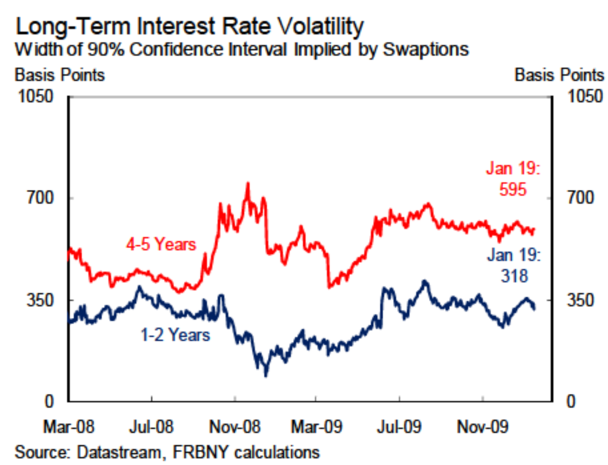








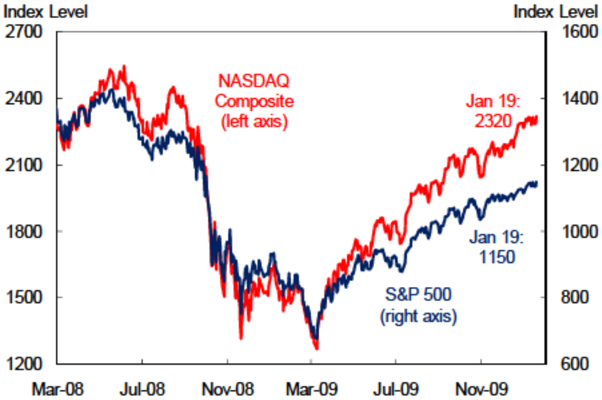




A. Significant Developments

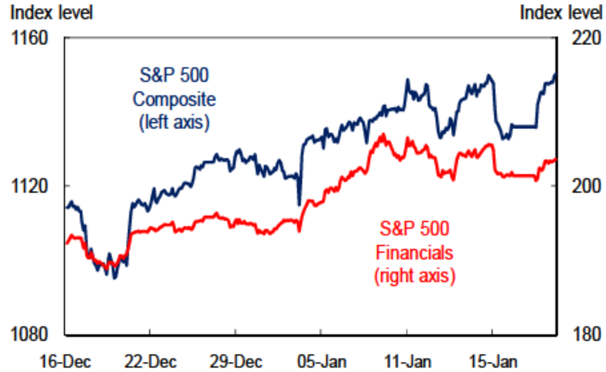
Exhibit A-7:
Equity and Credit

Equity Index Levels



Source: Datastream

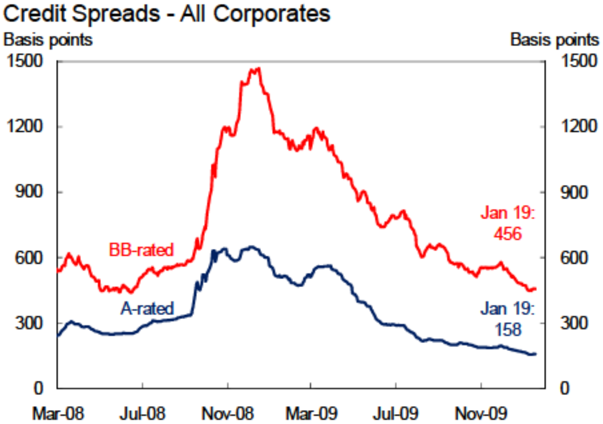
S&P 500 Indices (Intraday)



Source: Bloomberg

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

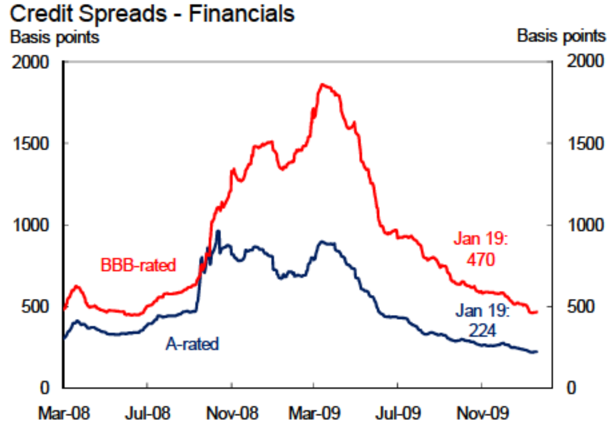
Credit Spreads - All Corporates



Source: Merrill Lynch

Note: Option-adjusted spreads.

Credit Spreads - Financials



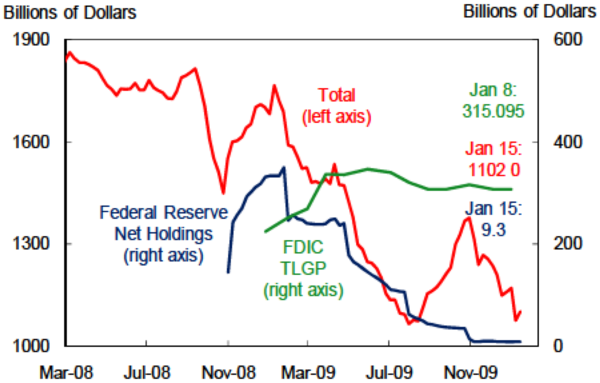
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

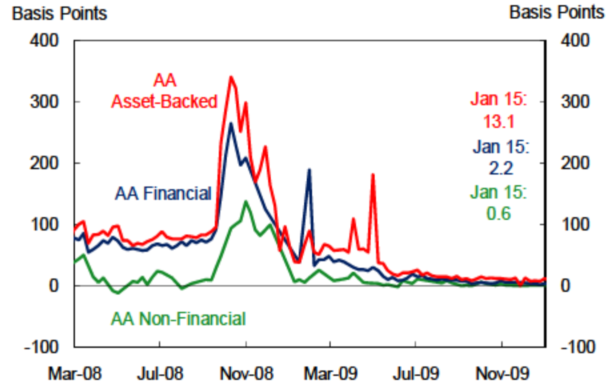
Exhibit A-8:
Liquidity Facilities

CPFF and Commercial Paper Outstanding



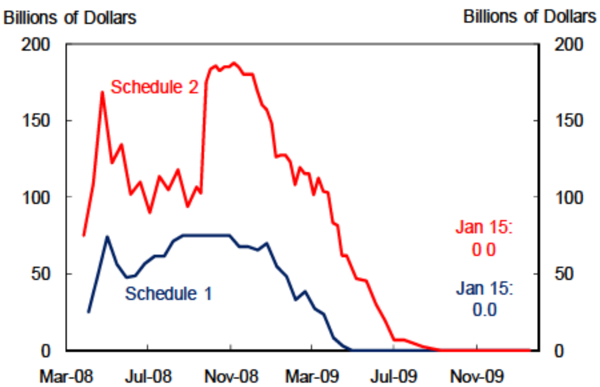
Source: Federal Reserve Board, Haver

3-Month CP Rates over OIS



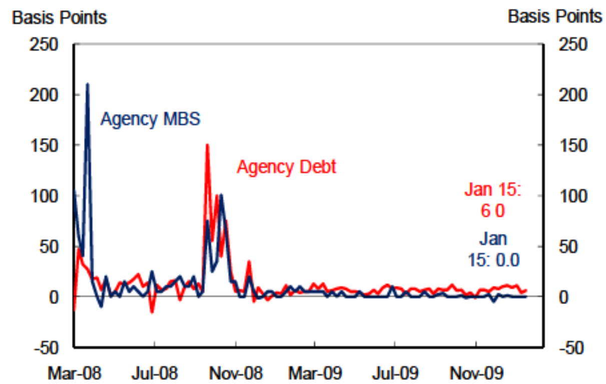
Source: Federal Reserve Board, Haver, Bloomberg

TSLF Outstanding



Source: Federal Reserve Bank of New York

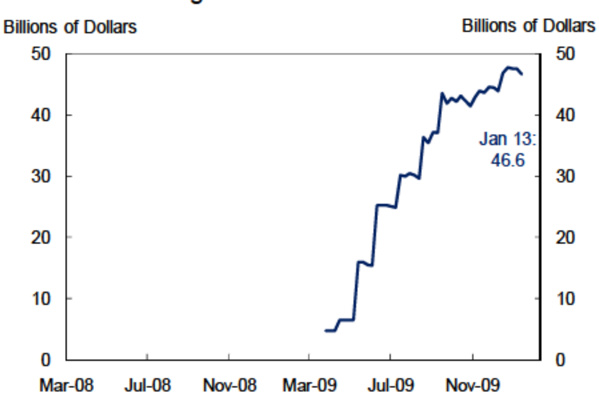
Overnight Financing Spreads



Source: Bloomberg

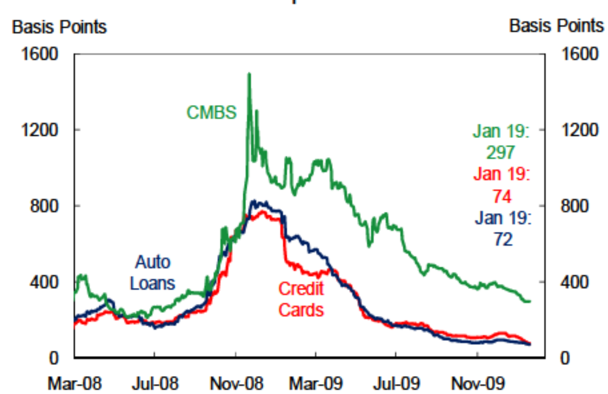
Note: Spreads are between overnight agency debt and MBS and Treasury general collateral repo rates

TALF Outstanding



Source: Federal Reserve Board

AAA-Rated ABS/CMBS Spreads



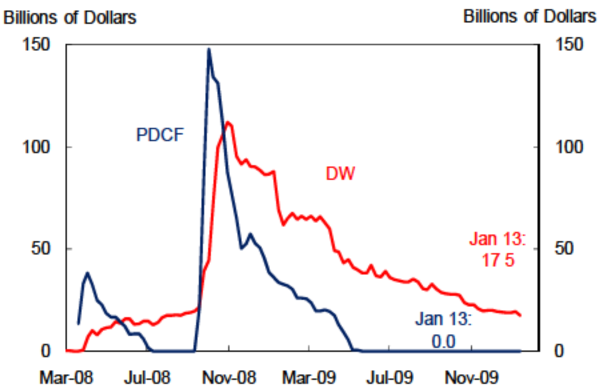
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

Exhibit A-8: Liquidity Facilities

Discount Window and PDCF Borrowing

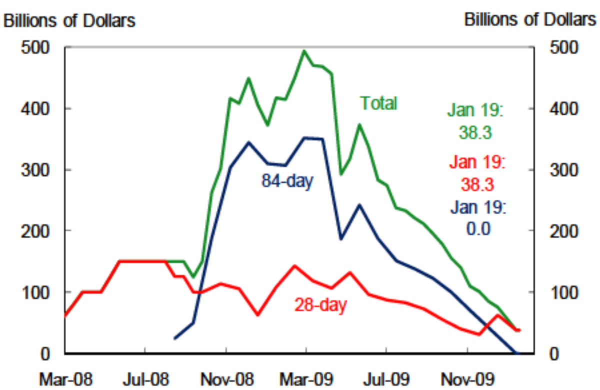


Source: Federal Reserve Board

Sector CDS Spreads

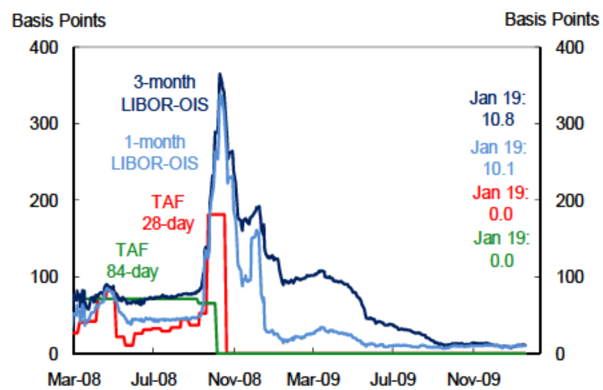
Source: CMA

TAF Outstanding



Source: Federal Reserve Board

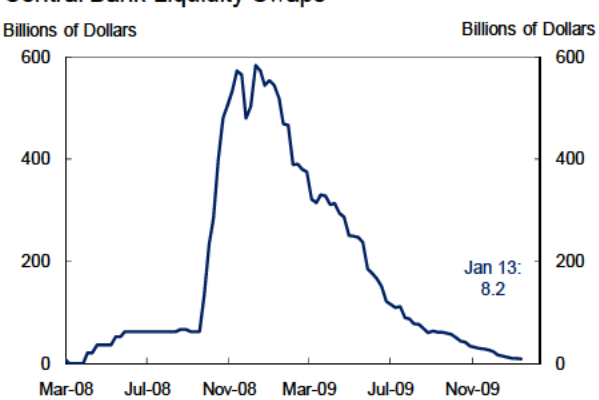
TAF Spreads and Libor to OIS



Source: Federal Reserve Board, Bloomberg

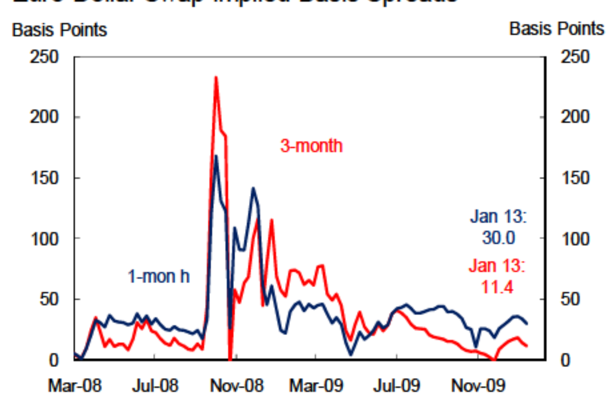
Note: The TAF spread is defined as the stop-out rate less the minimum bid rate.

Central Bank Liquidity Swaps



Source: Federal Reserve Board, Bloomberg

Euro-Dollar Swap Implied Basis Spreads

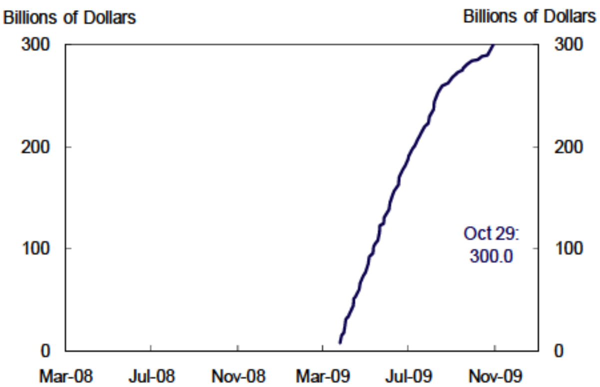


Source: Reuters, Tullett

A. Significant Developments

Exhibit A-9:
Outright Purchase Program

Treasury Outright Purchases

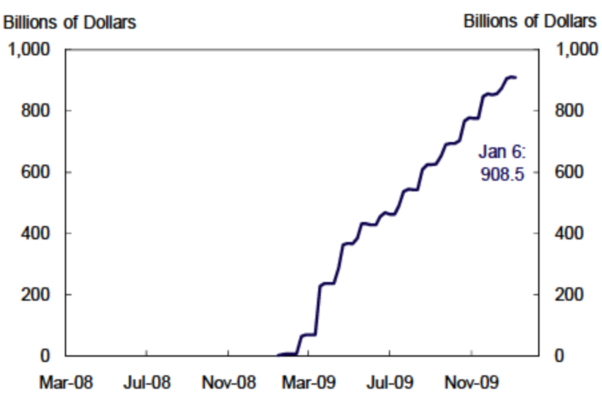


Source: Federal Reserve

Treasury Rates

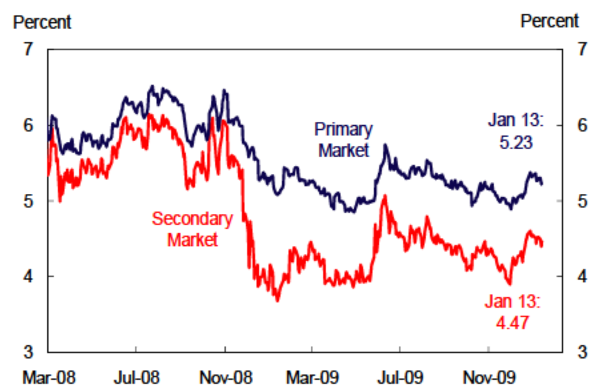
Source: Wall Street Journal, Haver

Agency MBS Net Outright Purchases



Source: Federal Reserve

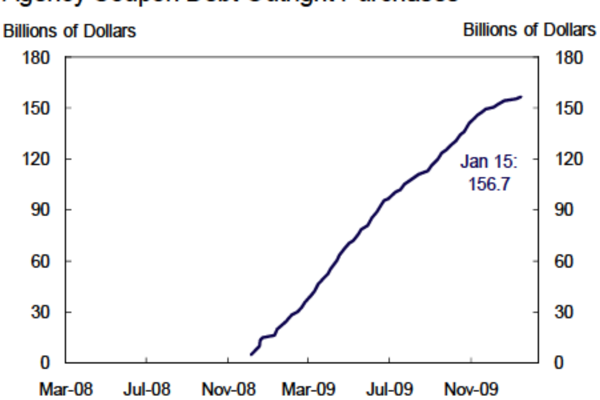
Mortgage Market Rates



Source: Bloomberg

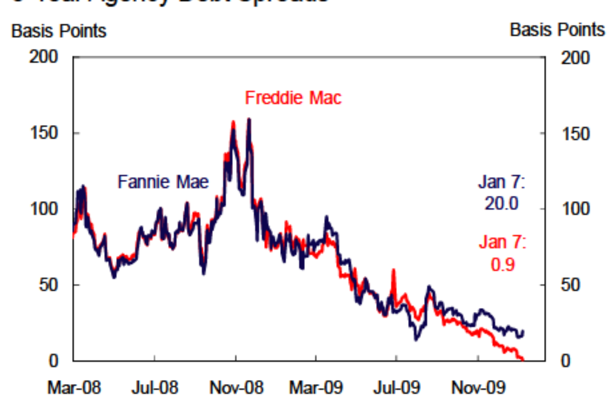
Note: 30-Year Fixed Mortgage rate and Fannie Mae current coupon yield.

Agency Coupon Debt Outright Purchases



Source: Federal Reserve

5-Year Agency Debt Spreads

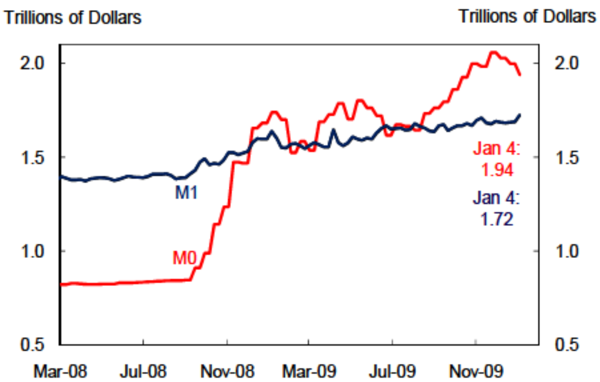


Source: Bloomberg

A. Significant Developments

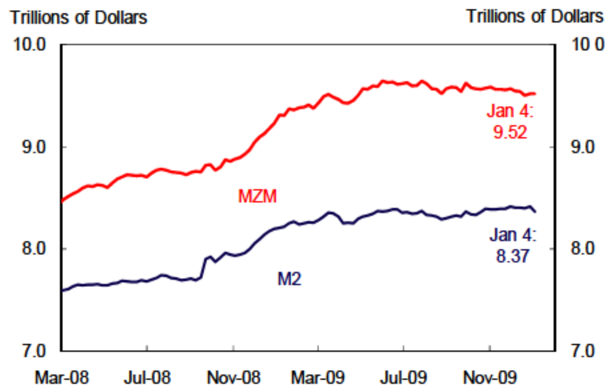
Exhibit A-10:
Money and Banking

Measures of Money Supply: M0, M1



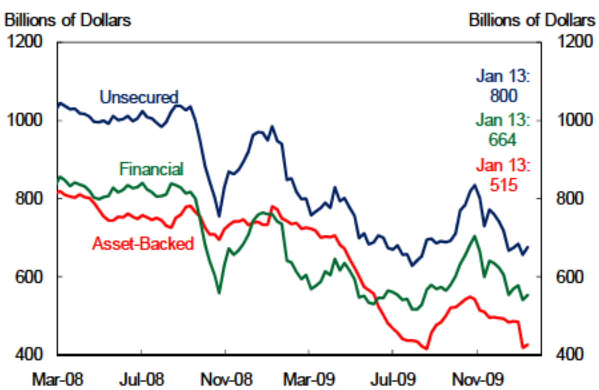
Source: Federal Reserve Board, Haver

Measures of Money Supply: M2, MZM



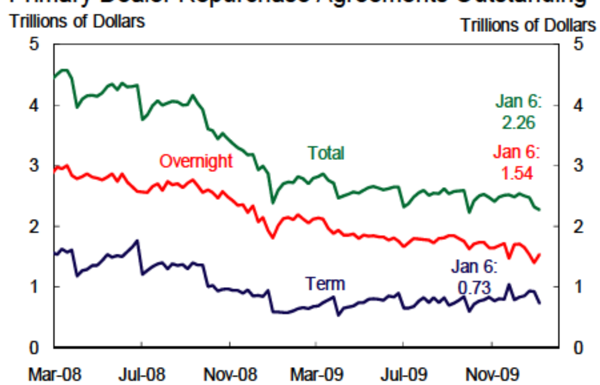
Source: Federal Reserve Board, Haver

Commercial Paper Outstanding



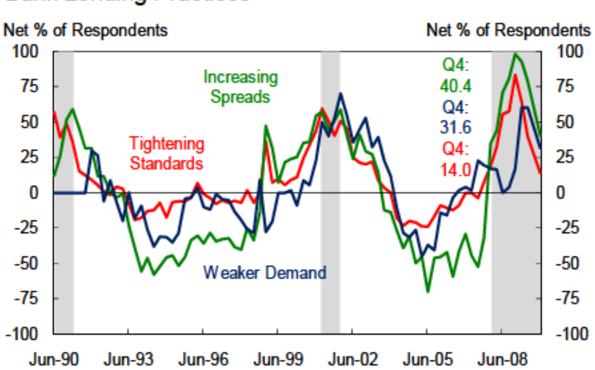
Source: Federal Reserve Board

Primary Dealer Repurchase Agreements Outstanding



Source: Federal Reserve Board

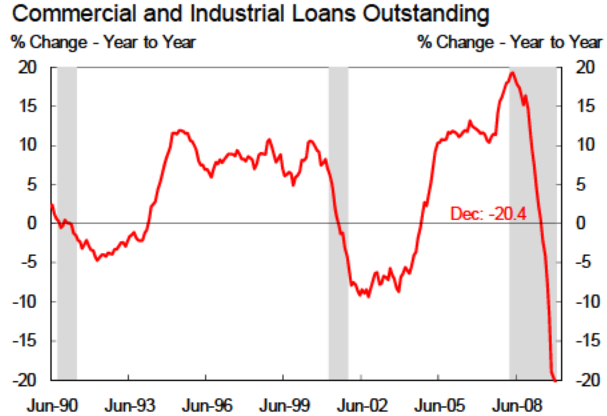
Bank Lending Practices



Source: Federal Reserve Board

Note: Data cover C&I loans to large- and medium-sized firms

Commercial and Industrial Loans Outstanding

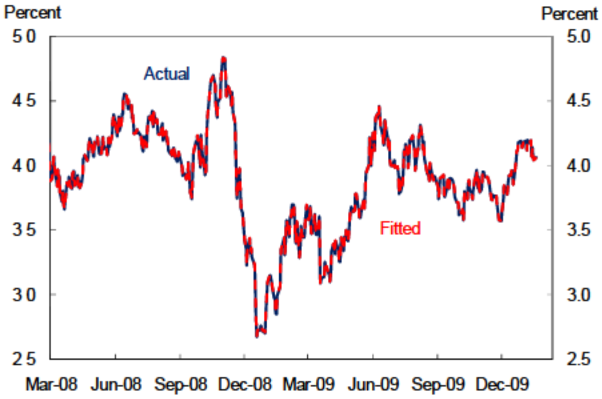


Source: Federal Reserve Board

A. Significant Developments

Exhibit A-11:
Estimates of Term Premia in Treasury Yields

10-Year Treasury

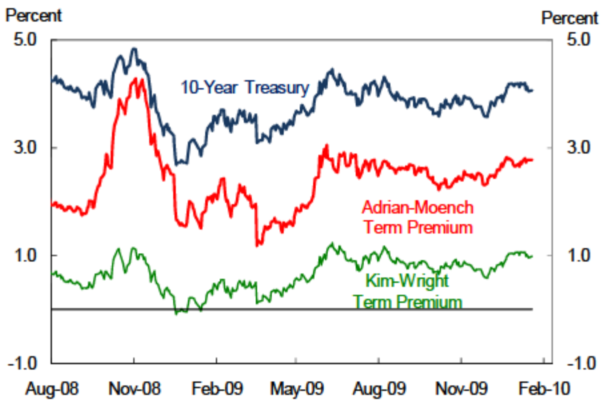


Source: FRBNY calculations, Federal Reserve Board

Term Premium for 10-Year Treasury and 6-Month MOVE Index

Source: FRBNY calculations, Haver, Merrill Lynch

10-Year Treasury and Term Premia



Source: Authors' calculations, Federal Reserve Board

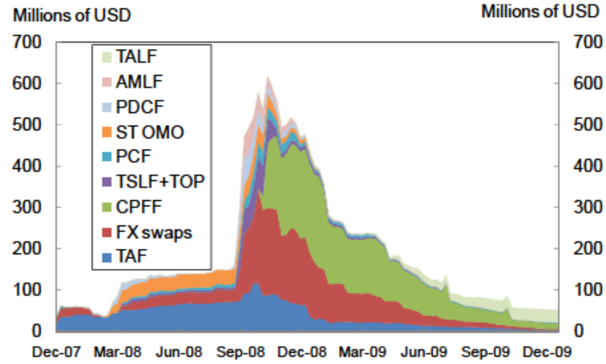
A. Significant Developments

Exhibit A-12:
Income Effects of Fed Balance Sheet Changes

Recent Developments

- Total liquidity facility interest income over the four weeks ending January 13 was $219mn, down from $228mn over the previous four weeks. The difference is primarily driven by smaller outstanding amounts of FX swaps.
- 2009 liquidity facility income was $8.4bn.
- Pro forma income from all sources going forward is $76.7bn (based on the 1/13/10 balance sheet), with declining income from the facilities more than offset by increased income from securities held outright.

Weekly Income by Facility



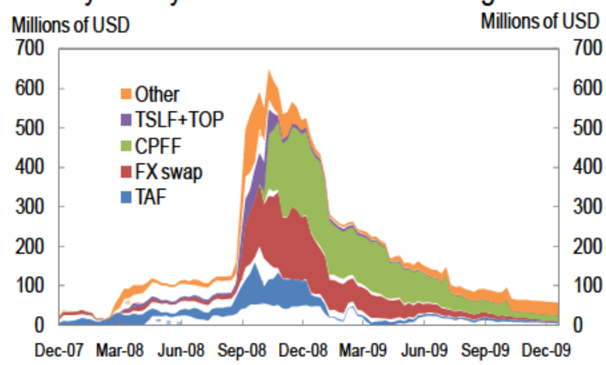
Sources: Federal Reserve, Bloomberg, foreign central banks.

Income Effects of Liquidity Facilities

Period	Interest/Fee Income	Interest Foregone	Difference
2008	11,676	3,664	8,012
2009	8,379	1,127	7,252
2010 YTD	98	3	95
Last 4 Weeks	219	7	212
Total since 8/8/07	**20,245**	**4,856**	**15,389**

Note: Figures in millions of USD.

Weekly Facility Income and Interest Foregone



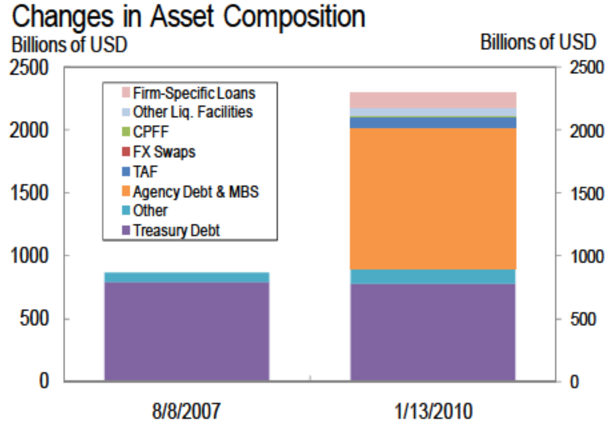
Note: Lighter colors indicate interest foregone.
Sources: Federal Reserve, Bloomberg, foreign central banks.

Pro Forma Income, Next 12 Months

Line Item	Balance Sheet 8/8/07	1/13/10	Difference
Sec. Held Outright	23,946	75,347	51,401
Liquidity Facilities	0	2,058	2,058
Firm-Specific Loans	0	1,323	1,323
Other	808	802	-5
Liabilities	-8	-2,828	-2,820
Net	**24,745**	**76,702**	**51,957**

Note: Estimates based on 8/8/07 and 01/13/10 balance sheets along w ith common (and current) assumptions about policy and market interest rates. Figures in millions of USD.

Changes in Asset Composition

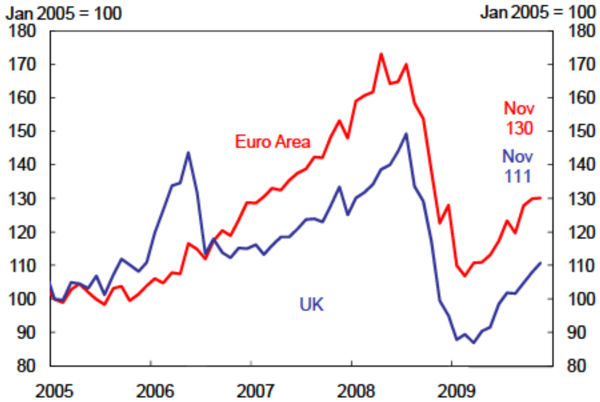


Source: Federal Reserve.

A. Significant Developments

Exhibit A-13: Exports and Industrial Production

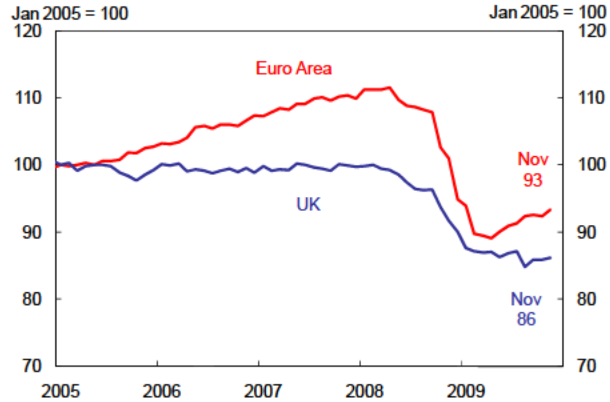
Exports



Source: Haver

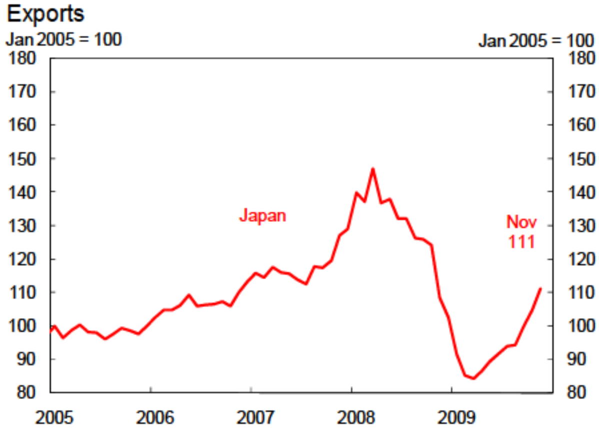
Note: In Dollar Terms

Industrial Production



Source: Haver

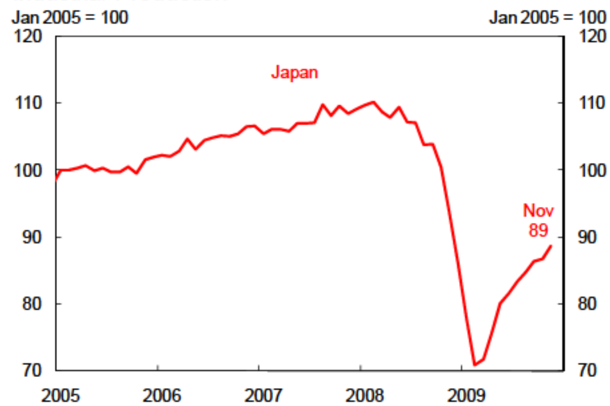
Exports



Source: Haver

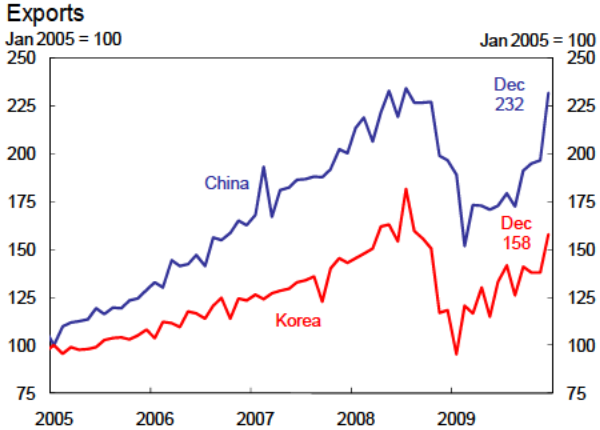
Note: In Dollar Terms

Industrial Production



Source: Haver

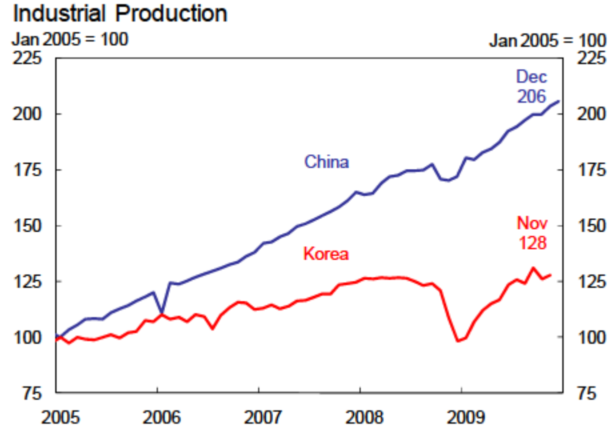
Exports



Source: Haver

Note: In Dollar Terms

Industrial Production

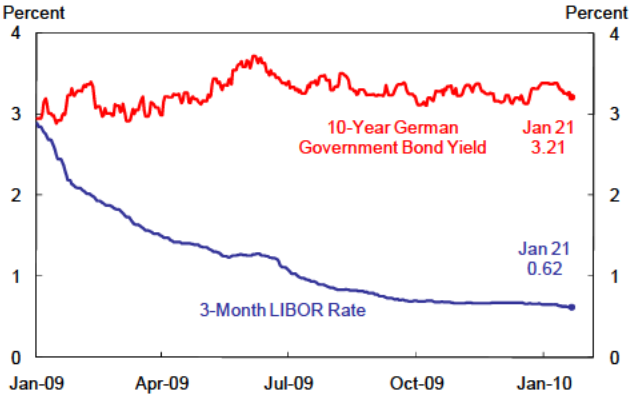


Source: Haver, CEIC

A. Significant Developments

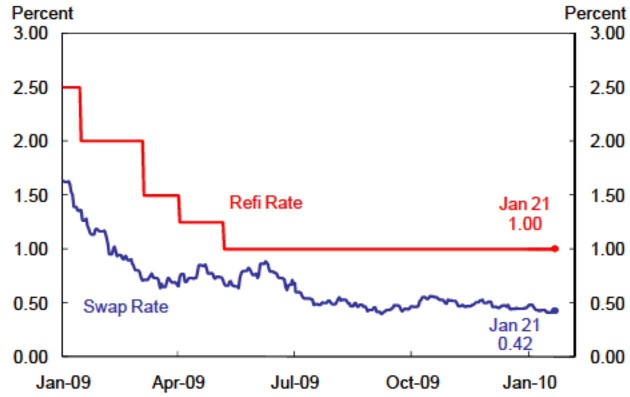
Exhibit A-14:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



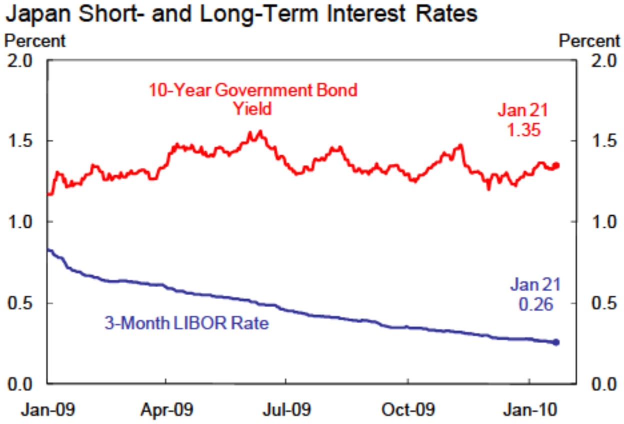
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



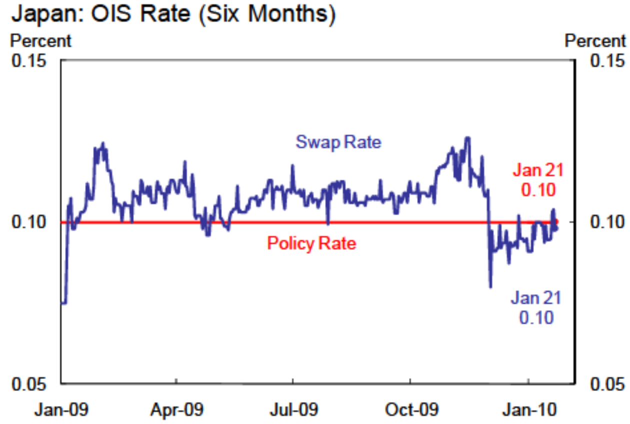
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



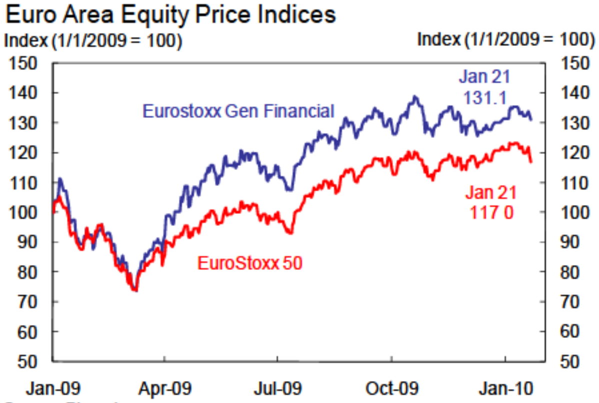
Source: Bloomberg

Japan: OIS Rate (Six Months)



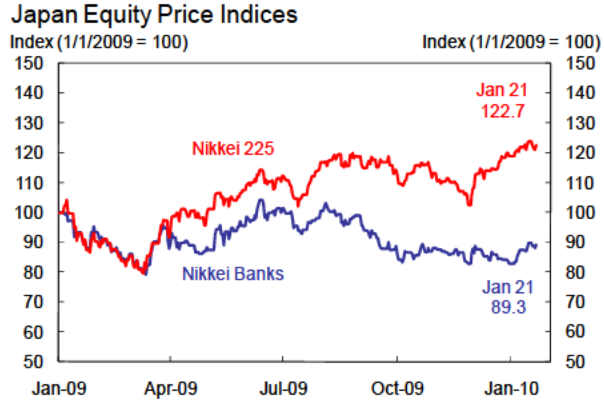
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

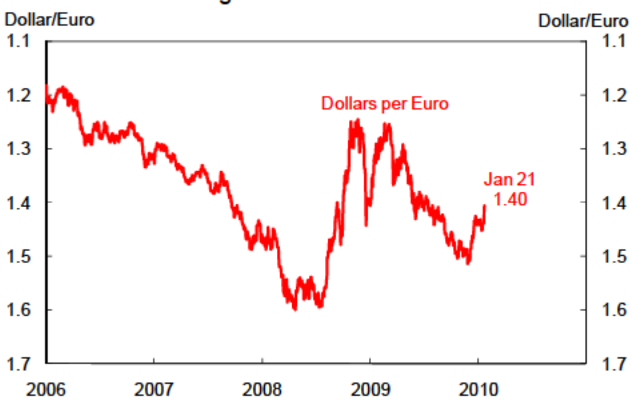


Source: Bloomberg

A. Significant Developments

Exhibit A-15:
Exchange Rates

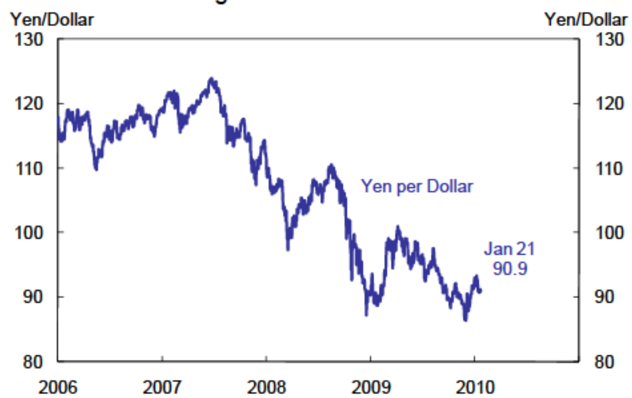
Dollar-Euro Exchange Rate



Source: Bloomberg

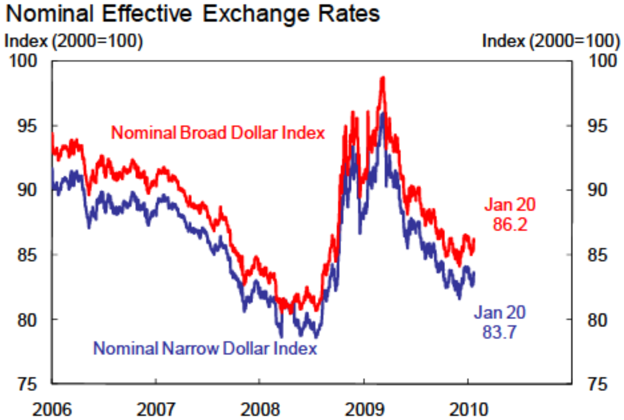
Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



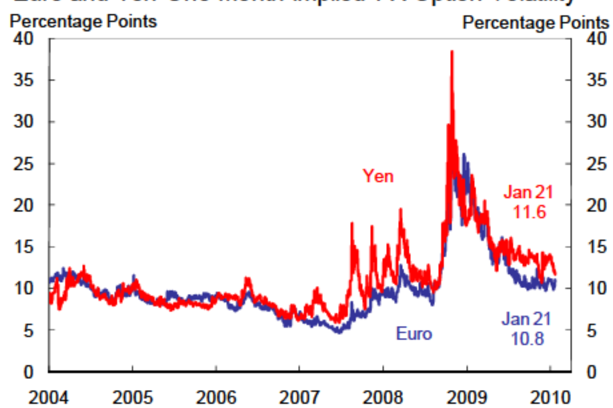
Source: Bloomberg

Nominal Effective Exchange Rates



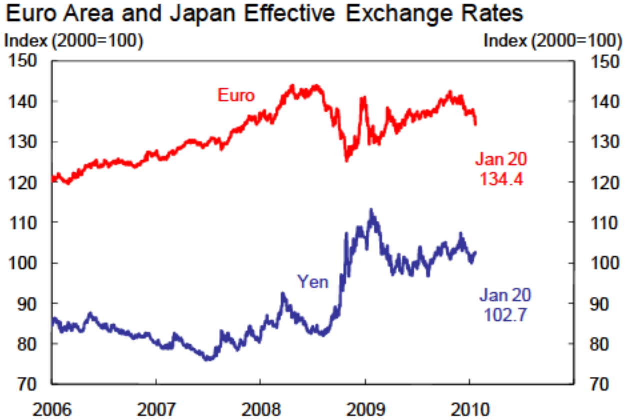
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



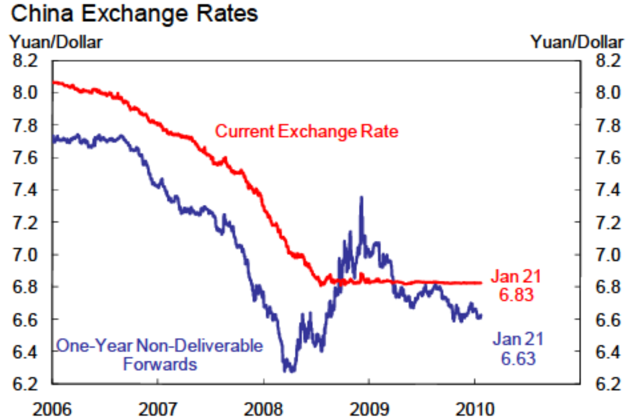
Source: Bloomberg

Euro Area and Japan Effective Exchange Rates



Source: Bloomberg and JPMorgan

China Exchange Rates



Source: Bloomberg

B. FRBNY Forecast Details

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

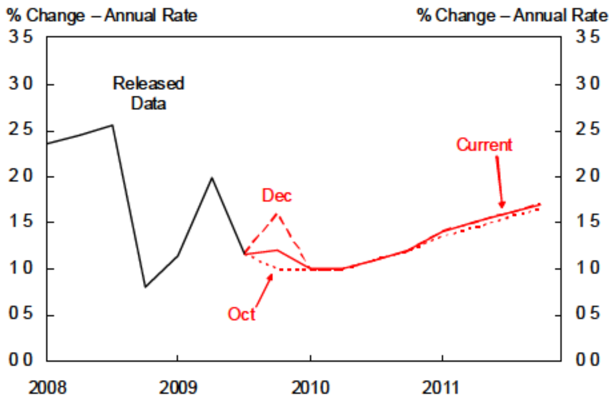
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Oct	Dec	Jan	Oct	Dec	Jan	Oct	Dec	Jan	Oct	Dec	Jan
2009												
Q1	*1.1*	*1.1*	*1.1*	*-6.4*	*-6.4*	*-6.4*	*8.1*	*8.1*	*8.2*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*2.0*	*2.0*	*2.0*	*-0.7*	*-0.7*	*-0.7*	*9.3*	*9.3*	*9.3*	0-0.25	*0-0.25*	*0-0.25*
Q3	1.4	1.3	*1.2*	3.5	2.8	*2.2*	9.6	9.6	*9.6*	0-0.25	0-0.25	*0-0.25*
Q4	1.1	1.6	1.2	3.6	4.6	5.3	10.0	10.1	10.0	0-0.25	0-0.25	0-0.25
2010												
Q1	1.0	1.0	1.0	1.2	1.9	1.8	10.2	10.2	10.1	0-0.25	0-0.25	0-0.25
Q2	1.0	1.0	1.0	1.5	1.7	1.7	10.3	10.4	10.3	0-0.25	0-0.25	0-0.25
Q3	1.1	1.1	1.1	2.3	2.2	2.3	10.3	10.3	10.3	0-0.25	0-0.25	0-0.25
Q4	1.2	1.2	1.2	3.1	3.3	3.6	10.2	10.3	10.1	0-0.25	0-0.25	0-0.25
2011												
Q1	1.4	1.4	1.4	3.8	3.8	4.0	9.6	9.7	9.5	0-0.25	0-0.25	0-0.25
Q2	1.5	1.5	1.5	3.9	3.9	3.9	9.2	9.1	9.1	0.5	0.5	0.5
Q3	1.6	1.6	1.6	4.1	4.0	4.0	8.9	8.6	8.6	1.0	1.0	1.0
Q4	1.7	1.7	1.7	4.3	4.3	4.4	8.6	8.3	8.1	1.5	1.5	1.5
Q4/Q4												
2008	*2.0*	*2.0*	*2.0*	*-1.9*	*-1.9*	*-1.9*	*2.1*	*2.1*	*2.2*	*-4.0*	*-4.0*	*-4.0*
2009	1.4	1.5	1.4	-0.1	0.0	0.0	3.1	3.2	3.0	0.0	0.0	0.0
2010	1.1	1.1	1.1	2.0	2.2	2.3	0.2	0.2	0.1	0.0	0.0	0.0
2011	1.5	1.5	1.5	4.0	4.0	4.1	-1.6	-2.0	-2.0	1.3	1.3	1.3

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.

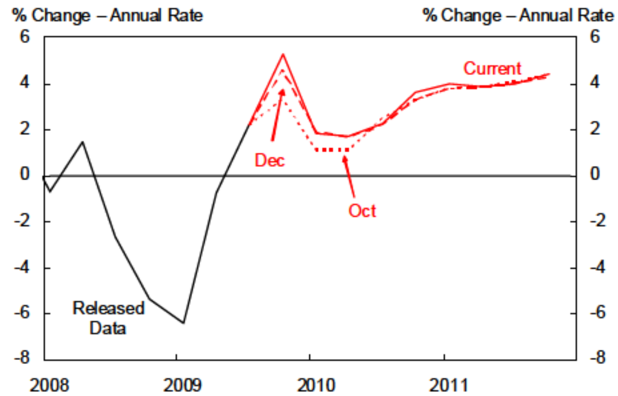
B. FRBNY Forecast Details

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

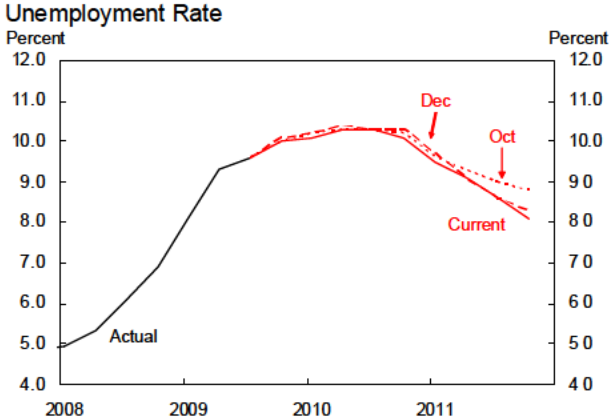
Core PCE Inflation



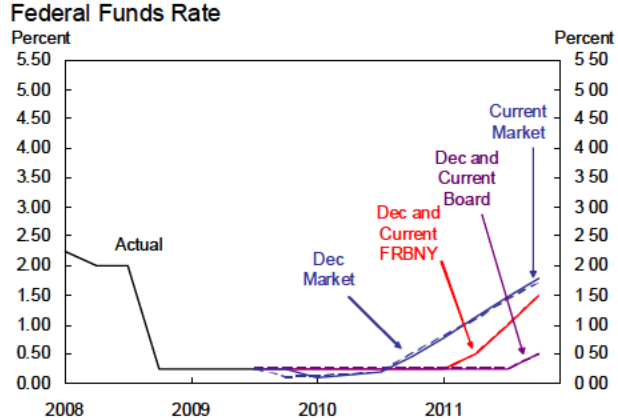
Real GDP Growth



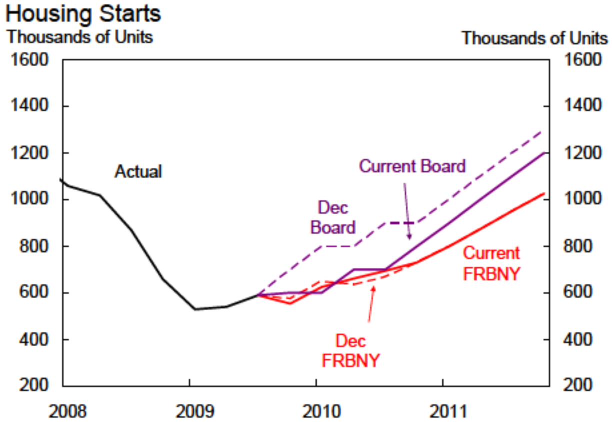
Unemployment Rate



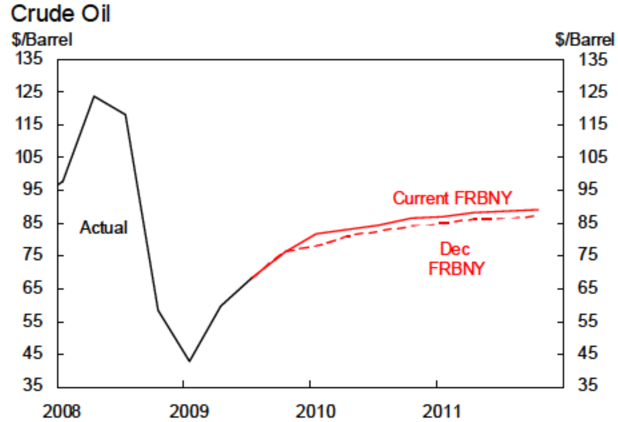
Federal Funds Rate



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)	
	2009Q4	2010Q1	2009Q4	2010Q1
OUTPUT				
Real GDP	5.3	1.8	5.3	1.8
	(4.6)	(1.9)	(4.6)	(1.9)
Final Sales to Domestic Purchasers	2.0	0.4	2.1	0.1
	(1.8)	(0.1)	(1.9)	(0.1)
Consumption	1.8	1.5	1.3	0.7
	(2.5)	(1.0)	(1.8)	(0.7)
BFI: Equipment and Software	10.0	-5.0	0.6	-0.3
	(0.0)	(-5.0)	(0.0)	(-0.3)
BFI: Nonresidential Structures	-20.0	-15.0	-0.7	-0.5
	(-20.0)	(-15.0)	(-0.7)	(-0.5)
Residential Investment	16.0	5.0	0.4	0.1
	(14.0)	(5.0)	(0.3)	(0.1)
Government: Federal	7.9	1.5	0.6	0.1
	(7.9)	(1.5)	(0.6)	(0.1)
Government: State and Local	-0.8	-0.8	-0.1	-0.1
	(-1.3)	(-0.8)	(-0.2)	(-0.1)
Inventory Investment	--	--	3.1	2.0
	--	--	(2.5)	(2.1)
Net Exports	--	--	0.1	-0.6
	--	--	(0.2)	(-0.2)
INFLATION				
Total PCE Deflator	2.5	1.7		
	(2.6)	(1.3)		
Core PCE Deflator	1.2	1.0		
	(1.6)	(1.0)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	6.0	2.5		
	(6.3)	(2.8)		
Compensation per Hour	2.0	1.5		
	(2.0)	(1.5)		
Unit Labor Costs	-4.0	-1.0		
	(-4.3)	(-1.3)		

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		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	0.0	2.3	4.1	0.0	2.3	4.1
	(0.0)	(2.2)	(4.0)	(0.0)	(2.2)	(4.0)
Final Sales to Domestic Purchasers	-0.8	1.5	3.8	-0.8	1.3	3.7
	(-0.8)	(1.3)	(3.6)	(-0.8)	(1.3)	(3.7)
Consumption	1.1	1.8	2.6	0.7	1.1	1.7
	(1.3)	(1.5)	(2.4)	(0.9)	(1.1)	(1.7)
BFI: Equipment and Software	-9.3	2.3	14.2	-0.7	0.1	0.9
	(-11.3)	(2.3)	(14.2)	(-0.8)	(0.1)	(0.9)
BFI: Nonresidential Structures	-25.7	-6.5	9.0	-1.1	-0.2	0.3
	(-25.0)	(-6.5)	(9.0)	(-1.0)	(-0.2)	(0.3)
Residential Investment	-10.1	6.9	18.1	-0.3	0.2	0.5
	(-10.3)	(6.9)	(18.1)	(-0.3)	(0.2)	(0.5)
Government: Federal	5.6	1.5	1.5	0.4	0.1	0.1
	(5.6)	(1.5)	(1.5)	(0.4)	(0.1)	(0.1)
Government: State and Local	0.2	0.2	2.5	0.0	0.0	0.3
	(0.2)	(0.3)	(2.5)	(0.0)	(0.0)	(0.3)
Inventory Investment	--	--	--	0.0	0.8	0.3
	--	--	--	(-0.1)	(0.8)	(0.4)
Net Exports	--	--	--	0.9	0.0	-0.1
	--	--	--	(0.9)	(0.1)	(-0.1)
INFLATION						
Total PCE Deflator	1.2	1.4	1.6			
	(1.3)	(1.4)	(1.7)			
Core PCE Deflator	1.4	1.1	1.5			
	(1.5)	(1.1)	(1.5)			
Total CPI Inflation	1.6	1.5	1.9			
	(1.4)	(1.5)	(1.9)			
Core CPI Inflation	1.7	1.3	1.7			
	(1.7)	(1.3)	(1.7)			
GDP Deflator	1.1	1.3	1.6			
	(1.0)	(1.3)	(1.6)			

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		
	2009	2010	2011
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	0-0.25	0-0.25	1.5
	0-0.25	0-0.25	(1.5)
10-Year Treasury Yield (Avg. Q4 Level)	3.5	3.9	4.2
	(3.4)	(3.8)	(4.1)
PRODUCTIVITY AND LABOR COSTS*			
Output	-0.5	2.6	4.8
	(-0.5)	(2.5)	(4.8)
Hours	-5.5	0.8	3.6
	(-5.6)	(0.6)	(3.5)
Output per Hour	5.3	1.7	1.3
	(5.4)	(1.8)	(1.3)
Compensation per Hour	2.3	1.4	1.7
	(2.3)	(1.4)	(1.7)
Unit Labor Costs	-2.9	-0.4	0.5
	(-3.0)	(-0.4)	(0.5)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	10.0	10.1	8.1
	(10.1)	(10.3)	(8.3)
Participation Rate (Avg. Q4 Level)	64.8	65.0	65.2
	(65.1)	(65.1)	(65.3)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-395	50	391
	(-409)	(53)	(384)
INCOME			
Personal Income	-0.3	3.7	6.0
	(-0.2)	(3.4)	(6.1)
Real Disposable Personal Income	1.9	2.3	4.3
	(1.9)	(2.0)	(4.2)
Corporate Profits Before Taxes	35.1	2.8	4.9
	(30.9)	(3.1)	(5.4)

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

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Greenbook Forecast Comparison

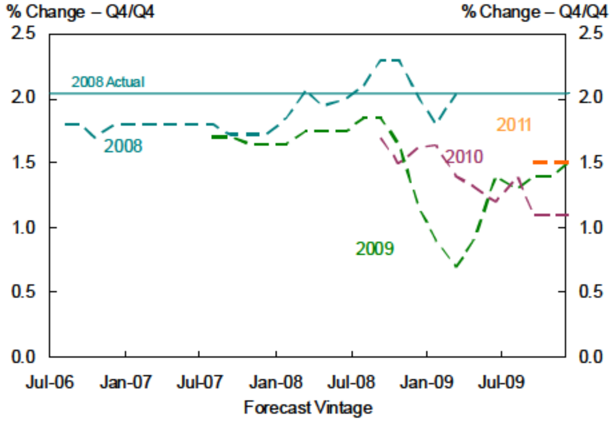
	FRBNY			Board		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	0.0	2.3	4.1	0.0	3.6	4.7
	(-0.0)	(2.2)	(4.0)	(-0.3)	(3.6)	(4.5)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	-0.8	1.3	3.7	-1.0	3.3	4.5
	(-0.8)	(1.3)	(3.7)	(-0.9)	(3.0)	(4.1)
Consumption	0.7	1.1	1.7	0.8	2.0	2.6
	(0.9)	(1.1)	(1.7)	(0.8)	(1.8)	(2.4)
BFI	-1.7	-0.1	1.1	-1.7	0.7	1.0
	(-1.8)	(-0.1)	(1.1)	(-1.8)	(0.6)	(1.0)
Residential Investment	-0.3	0.2	0.5	-0.4	0.1	0.6
	(-0.3)	(0.2)	(0.5)	(-0.3)	(0.2)	(0.5)
Government	0.5	0.2	0.4	0.3	0.5	0.3
	(0.5)	(0.2)	(0.4)	(0.4)	(0.4)	(0.2)
Inventory Investment	0.0	0.8	0.3	0.1	0.4	0.4
	(-0.1)	(0.8)	(0.4)	(-0.2)	(0.7)	(0.5)
Net Exports	0.9	0.0	-0.1	1.0	-0.2	-0.1
	(0.9)	(0.1)	(-0.1)	(1.0)	(-0.1)	(-0.1)
INFLATION						
Total PCE Deflator	1.2	1.4	1.6	1.3	1.4	1.1
	(1.3)	(1.4)	(1.7)	(1.3)	(1.3)	(1.2)
Core PCE Deflator	1.4	1.1	1.5	1.5	1.2	1.1
	(1.5)	(1.1)	(1.5)	(1.5)	(1.2)	(1.1)
INTREST RATE ASSUMPTION						
Fed Funds Rate (End-of-Year)	0-0.25	0-0.25	1.5	0-0.25	0-0.25	0.50
	0-0.25	0-0.25	(1.5)	0-0.25	0-0.25	(0.5)
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	5.3	1.7	1.3	5.1	0.8	1.1
	(5.4)	(1.8)	(1.3)	(4.7)	(0.9)	(1.0)
Compensation per Hour	2.3	1.4	1.7	2.4	2.4	2.2
	(2.3)	(1.4)	(1.7)	(2.4)	(2.0)	(2.0)
Unit Labor Costs	-2.9	(0.4)	0.5	-2.5	1.6	1.2
	(-3.0)	(-0.4)	(0.5)	(-2.3)	(1.0)	(1.0)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	10.0	10.1	8.1	10.0	9.5	8.2
	(10.1)	(10.3)	(8.3)	(10.1)	(9.6)	(8.3)
Participation Rate (Avg. Q4 Level)	64.8	65.0	65.2	64.9	64.8	64.7
	(65.1)	(65.1)	(65.3)	(65.0)	(64.9)	(64.8)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-395	50	391	-400	208	350
	(-409)	(53)	(384)	(-392)	(192)	(333)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	554	730	1025	600	700	1100
	(575)	(730)	(1025)	(600)	(800)	(1100)

B. FRBNY Forecast Details

Exhibit B-7: Evolution of FRBNY and Board Forecasts since Mid-2006

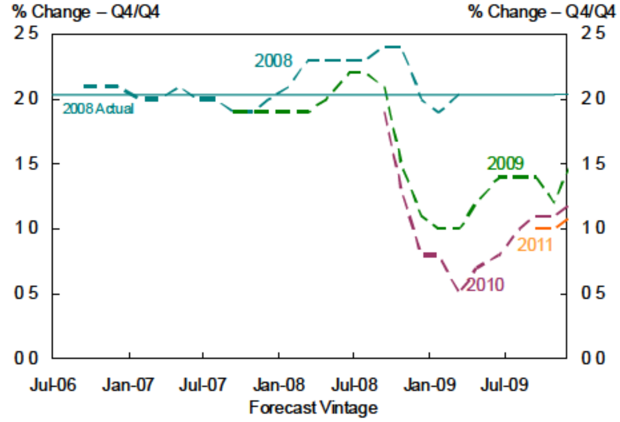
FRBNY

Core PCE Inflation

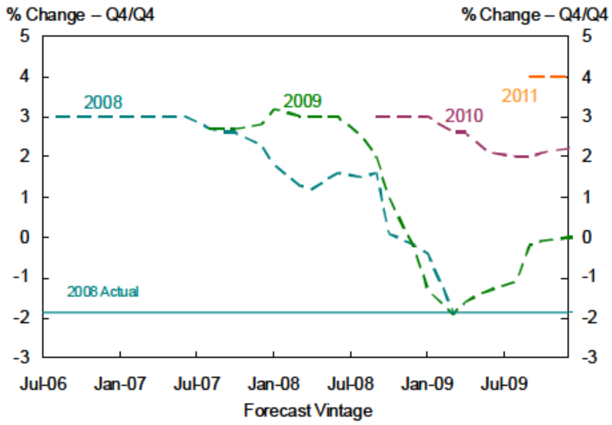


Board

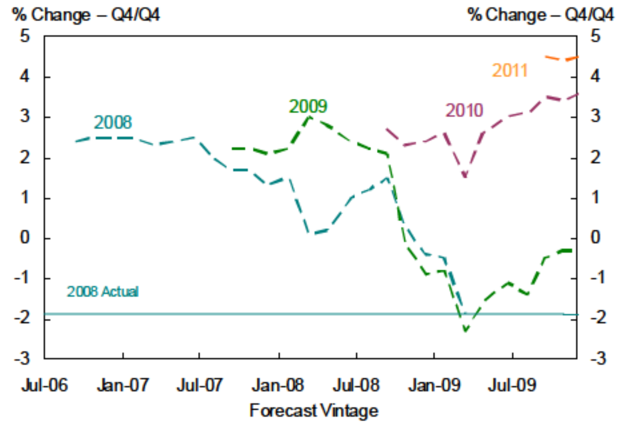
Core PCE Inflation



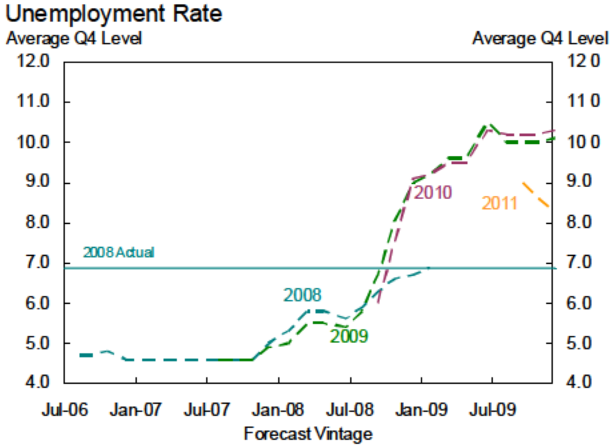
Real GDP Growth



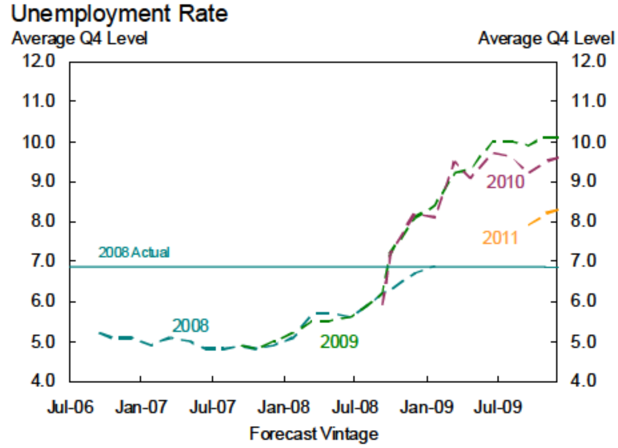
Real GDP Growth



Unemployment Rate



Unemployment Rate



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

B. FRBNY Forecast Details

Exhibit B-8: Alternative
GDP and Inflation Forecasts

	Release Date	Real GDP Growth 2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	1/21/2010	5.3	1.8	0.0	2.3
		(4.6)	(1.9)	(0.0)	(2 2)
PSI Model	1/21/2010	2.0	1.1	--	--
		(0.5)	(1.3)	--	--
Blue Chip	1/10/2010	4.0	2.9	-0.3	2 9
		(2.8)	(2.8)	(-0.5)	(2.9)
Median SPF	11/16/2009	2.7	2.3	-0.3	2.6
		(2.2)	(2.5)	(-0.8)	(2.7)
Macro Advisers	1/19/2010	5.5	2.9	-0.1	3.8
		(3.4)	(3.5)	(-0.4)	(4.0)

	Release Date	Core PCE Inflation 2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	1/21/2010	1.2	1.0	1.4	1.1
		(1.6)	(1.0)	(1.5)	(1.1)
Median SPF	11/16/2009	1.2	1.0	1.4	1.3
		(1.0)	(1.2)	(1.4)	(1.3)
Macro Advisers	12/31/2009	1.4	1.1	1.4	1.0
		(1.7)	(1.3)	(1.5)	(1.1)

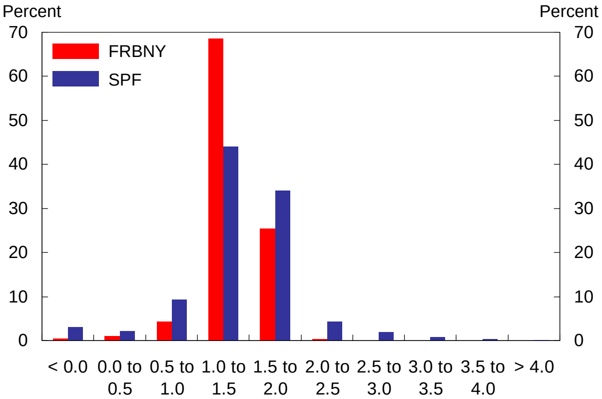
	Release Date	CPI Inflation 2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	1/21/2010	3.9	1.3	1.6	1.5
		(3.2)	(1.3)	(1.4)	(1.5)
Blue Chip	1/10/2010	3.1	1.7	1.4	1.7
		(2.7)	(1.8)	(1.3)	(1.8)
Median SPF	11/16/2009	2.1	1.5	1.1	1.7
		(1.6)	(1.7)	(0.7)	(1.8)
Macro Advisers	12/31/2009	3.4	1.2	1.5	1.1
		(3.2)	(1.6)	(1.4)	(1.3)

	Release Date	Core CPI Inflation 2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	1/21/2010	1.5	1.1	1.7	1.3
		(1.5)	(1.1)	(1.7)	(1.3)
Median SPF	11/16/2009	1.4	1.2	1.7	1.4
		(1.1)	(1.5)	(1.7)	(1.5)
Macro Advisers	12/31/2009	1.5	1.0	1.7	1.0
		(1.7)	(1.2)	(1.8)	(1.1)

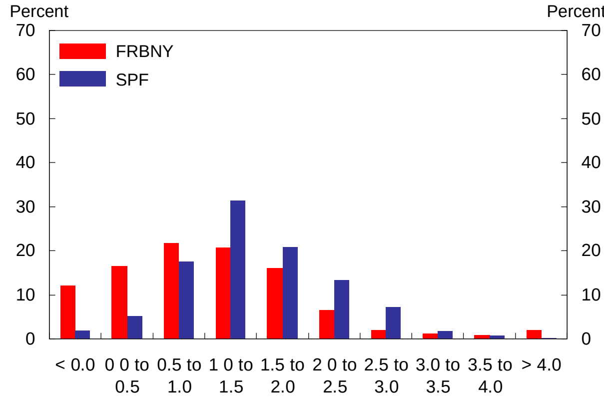
B. FRBNY Forecast Details

Exhibit B-9: FRBNY, SPF, and Board Forecast Comparison

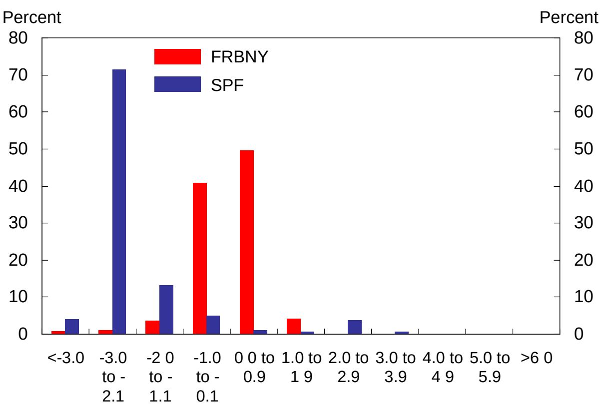
2009Q4/Q4 Core PCE Inflation Probabilities



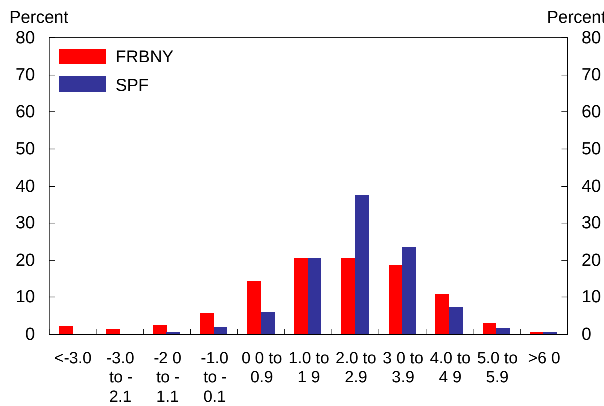
2010Q4/Q4 Core PCE Inflation Probabilities



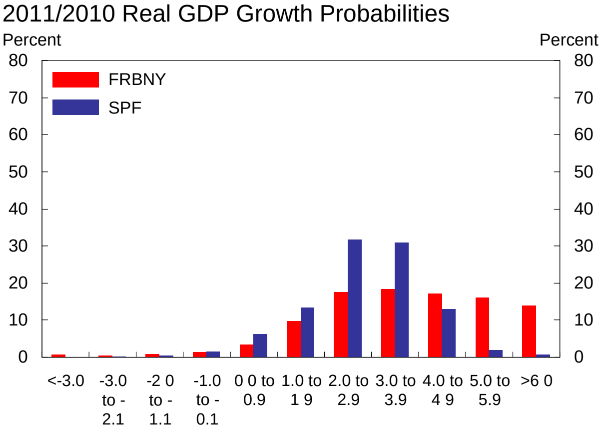
2009/2008 Real GDP Growth Probabilities



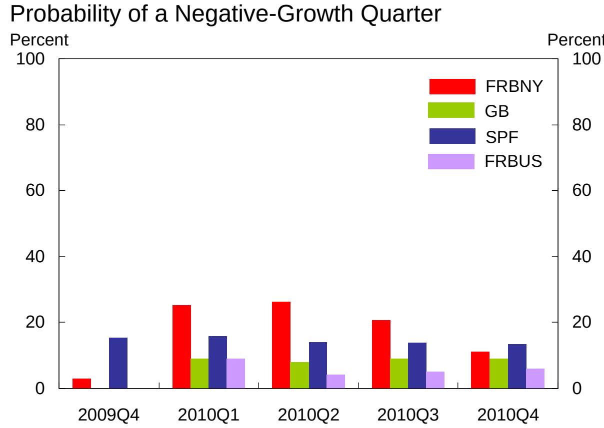
2010/2009 Real GDP Growth Probabilities



2011/2010 Real GDP Growth Probabilities

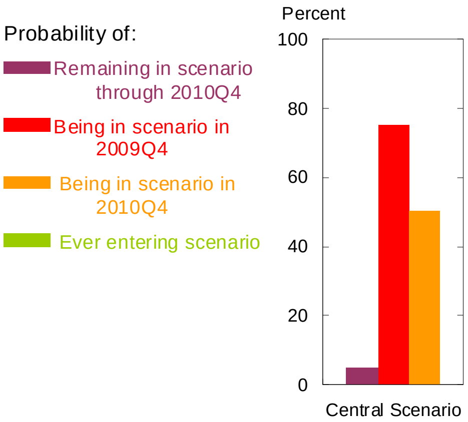


Probability of a Negative-Growth Quarter

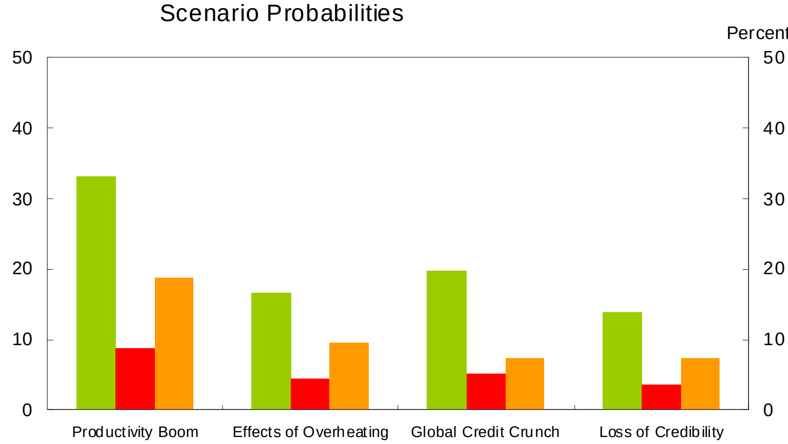


C. FRBNY Forecast Distributions

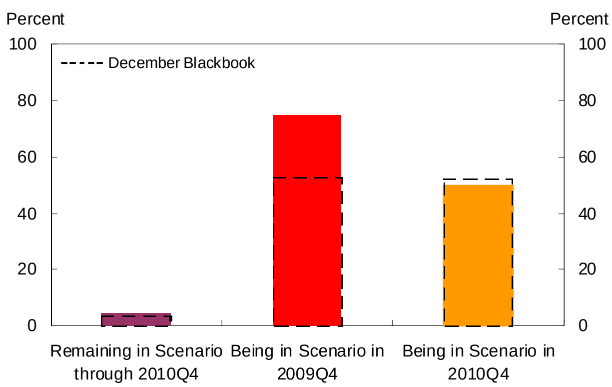
Exhibit C-1: Risks



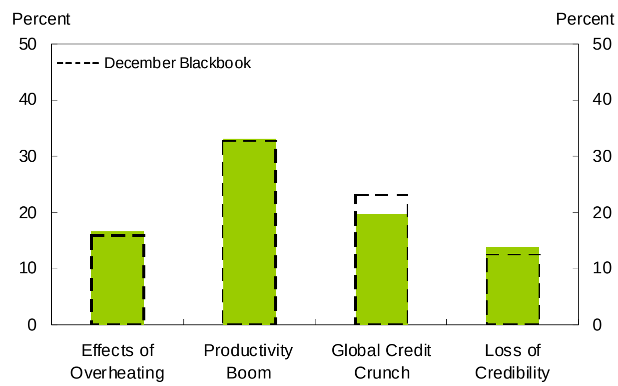
Scenario Probabilities



Change in Central Scenario Probabilities



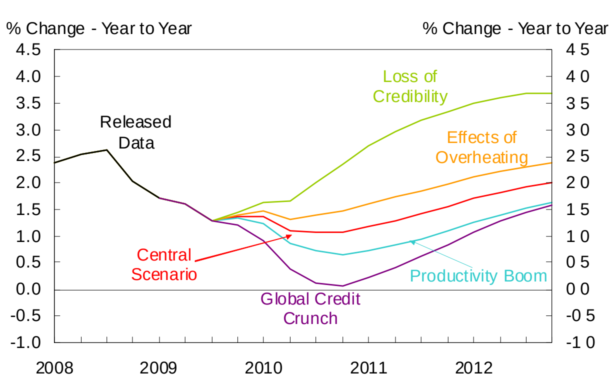
Change in Alternative Scenario Probabilities*



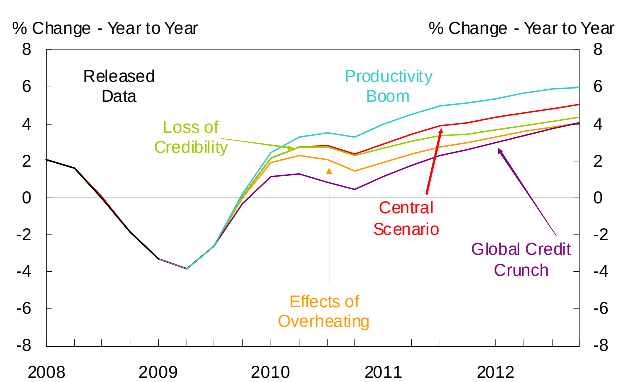
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

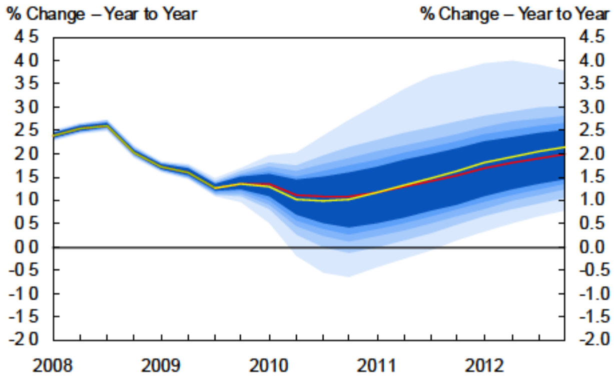


Source: MMS Function (FRBNY)

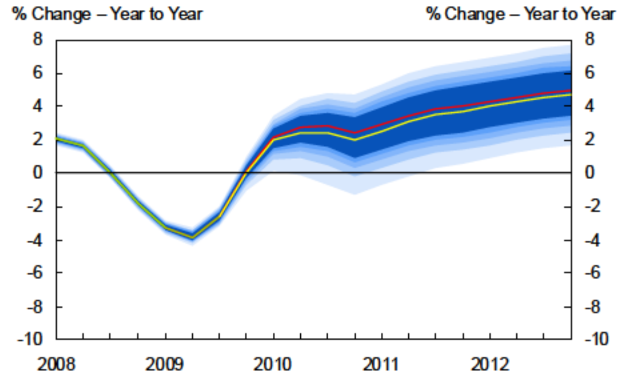
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

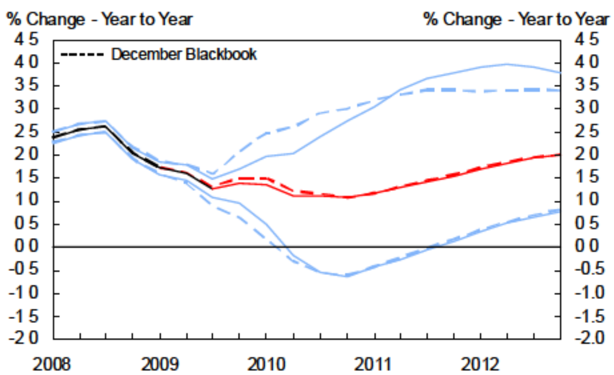


Real GDP Growth Forecast Distribution

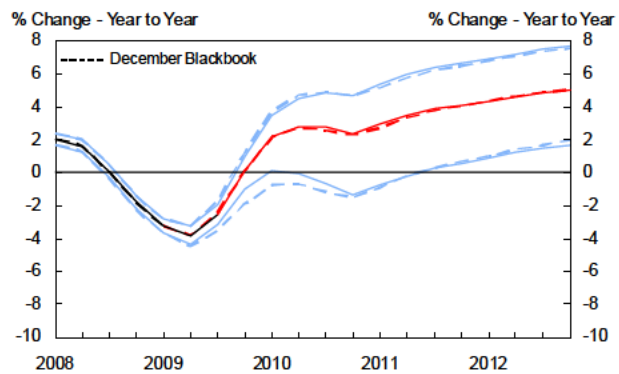


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

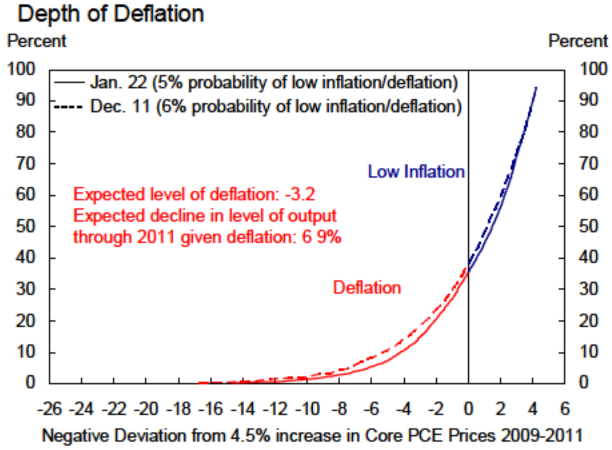


Change in Real GDP Growth Forecast Distribution

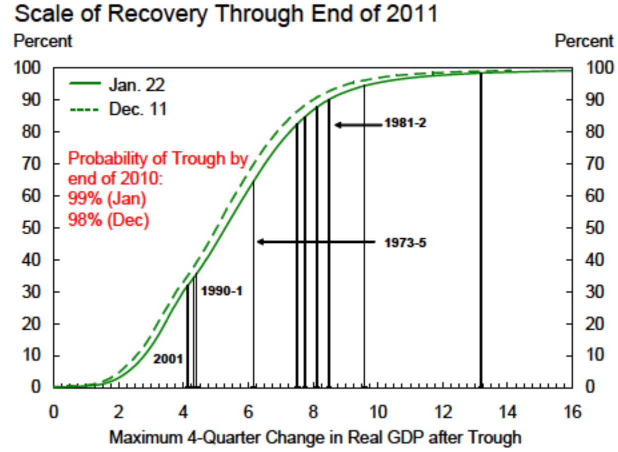


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Depth of Deflation



Scale of Recovery Through End of 2011

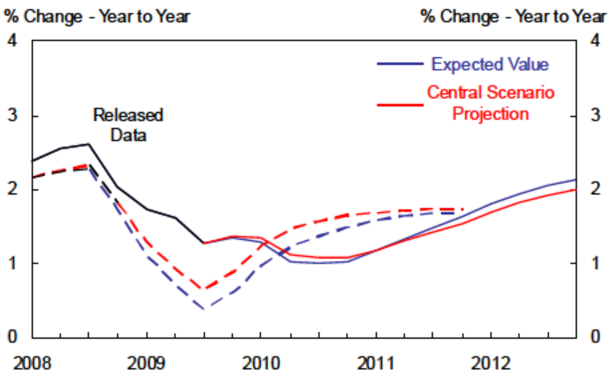


Source: MMS Function (FRBNY)

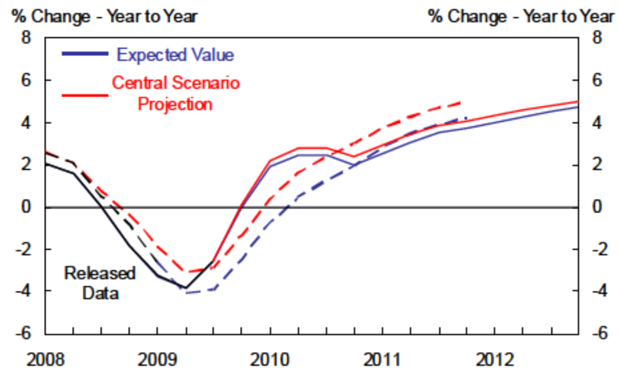
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

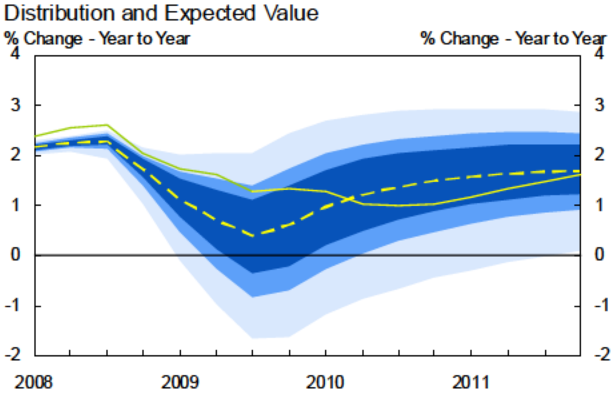


One-Year Comparison of Real GDP Growth Forecast

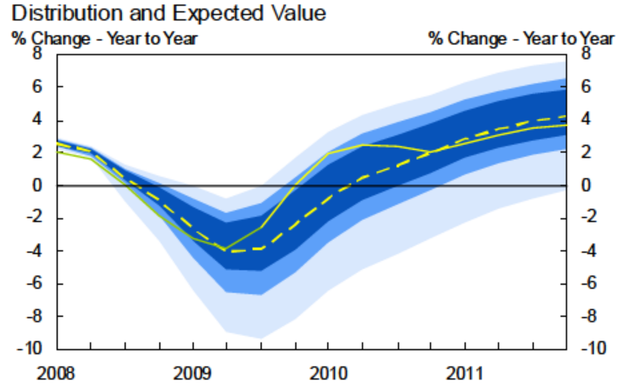


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

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



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



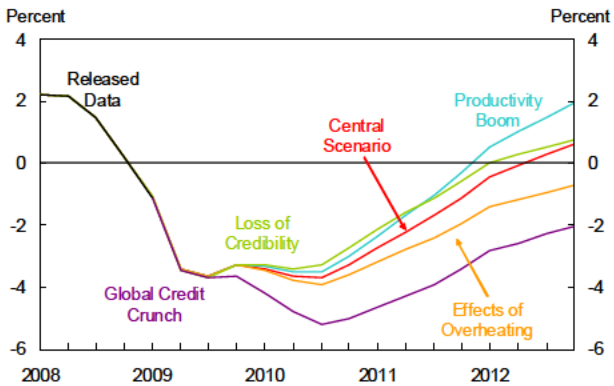
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the expected value from the year-ago Blackbook. The shading represents the 50, 70 and 90 percent probability intervals from the year-ago forecast. The green lines are released data.

Source: MMS Function (FRBNY)

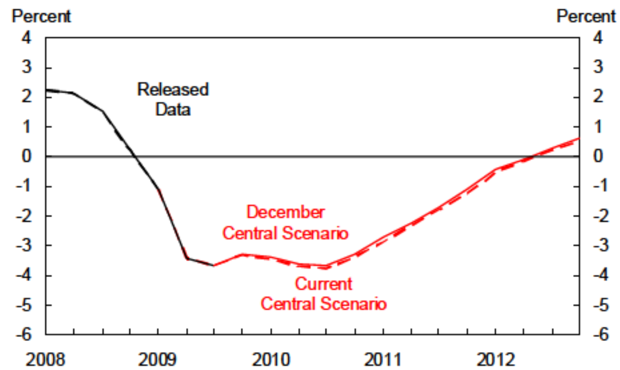
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

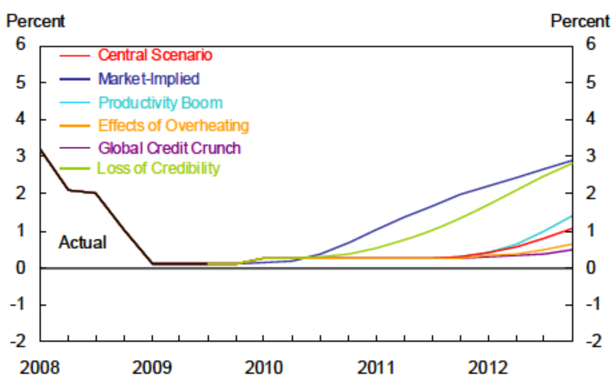
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

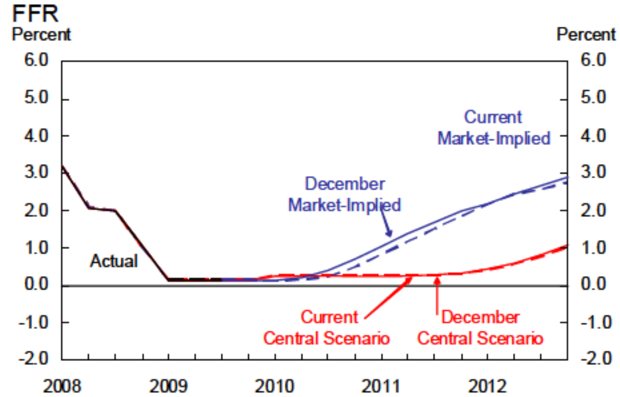
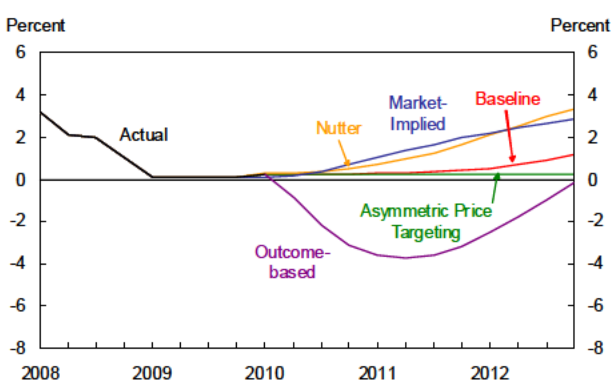


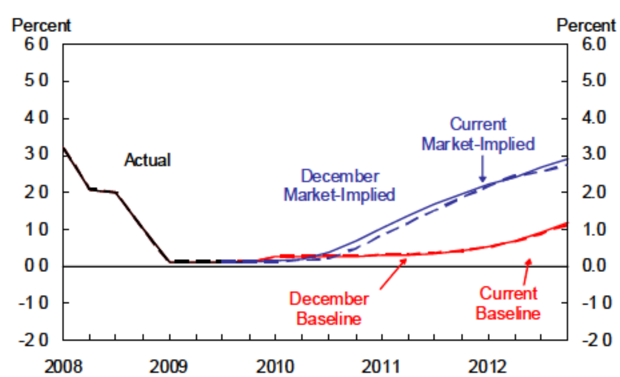
Exhibit D-2: Alternative Policy Rules under
Expected Value of Forecast Distribution

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

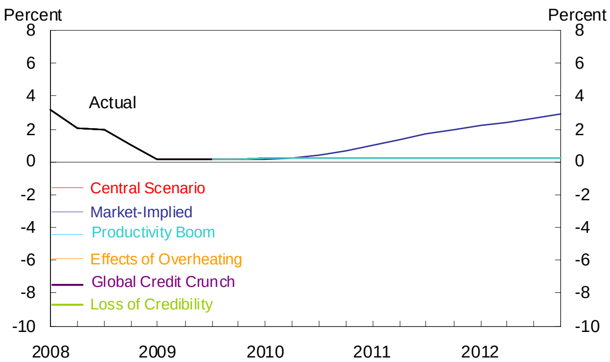
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

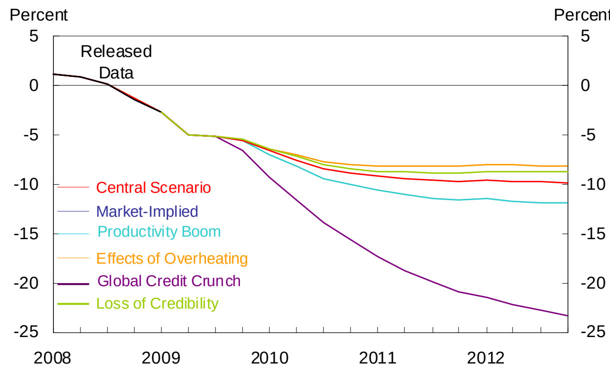
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

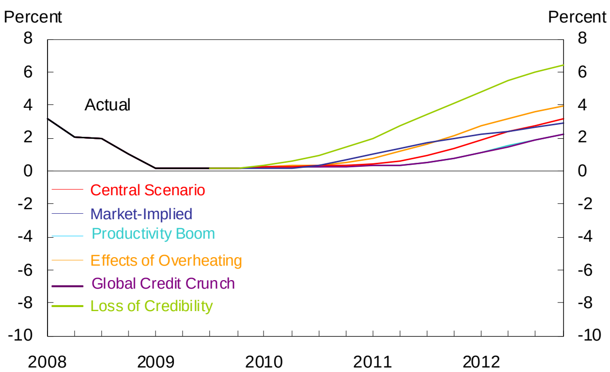


Real FFR under Alternative Scenarios

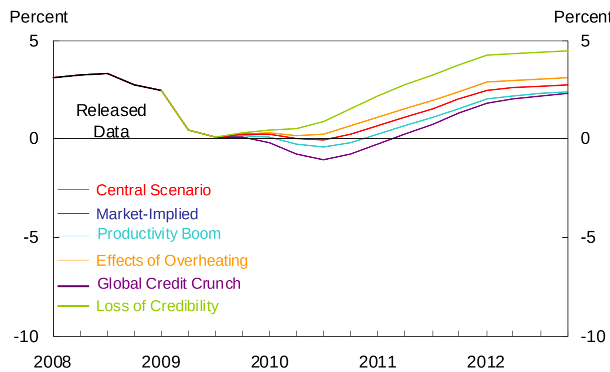


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios

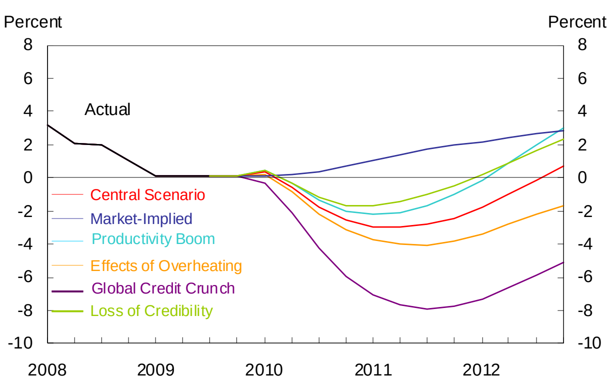


Real FFR under Alternative Scenarios

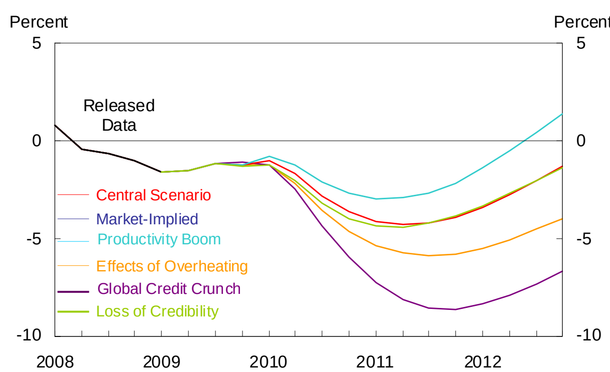


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



Real FFR under Alternative Scenarios



Source: MMS Function (FRBNY)

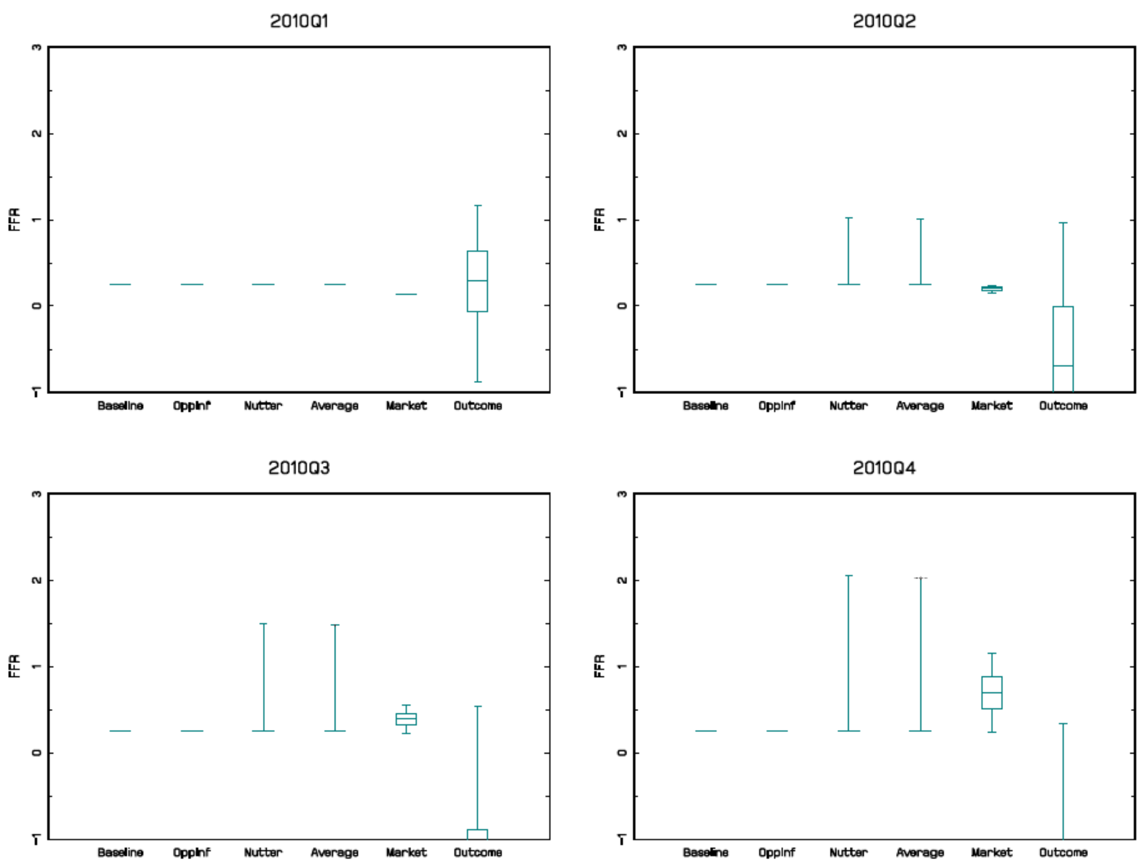
D. FRBNY Fed Funds Rate Projections

Exhibit D-4: Comparison between Market and Policy Rule FFR Expectations: 2010Q1

"Average" Weights:

Rule	Current	Dec Blackbook
Baseline	0.01	0.01
Asymmetric Price Targeting	0.01	0.01
Nutter	0.98	0.98

Exhibit D-5: FFR Distributions



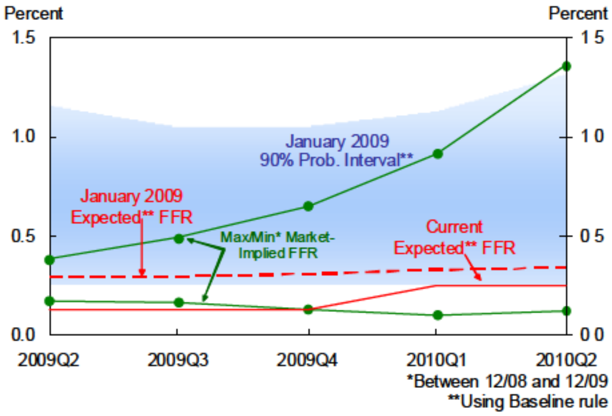
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

Source: MMS Function (FRBNY)

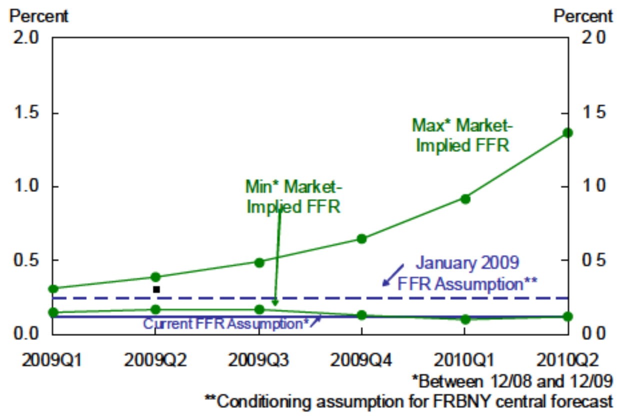
D. FRBNY Fed Funds Rate Projections

Exhibit D-6: Evolution of FFR Expectations and Assumption

FFR Forecast Distribution and Market-Implied FFR



FFR Conditioning Assumption and Market-Implied FFR



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 two alternative scenarios consider the impact of above- and below-trend productivity growth, respectively. In the post-war era, the United States has experienced three productivity epochs (pre-1973, High I; 1973 to mid-1990s, Low I; and mid-1990s to 2004, High II). The NIPA revisions in July 2006 and 2007 prompted us to reduce our estimate of potential output growth; thus our current central projection for medium- and long-term productivity growth is somewhat lower than that of the pre-1973 epoch.

Alternative 1: *Productivity Boom*

After a lull from 2004 through early 2007, productivity growth since has been robust and above our current estimate of trend productivity growth. Our projections for 2008Q2 productivity indicate that this pattern should continue. These patterns raise 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 the High II epoch, with some mixture of IT-driven production and applications leading the way. Support for this view comes from Moore's law on the doubling of computing power every 18 months. As such, we could see persistent productivity growth above our assumed trend, implying a higher potential growth rate and thus expected real growth that is higher than our current estimate (as well as a possible development of a larger output gap in 2008). Strong productivity growth would also limit labor cost pressures and thereby help to subdue inflation.

Alternative 2: *Productivity Slump*

The recent surge in productivity growth may reflect a new cyclical pattern whereby firms protective of their profit margins reduce labor input in anticipation of slower profit growth. Furthermore, it is possible that the longer-term upswing in productivity that began in the mid-1990s has ended as the IT-driven surge has run it course. If so, there could be an extended period of productivity growth below the trend in our central forecast. In addition, the increase in the level and volatility of energy and commodity prices could continue and lead to lower productivity growth, as occurred in the 1970s. Below-trend growth would not only imply a lower estimate of potential growth, but would also push inflation above the level projected in our central forecast.

We also consider four additional scenarios. Three are related to the impact of monetary policy on the economy and financial markets as well as possible FOMC misperceptions of its past and current policy stances. The other is related to the impact of developments in the global economy.

Alternative 3: *Effects of Overheating*

Motivated principally by concerns over the prospect of deflation, the FOMC adopted a deliberately accommodative policy stance in the aftermath of the global slowdown of 2000-2003. It is possible the FOMC markedly underestimated the equilibrium real interest rate (i.e. overestimated the degree of slack in the real resources) during this period. In this case, their accommodative policy would have stimulated aggregate demand growth in excess of potential and, ultimately, triggered inflation. The above-potential output growth from 2004 through mid-2006 and the persistent above-target inflation are consistent with such a scenario, as is the abrupt slowdown in real output growth that began in mid-2006. If this overheating episode occurred, it has likely passed already in the U.S.; however, there is a risk its effects will linger in the form of slightly above-forecast inflation and slightly below-forecast output growth.

Developments in the global economy during this period may have contributed to the economic conditions that motivated the initial policy and may also have made it more difficult for the FOMC to identify the overheating in real time. For example, one likely factor contributing to the deflation scare in the early part of this decade was the downward pressure on global goods prices triggered largely by growth in emerging economies' labor forces. Another critical factor may have been the exchange rate policies that a number of emerging market central banks adopted over this period. These polices and the associated dollar reserve accumulation, which were aimed at maintaining the dollar strong relative to their domestic currency, may have put significant downward pressure on long-term interest rates both in the U.S. and around the world, and in doing so, may have made it more difficult to correctly assess the equilibrium real interest rate during this period.

Alternative 4: *Global Credit Crunch*

The financial turmoil that started in the summer of 2007 has continued to put a significant strain on the availability of credit. In the U.S., financial conditions have tightened significantly and financial market stress has reached record high levels in recent months. 30-year fixed rate mortgage rates remain near their one-year high. In addition, global data for 2003Q3 have been largely negative. The intensification of the financial crisis together with global slowing of economic growth has lead to significant wealth losses and increased volatility in equity markets. Policy-makers worldwide have enacted measured to address the freezing of interbank markets and implemented a coordinated cut in policy rates. This combination of factors suggests the neutral rate is lower than 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 below our lower estimate of the neutral rate, tighter credit conditions and continued stresses in global financial markets, along with increased risk of a further deterioration in global economic conditions, create a risk that output growth will slow significantly below the level projected in the central forecast; this would likely be accompanied by inflation below the level in the central forecast.

Alternative 5: *Loss of Credibility*

One interpretation of recent higher inflation, higher financial market inflation compensation, higher commodity prices, and dollar depreciation is that inflation expectations have risen despite the FOMC continuing to state its price stability mandate, raising concern that the FOMC has started to lose its credibility on inflation. Although some FOMC communications have placed more emphasis on the upside inflation risks, the FOMC also has communicated continued concern about growth risks, thus providing signals that the FFR may remain low that have further fueled such concerns. It is possible that these statements and actions of the FOMC may lead to further increases in inflation and inflation expectations, such that firms and households begin to see the FOMC as not credible in regard to inflation. Such developments are likely to cause further rises in inflation and inflation expectations above forecast.

Alternative 6: *Global Deflation*

Recent price level indicators point to slowing or decreasing inflation in many regions of the world. Domestic measures of implied inflation have fallen sharply, suggesting that inflation expectations are also declining. These signals, coupled with falling global output as a result of financial market turmoil, suggest that there is an increased risk of global deflation going forward. This possibility is further exacerbated as central banks around the world cut interests rates and target rates approach 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. These factors would result in both inflation and output growth far below the levels projected in the central forecast. Although the onset of this slowdown would be later compared to other scenarios, global factors would cause these conditions to be more persistent.

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. *Productivity Slump*: inflation above central forecast, output below central forecast.
3. *Effects of Overheating*: inflation slightly above central forecast, output slightly below central forecast.
4. *Global Credit Crunch*: inflation below central forecast, output significantly below central forecast.
5. *Loss of Credibility*: inflation far above central forecast, output slightly 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, while incorporating some degree of inertia. For each of the FFR paths and each of the policy rules, we determine these deviations using the corresponding inflation and output paths.

Policy Rule – Baseline 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)
$i^* = 2.00 - 3.00$ 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.[2] 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 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.

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

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)[3].

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 Exhibits D-4 and D-5, 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).

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