FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

December 2009

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK

December 2009

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. We also suggest no substantive change in the large scale asset purchase programs.

The data released since the November FOMC meeting led us to raise our near-term central projections for output growth and lower downside risks to real activity and inflation. We revised upward our forecast for GDP growth in 2009Q4 and 2010Q1, but continue to expect only a tepid rebound in 2010 and stronger growth in 2011 and 2012. Consumer spending indicators were stronger than expected. November's labor market report showed some tentative signs of improvement, but slow job creation remains a major issue in the short-to-medium term. Despite downward revisions to productivity and upward revisions to compensation, productivity growth remained strong and unit labor costs continued to fall. On the inflation front, many measures of underlying inflation continued their recent decline and all remained at low levels, consistent with low levels of resource utilization exerting downward pressure on inflation. Survey measures indicate that inflation expectations remain well anchored. Therefore, the more worrisome near-term scenario for inflation remains a sustained fall below levels consistent with price stability rather than a sudden flare-up.

In light of our outlook, we recommend maintaining the current accommodative stance of monetary policy until the economy appears on a self-sustained path to recovery, which in our central scenario does not occur until the end of 2010. This time is also when we expect to see convincing signs that the current extraordinary level of economic slack is on its way to being reabsorbed.

In the inter-meeting period, conditions in financial markets were fairly stable, with many funding spreads close to their historical standards. Corporate credit spreads were little changed and remained elevated. Real rates as measured by TIPS declined, which appeared somewhat puzzling given the backdrop of flat nominal rates and increases in equity prices and some commodity prices. Despite positive developments for some financial institutions, a number still appeared to be fragile, and the amount of commercial and industrial loans outstanding and consumer credit continued to shrink. The commercial real estate sector remained a particular concern. The impaired state of lending continues to be a major factor driving our expectations of a moderate pace of recovery over the medium term and supports our recommendation to maintain a low policy rate for an extended period.

In terms of communication, it is important to continue to stress the conditionality of the commitment to a federal funds rate near zero: providing more guidance may lead to lower and more stable risk premia and thus clearer market signals about the expected future policy rate path and inflation expectations. Also, it is important to convey the FOMC's confidence in the available tools for the eventual exit from the extraordinary accommodative policy stance, such as raising the rate paid on reserves and implementing reverse repos. More communication should raise confidence in the exit strategy and mitigate possible upside risks to inflation expectations. Still, we view an early start to the normalization of policy rates as problematic: an early exit could endanger the recovery, potentially leading to a later reversal that could hurt the credibility of the FOMC. Moreover, even under the current policy stance, the option of raising rates in response to unwelcome movements in inflation expectations remains readily available to the Committee. As such, it is important to continue to monitor potential sources of inflation risk, including dollar weakness, wage pressures, movements in the market-based inflation expectations, and possibly "excessive" increases in the prices of risky assets.

2. Evolution of Outlook and Risks

2.1 Central Forecast

At this writing, we expect that real GDP will expand at a 4½% annual rate in 2009Q4, higher than we were expecting in October. However, with the downward revision of growth in 2009Q3—to 2.8% from the advance estimate of 3.5%—the expected growth rate for the second half of the year is only modestly stronger than anticipated in October. The primary reason for this somewhat stronger growth is the surprising vigor of consumer spending. We expect growth of real PCE of around 2½% in the fourth quarter, down only modestly from the “cash for clunkers”-boosted 2.9% growth of the third quarter. This is likely due at least in part to the fact that labor compensation in 2009Q2 and 2009Q3 was larger than previously estimated by an average of $100 billion per quarter, or 1.3%. As a result, the personal saving rate for 2009Q3 has been revised to 4.5% from the initial estimate of 3.3%. Also likely contributing to the firmer tone of consumer spending is the fact that the labor market situation, while still deteriorating, is relatively better than we were expecting in the last Blackbook. The average monthly decline of nonfarm payroll employment in October and November was 61,000 versus the 200,000 per month decline in the third quarter. In addition, household wealth has recovered some of the ground lost since mid-2007 and anecdotal reports suggest that the ability of consumers to obtain credit has improved somewhat.

Along with somewhat stronger growth of real GDP, core inflation has been higher in the second half of 2009 than we expected. While the rate of increase of core services prices has slowed appreciably over the past year—from around 3¼% in 2008Q3 to around 1½% recently—the rate of increase of prices of nonfood, nonenergy goods has risen from about ½% to 2% over the same period. We believe that much of the higher core goods inflation is due to temporary factors, such as an increase in taxes on tobacco products and unusual developments in the motor vehicle sector. But it is also the case that the inventory-sales ratio in the retail sector has declined sharply over the past year and now is relatively low. So in summary, we approach 2010 with somewhat stronger growth of final demand and somewhat higher core inflation than we thought would be the case just a few months ago. Accordingly, we have lessened somewhat the downside risk to growth and inflation over the forecast horizon. Yet we remain doubtful of the sustainability of growth at the pace of the second half of 2009 and continue to expect further slowing of trend inflation over the next six to twelve months.

Conditioning assumptions.

We continue to assume that potential GDP growth is between 2½% and 2¾%. This is composed of 1% to 1¼% trend hours growth (although we assume this growth rate will begin to decline in 2010) and trend productivity growth of around 1½% (on a GDP basis, which is equivalent to about 1¾% on a nonfarm business sector basis). The Board staff estimates of potential are unchanged at 2.1% for 2010 and 2.3% for 2011. 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 0.4% (Q4/Q4) in 2009, 2.9% in 2010, and 3.2% in 2011. In the very near term, oil prices are slightly lower, with the price of West Texas Intermediate grade oil expected to average $76.50 per barrel in 2009Q4 versus $77.25 in the October Blackbook. However, over the remainder of the forecast horizon the path of oil prices is somewhat higher ($84.00 per barrel by 2010Q4 versus $80.50 and $87.00 per barrel by 2011Q4 versus $82.50). 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 and are unchanged from October. The emergency unemployment compensation program has been expanded to provide an additional 14 weeks of benefits (20 weeks for high unemployment states). In addition, the first-time home buyer tax credit has been extended through April of 2010 (for closings through June of 2010) and expanded to include repeat homebuyers. 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 2% above that in October. The exchange value of the dollar (trade-weighted basis) is assumed to decline 8.7% (Q4/Q4) in 2009, 1.5% in 2010, and 1.5% in 2011. The cumulative decline of the dollar over the forecast horizon is essentially the same as that assumed in the Greenbook.

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 of this year, but then rose 6% from March to August. The Greenbook assumption is that most of the recent gain will be retraced over the remaining months of 2009, with some modest additional decline in 2010. In 2011 homes prices are expected to stabilize as demand firms.

The Outlook. Given the upward revision to labor compensation and the firmer tone of consumer spending in 2009Q4, we have raised the projected path of consumer spending over the entire forecast horizon. However, we do not expect that all of this increase in disposable income will be spent, so that the path of the personal saving rate over the forecast horizon is now notably higher. This has the effect of boosting our projected growth rate for 2010 to around 2¼% (Q4/Q4) from 2% in the October Blackbook. Even though growth is closer to our estimate of potential, the unemployment rate is still expected to rise to between 10¼% and 10½% by midyear. We continue to believe that employers are likely to respond initially to the improved outlook by expanding average weekly hours rather than employment.

While somewhat stronger, our projected growth rate for 2010 remains below consensus. We continue to believe that the household sector faces significant headwinds which will prevent a typical cyclical rebound of consumer spending. Labor market conditions are the worst that most people alive today have ever experienced, and this has happened at a time when households are struggling under a mountain of debt. The effects of the stimulus bill on growth are believed to be peaking right about now and will then begin to wane. While the stock market and home prices have improved of late, as of the third quarter of 2009 the ratio of household net worth to disposable income was still roughly 24 percent below its peak. Finally, while credit conditions appear to be gradually easing, we expect them to remain 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. Tightened mortgage underwriting standards probably will continue to constrain housing demand, while 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 only gradually, 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 historically low capacity utilization rates, 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 rebound of exports, improving final demand in the US will be associated with rapidly increasing imports. As a result, net exports are unlikely to be a major 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. With this above potential growth, the unemployment rate should be approaching the 8% to 8½% range by the end of 2011. Underlying this projection is the expectation that financial market functioning returns to more normal conditions and that consumer and business confidence and the general appetite for risk taking have been restored. 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 be quite advanced by that time.

Barring a significant decline in 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, with some risk that it could be even lower. 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 substantial and remain skewed to the downside. In the near-term, the key risk is that financial market conditions and consumer and business confidence do not improve as assumed. This in turn leads to lower than expected asset prices, less recovery in the supply of credit and, therefore, an even weaker path for final demand. A related risk is that, even if financial markets and asset prices behave as assumed, the decline of household net worth embedded in this central projection induces a steeper-than-expected increase of the personal saving rate, keeping consumer spending weaker for longer. The sharp increase in the prime-age male unemployment rate during the current cycle, combined with the large share of workers nearing retirement age, make this risk particularly acute. Another 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 necessary reallocation of labor and capital, the economy's potential growth rate has slowed significantly. 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 workweek 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 growth implies downside risk to the inflation projection.

In contrast, with the aggressive global monetary and fiscal policy response to the ongoing financial crisis, there is some risk of higher inflation if the economy proves more resilient than in our central scenario while potential does indeed slow.

2.2 Alternative Scenarios and Risks

Our central forecast has changed little since the last Blackbook, while the risk assessment has changed for the better. The changes mostly affect the likelihood and the paths of output and inflation associated with the *Global Credit Crunch* scenario. The likelihood of the *Global Credit Crunch* scenario has decreased to almost 20% and is no longer the most likely scenario, as it was through all of 2008 and the first part of 2009 [Exhibit C-1]. This change is driven by two considerations. First, financial markets proved fairly resilient to the Dubai crisis, in contrast to their responses to such developments in late 2008 and early 2009. Financial conditions generally continued to improve in the intermeeting period, albeit at a slow pace, but more importantly the risk that they might suddenly worsen has diminished considerably relative to that of six months ago. Second, for the real economy, the November labor market report suggests that further significant worsening of conditions in the labor market seems less likely than it did at the time of the last Blackbook. Even though our *Central Scenario* forecast does not foresee a quick turnaround in the labor market in the near future, it also does not anticipate any further substantial worsening. These developments also imply that the likelihood of deflation has decreased from last FOMC.

The *Productivity Boom* scenario is currently the most likely scenario. Its likelihood increased in the intermeeting period to just above 30%, following the recent strong labor productivity numbers. The probability associated with the *Effects of Overheating* scenario has increased slightly following the upward revision in compensation of employees, which suggests an increase in personal saving. Such an increase is compatible with the *Overheating* scenario, as overstretched households attempt to repair their balance sheets.

Besides the reduction in the likelihood of the *Global Credit Crunch* scenario, the paths for core PCE inflation and real GDP growth associated with it are less pessimistic than those in last Blackbook, while those associated with the remaining scenarios are the same [Exhibit C-2]. These changes, together with the changes in the probabilities of the various scenarios, affect the uncertainty surrounding the forecasts for core PCE inflation and real GDP [Exhibit C-3]. Some of the downside risk to inflation and output has been removed, and the probability of deflation has decreased further, as shown in the Depth of Deflation chart. While the downside risks have diminished, the upside risks have not increased. This is shown both by the 95% probability bands for core PCE inflation and real GDP growth, which are about the same as in the last Blackbook; and by the "Scale of Recovery Through 2011" chart, which shows the distribution of the maximum 4-quarter change in GDP after the trough. This distribution is essentially the same as it was last month. The chart shows that the pace of recovery in this recession is likely to be abnormally slow for a recession of this magnitude. In the post-World War II era, deep recessions typically have led to strong recoveries. Instead, the pace of recovery is likely to be much closer to that of the last two recessions (1990-1 and 2001), which were relatively mild.

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.

Special Topic

Update of the Kahn-Rich Productivity Model Presentation

Robert Rich Redacted

Upward revisions to compensation growth have led to an increase in the probability of the high-trend-productivity-growth regime in the Kahn-Rich model. This box updates the assessment presented at the December 2 weekly briefing.

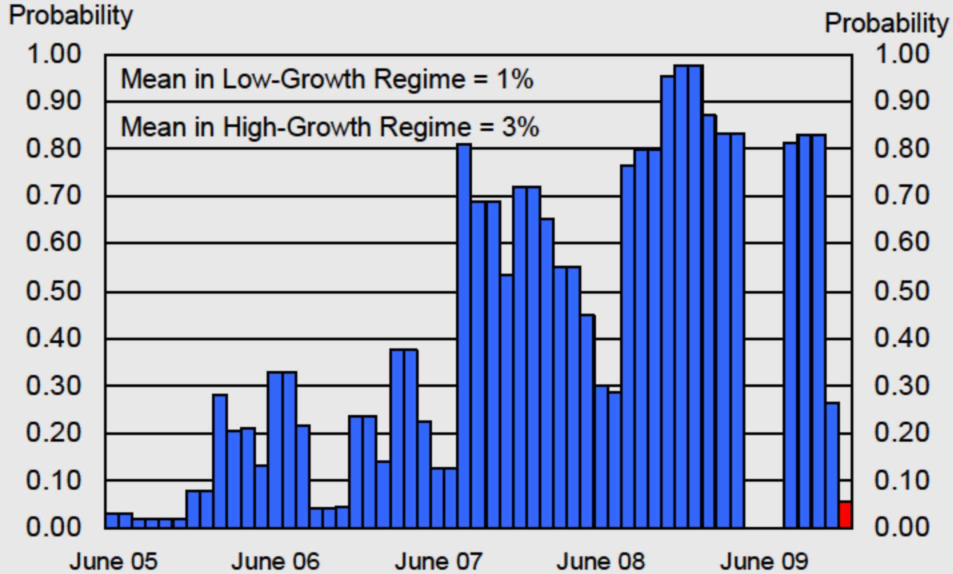
Productivity growth in the nonfarm business sector for Q3 was revised down from 9.5% to 8.1% (annual rate). There were, however, significant upward revisions to the growth in nominal compensation per hour: for Q2, it was raised from 0.3% to 6.9% (annual rate); and for Q3, it was boosted from 3.8% to 5.4% (annual rate). Consequently, the probability for Q3 of the low-trend-productivity-growth regime declined from 0.26 in November to 0.06 in December (Figure 1).

The change in the assessment of the low growth regime was largely driven by the upward revisions to compensation growth. While there is still a marked disparity in the growth rates of productivity, real compensation per hour and real consumption per hour, the extreme weakness in compensation growth is no longer evident. As such, the three series are moving more closely in tandem upward, similar to their behavior in 1997 when there was a shift to the high growth regime (first circled region in Figure 2).

The data revisions in December also have led to a meaningful change in the model's forecast profile for productivity growth. In addition to the very high probability the model currently attaches to the high growth regime, the estimated persistence of the high growth regime raises the likelihood of remaining in that regime over the near- and medium-terms relative to that in November. Consequently, there has been a fairly pronounced upward shift in the model's five-year forecast of productivity growth (Figure 3). The model's forecast is above the FRBNY forecast, as we have not changed the trend productivity assumption in the judgmental forecast.

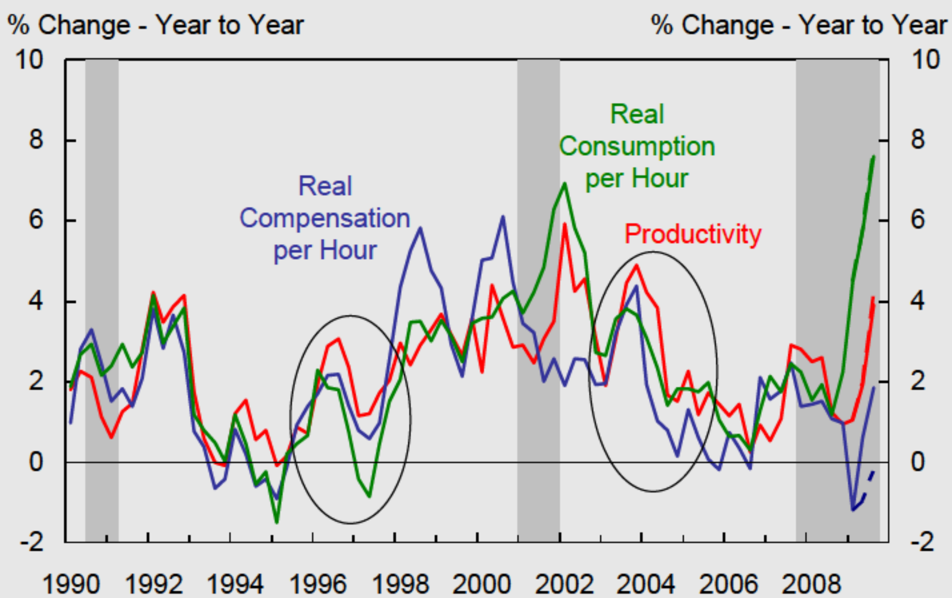
As discussed at the December 2nd Weekly Briefing, there are still reasons to be cautious about the model's evidence of an increase in trend productivity growth and its sustainability. The recent consumption data reflect some boost from temporary fiscal measures such as the "cash for clunkers" program, tax rebates, and extended unemployment benefits. In addition, the shift to the high growth regime identified in 1997 was associated with growth in aggregate hours. The current identified shift to a high growth regime is associated with a sharp decline in hours.

Figure 1: Real-time Assessment of Low-Growth Regime for the Most Recent Quarter



Note: Unable to report model estimation results for May and June of 2009.

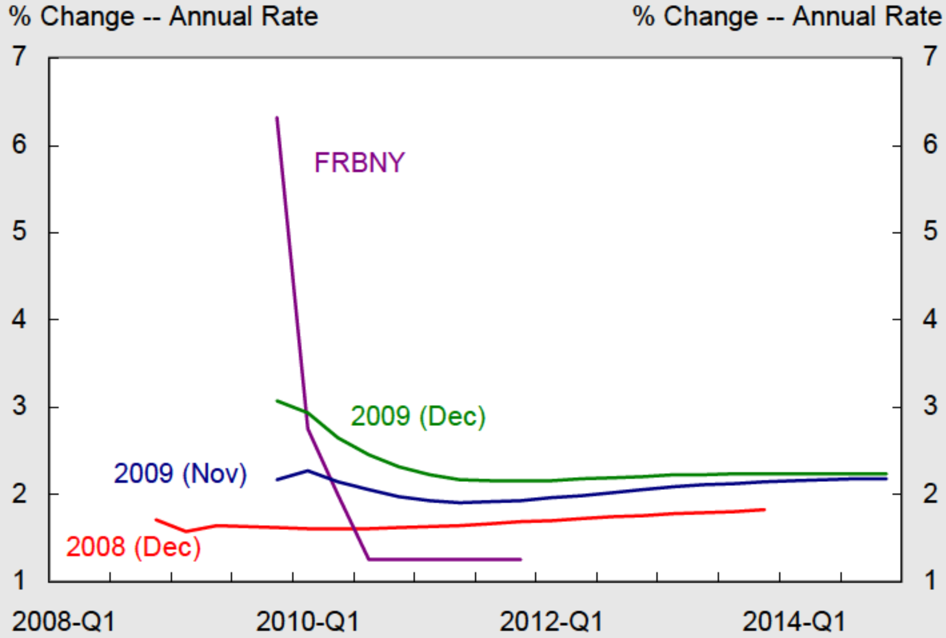
Figure 2: Behavior of Model Inputs around Regime Shifts



Source: Bureau of Labor Statistics

Note: Dashed lines represent data as reported prior to Q3 Productivity and Costs revision of Dec. 3.

Figure 3: Five-Year Forecasts of Productivity Growth



3. Forecast Comparison

3.1 Greenbook Comparison

The Board's forecasts for output and inflation changed modestly in response to some better than expected data releases during the intermeeting period. The Board forecast is close to our projection in the second half of 2009, but continues to be notably more optimistic about output growth for 2010.

The Blackbook forecast for inflation in the second half of 2009 remains very similar to that in the Greenbook, as both projections have been raised since October. The projections for 2010 are similar and little changed since October; 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 assume lower labor force participation rates compared to October. 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 65.1% to 64.9% for 2010 and from 65.0 to 64.8% for 2011, while our assumed labor force participation rate is higher at 65.1% in 2010 and 65.3% in 2011.

International trade. International trade is expected to have a similar impact on domestic output growth in the two forecasts. The FRBNY forecast for the net export contribution to GDP growth is 0.9 percentage points in 2009, very close to the Greenbook's forecast of 1.0 percentage points. For 2010, the FRBNY forecast is for net exports to contribute

0.1 percentage points to GDP growth whereas the Board staff's forecast is for net exports to subtract 0.1 percentage points. These small differences for 2010 arise from the Board staff expecting similar growth paths in demand for the U.S. and its major export partners, which is in contrast to the FRBNY expectation that the U.S. recovery will be somewhat weaker than its major trading partners. For 2011, the FRBNY and Board staff's forecasts of the net export contribution to GDP growth are the same, at -0.1 percentage points.

Inflation. The Board staff increased slightly its forecast for core PCE inflation in 2010(Q4/Q4) to 1.2% while our forecast remained unchanged at 1.1%. Similar to October, we continue to 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 October, the Board staff has increased its forecast of real GDP growth in 2009Q4 from 2.8% to 3.8% (annual rate) [the trade and retail sales data released after the Greenbook publication has led the Board staff to increase this forecast further to 4%], while our forecast increased from 3.6% to 4.6%. The projections are generally similar even though they differ somewhat in the growth contributions of various components. As in October, the two forecasts diverge significantly for 2010. In particular, we expect a growth rate of real GDP of 2.2% (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 and business investment projections for 2010. There is essentially no change in the GDP growth projections of the Greenbook and the Blackbook for 2011. Our forecast (4.0% Q4/Q4) remains somewhat below the Board's estimate (4.5%).

Our view about the personal saving rate differs considerably from the view of the Board staff. In response to the upward revision to compensation, we have steepened our already rising path for the personal saving rate as well as raisedour consumption path; in contrast, the Board staff maintained their flat saving rate path.

The unemployment rate projections were little changed both in the Greenbook and the Blackbook, despite the better-than-expected November labor market report and the upward revisions to real activity projections. The Greenbook forecasts an unemployment rate of 9.6% in 2010Q4 and 8.3% in 2011Q4, while we expect the unemployment rate to be 10.3% in 2010Q4 and to decline to 8.3% in 2011Q4. We also differ in our projections for payroll employment. The Greenbook forecasts payroll employment to grow by 2.3 million in 2010 while we expect it to grow only by 850,000; in part, this difference reflects that we expect that productivity growth will not moderate as much as the Board staff anticipates. The Greenbook does not expect the stronger payroll growth in 2010 to lower the unemployment rate significantly because the Board staff expects the extended and emergency unemployment benefits to cause a temporary increase in the NAIRU. For 2011, our projection for payroll employment is an increase of 4.7 million, while the Board staff expects an increase of 4 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 have high productivity growth for 2009, but the Board's forecast is less optimistic for 2010. We project output per hour to grow by 1.8% while the Board's forecast is only 0.9%. This discrepancy disappears in 2011.

Uncertainty around forecasts. Because of the changes in our risk assessment, the FRBNY forecasts intervals have narrowed and are somewhat closer to the Greenbook forecast intervals for 2009 and 2010. We still have more downside risk to inflation 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 lifted up the lower bound on the 70% probability interval for 2010 from -0.4 to 0.1, our forecast continues to have 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	1.0, 1.8 (0.8, 1.7)	1.3, 1.7 (1.2, 1.7)	-0.9, 0.8 (-1.2, 0.7)	-0.8, 0.2 (-0.9, 0.2)
2010	0.1, 1.9 (0.0, 1.9)	0.5, 1.8 (0.4, 1.7)	0.1, 3.8 (-0.4, 3.6)	1.9, 5.3 (1.7, 5.1)
2011	0.7, 2.4 (0.6, 2.4)	0.1, 2.0 (0.2, 1.9)	1.9, 5.6 (1.7, 5.5)	3.1, 5.9 (3.0, 5.8)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2009	55 (57)	36 (45)
2010	60 (56)	81 (82)
2011	32 (28)	65 (66)

Alternative Greenbook Forecasting Scenarios. The December Greenbook features seven alternative scenarios. The first two scenarios explore upside and downside risks to aggregate demand. The *Stronger recovery* scenario assumes a rebound in the demand for durable goods that is above the baseline, and more in line with typical recoveries. This is similar to the *V-shaped recovery* scenario of the November Greenbook. As a result, real GDP growth is stronger than in the baseline, leading to a faster fall in the unemployment rate. With less slack in the economy, inflation is somewhat higher than in the baseline after 2012. In contrast, in the *Weaker aggregate demand* scenario impaired balance sheets and a weak labor market continue to restrain aggregate demand, implying lower growth, a higher unemployment rate, and somewhat lower inflation than in the baseline scenario.

The next three scenarios consider risks to aggregate supply, including productivity and the labor market. In the *Jobless recovery* scenario, productivity continues to grow at 3% through 2011, well above the Greenbook baseline forecast. In contrast to the same scenario in the November Greenbook, productivity is then assumed to revert to baseline growth in 2012. While real GDP growth is greater due to a higher underlying potential growth rate, the unemployment rate peaks above its level in the baseline projection. Inflation is below the baseline, falling below 0.5% in 2012. This is a somewhat lower inflation path than the one projected in our *Productivity boom* scenario, reflecting the stronger effects of output gaps and inflation persistence in the FRB/US model. The *Weaker productivity* scenario assumes that the strong productivity growth observed recently was caused by temporary factors, so that productivity rises more slowly than in the baseline, reverting gradually to its pre-2008 trend. In this scenario, real GDP growth below the baseline is accompanied by a faster fall in the unemployment rate that reaches 7.5% in late 2011. With lower potential growth and higher employment, less slack in the economy implies that inflation increases faster than in the baseline. The *Labor market damage* scenario assumes that the equilibrium rate of unemployment has increased, leading to less slack and slightly higher inflation than in the baseline. Both the *Weaker productivity* and the *Labor market damage* scenarios are new relative to the previous Greenbook.

The final two scenarios explore the possibility that inflation expectations could become unanchored. In the *Higher inflation expectations* scenario, long-run inflation expectations increase to 3% in late 2010. In contrast to the *Earlier liftoff* scenario of the previous Greenbook, this scenario does not assume a rebound in spending above the baseline. The increase in inflation expectations is partially self-fulfilling, causing core PCE inflation to increase gradually to 2.75% by the end of 2014. This inflation path is significantly lower than the one implied by our *Loss of Credibility* scenario, where inflation increases to above 3.5% by 2012. In the *Greater disinflation* scenario, long-run inflation expectations instead fall, possibly in response to low actual inflation and the large amount of economic slack. In this scenario, real GDP is growing faster than in the baseline from 2012 onwards, but core prices are falling throughout 2011-2013. Interestingly, both the *Higher inflation expectations* and the *Greater disinflation* scenarios feature very similar paths for the unemployment rate. In fact, the *Greater disinflation* scenario features the lowest unemployment rate at the end of the forecast horizon, at 4%, of all scenarios considered.

In all scenarios, the FFR does not respond before the end of 2010. The most extreme policy responses occur in those scenarios in which inflation expectations become unanchored. According to the FRB/US model simulations which assume that monetary policy follows a standard Taylor rule, a jump in long-run inflation expectations in late 2010 (*Higher inflation expectations*) would require an FFR increase from the current level to 5% between late 2010 and late 2013. The initial tightening would occur with unemployment averaging 8.2% in 2011. According to this simulation, a reasonable tightening of policy is sufficient to control the rise in inflation, with hardly any negative effects on real activity.

In contrast, a negative shock to inflation expectations (*Greater disinflation*) would require the FFR to remain at its current level until the end of 2012, rising above 2% in 2014. With the FFR constrained by the zero bound and unconventional policies assumed in the baseline path, monetary policy is unable to prevent sustained deflation. One implication of this simulation is that, if expectations of deflation did in fact become entrenched, the period of an exceptionally low FFR might need to be significantly longer than in the baseline scenario.

3.2 Comparison with Private Forecasters[1]

The main point to note is that FRBNY forecasts for GDP growth are above the projections of private forecasters for 2009Q4, but below private forecasts for 2010. The

[1] Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (12/10), SPF (11/16), Macro Advisers (12/7), and the PSI Model (12/10). Quarterly numbers are SAAR.

FRBNY forecasts for inflation generally are in line with estimates from private forecasters. Forecasts are reported in Exhibit B-8.

GDP Growth. Our projection of 2.2% growth for 2010 (Q4/Q4) is below the more optimistic estimate of 4.0% from Macro Advisers; the forecasts of Blue Chip and Median SPF also are above our projection although the difference is smaller. For 2010Q1 the FRBNY forecast, at 1.9% (annual rate), is 1.6 percentage points below the forecast from Macro Advisers. The 2010Q1 projections from Blue Chip and the Median SPF are again above but closer to our forecast. In contrast, for 2009Q4 our estimate of 4.6% growth (annual rate) is above the highest private forecast of 3.4%, which again comes from Macro Advisers. For 2009Q4 and 2010Q1, the PSI model generates GDP growth forecasts of 0.5% and 1.3% (annual rate), respectively, well below the FRBNY and private projections.

Inflation. The FRBNY estimates for inflation generally are in line with private projections: for example, for 2010 core PCE and core CPI inflation, the largest difference between FRBNY and private forecasts is 0.2 percentage points. Private forecasts for inflation in 2009Q4 have been raised, as has the FRBNY projection; at 2.1%, the slightly older (11/16) CPI inflation estimate from the Survey of Professional Forecasters is well below our 3.2% projection. Macro Advisers have revised their forecasts for core PCE inflation, CPI inflation, and core CPI inflation upward across all time horizons, leaving their projections generally closer to FRBNY estimates.

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Our current policy recommendation is unchanged from that of the last Blackbook, which is to keep the target federal funds rate in the 0–0.25% range through 2010. Macroeconomic conditions have improved in the intermeeting period, and we have moved up modestly the central forecast for real activity and reduced somewhat the downside risks to real activity and inflation. Nevertheless, the zero bound constraint implies that in the short run all but large upside changes in the output and inflation outlooks have no effect on the predictions for most of our interest rate rules. Hence our recommendation is consistent with the *Baseline* policy rule under all scenarios except the *Loss of Credibility* scenario [Exhibit D-1], as was the case in November: the developments over the intermeeting period imply that the likelihood associated with this scenario is still contained. Our recommendation also is consistent with the *Baseline* policy rule under the expected value of the forecast distribution [Exhibit D-2]. Under all scenarios except the *Loss of Credibility,* the FFR does not begin to rise until 2011. Even then, the increases are gradual: under the *Central* Scenario the FFR is still only at 1% by the end of 2012.

The prescription from the *Nutter* rule, which has a strong response to inflation and no response to the output gap, under the expected value of the forecast distribution is close to that from market expectations through the entire forecast horizon. Under the *Central* scenario even the policy prescriptions from the *Nutter* rule are consistent with our policy recommendation. The other two rules (*Asymmetric Price Targeting* and *Outcome-based*) prescribe a FFR path that is close to zero until at least the end of 2011. For the *Outcome-based* rule, we show its prescriptions for the nominal FFR ignoring the zero bound constraint: in that case, under the expected value of the forecast distribution this rule prescribes that the FFR be -4% by mid-2011, and remain below zero until the end of 2012 [Exhibit D-2].

Exhibit D-1 shows the *shadow* real rates under the *Baseline* rule - that is, the real FFR rates implied by the rule under the various scenarios *ignoring* the zero bound constraint. The "shadow" real rate implied by this rule under the *Central* scenario is slightly above -4% in the current quarter. This number can be interpreted as indicating that the desired level of expected inflation should be about 4% given that the nominal FFR is constrained at zero. Exhibit D-3 shows the real rate under the *Asymmetric Price Targeting, Nutter,* and *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 during the intermeeting period, moving it considerably closer to our policy recommendation, partly in response to communications by FOMC members. 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), occurs in mid-2010. The difference between the market-implied FFR path and the forecasts from the primary dealers is smaller than that in early November. This is partly the result of a shift toward an earlier start in the tightening process in the dealers' projection, possibly reflecting their response to the November labor market report. The mode of the dealers' distribution on the expected timing of the first rate hike shifted from 2011Q1 to 2010Q3, and the mean of the distribution decreased since the last Blackbook, albeit only slightly. Most dealers expect that the "extended period" words will be removed from the FOMC statement three meetings before the first increase, but do not expect that removal to occur in the upcoming statement. Uncertainty and disagreement are unchanged since the last FOMC.

5. Significant Developments

5.1 Economic Developments

U.S. Data Releases. Data releases over the intermeeting period showed that economic activity continued to pick up, suggesting that real GDP growth could be around 3½ percent for the second half of the year. The housing sector continued to stabilize and housing prices firmed further. Productivity grew at a fast pace in the third quarter and hourly compensation was revised up, suggesting that the recent growth in real consumption spending may be sustainable. The pace of employment contraction moderated further in the intermeeting period, but the unemployment rate reached 10.2 percent in October and declined only slightly to 10.0 percent in November.

Real activity. *GDP:* Real GDP rose at a 2.8% annual rate in Q3, in line with the median forecast. The increase primarily reflected positive contributions from consumption expenditures, inventory investment, federal government spending, and residential fixed investment; there were negative contributions from nonresidential fixed investment and net exports.

Personal income rose 0.2% in October. Real personal consumption expenditures increased a brisk 0.4% in the month.

Production: Industrial production rose a modest 0.1% in October. Manufacturing output edged down 0.1%, its first decline since June, as motor vehicle production gave back a portion of its recent rebound. Excluding motor vehicles, manufacturing production declined 0.1%. Even though manufacturing output fell, the capacity utilization rate in manufacturing was unchanged at 67.6%--the current estimate is that U.S. manufacturing capacity is dropping at about a 1½% annual rate, which is a record pace.

Orders and Shipments: New orders for manufacturers rose 0.6% in October after rising 1.6% in September. Orders excluding transportation increased 0.5%, after rising 1.5% in September. The 12-month changes in total and ex-transportation orders were respectively -10.6% and -10.2% in October, much less severe declines than the 12-month changes seen earlier in the year.

The book value of manufacturers' inventories increased 0.4% in October after falling 1.3% in September. Shipments of manufacturers increased 0.8% in October after rising 1.3% in September. The inventories-shipments ratio, at 1.34, is the lowest since October 2008. Still, it remains elevated relative to the levels of the past decade, which suggests that manufacturing firms will probably engage in some further paring of inventories, although they may do so at a slower pace than they did at the beginning of the year.

Retail Sales: Retail sales rose 1.3% in November, their second consecutive solid monthly increase, while sales excluding motor vehicles increased by 1.2%. Ex-autos, building materials, and gasoline—the "retail control" aggregate that comprises the new information to be incorporated into the GDP estimates of household spending—sales were up an impressive 0.5%. On balance, these data indicate that real consumer spending could show a fairly healthy increase in Q4.

Inventories: Business inventories increased 0.2% in October. Retail inventories were unchanged, while retail inventories excluding motor vehicles fell 0.2%. Overall, these data indicate that businesses have begun to slow their pace of paring inventories from the recent rates, and are consistent with a sizable positive GDP growth contribution from inventory investment in 2009Q4. The inventories-sales ratio for the business sector fell in October to 1.30, within the prevailing range from 2004 to mid-2008. The inventories-sales ratio in the retail sector remained near its historical low.

Productivity: Nonfarm business labor productivity growth in Q3 was 8.1% (annual rate); the four-quarter change was 4.0%. There was a marked upward revision in the growth of hourly compensation: Q3 hourly compensation growth was revised from 3.8% to 5.4%, and the four-quarter change was revised from 0.5% to 2.5%. Still, unit labor costs continued to decline. Unit labor costs fell 2.5% at an annual rate in Q3 and 1.4% over the four quarters ending in Q3. These numbers appear favorable for the general outlook: productivity is still reported to be very strong, labor costs are still reported to be dropping, and the compensation figures imply that workers are getting a larger share than earlier thought, which reinforces the sustainability of the recent gains in consumer spending.

Home Sales: Sales of existing homes (single-family and condos/coops) rose 10.1% in October. This is the first month that existing home sales have been 6 million or higher since early 2007. From their recent trough in January of this year, existing home sales are up 36%. Sales of new single-family homes rose a strong 6.2% in October to a seasonally-adjusted annual rate of 430,000. The number of unsold new homes declined to 239,000, the lowest level since early 1971. The National Association of Realtor's Pending Home Sales index rose 3.7% in October. This represents the ninth consecutive increase in this index for a total gain of 42%.

Housing starts: Single-family housing starts declined 6.8% in October to a level of 476,000 units (annual rate), which is below the average of 2009Q3. Housing starts in the volatile multi-family category fell 34.6% to a level of 53,000 units (annual rate), a historical low for this series. Single-family permits fell a modest 0.2% in October and multifamily permits fell 17.9%. The 12-month changes in overall and single-family permits were -24.3% and -4.0% respectively.

House Prices: The Federal Housing Finance Agency (FHFA) national, purchase-only home price index was essentially unchanged in September. On a year-to-year basis this index was down 3.0%, which continues a pattern of more moderate declines since the steepest year-to-year fall of 8.7% in November 2008. The quarterly, national FHFA purchase-only index rose 0.2% in 2009Q3, the first increase since 2007Q2. The seasonally-adjusted S&P/Case-Shiller 20-city composite home price index increased 0.3% in September, the fourth consecutive monthly increase. Price increases were less widespread than in August. On a year-over-year basis the 20 city composite index was down 9.4%, compared to 19.0% in January 2009. The S&P/Case-Shiller national home price index was up 1.9% in 2009Q3, an increase comparable to the one in 2009Q2. On a year-over-year basis that index was down 9.0%.

Construction Spending: Total nominal construction put in place was essentially unchanged in October. However, as has been the case for several months, levels of construction put in place for the previous two months were revised down by a significant amount. Private residential construction rose a strong 4.4% in October. Private nonresidential construction declined 2.5%.

Flow of Funds: The Flow of Funds reported that household net worth increased more than $2.7 trillion in Q3, the second largest quarterly gain in the history of the series, and has now retraced about 1/3 of the loss from its 2007Q2 peak. However, the level of wealth in prior quarters was marked down and the aggregate leverage for homeowners increased substantially.

Labor market. Nonfarm payroll employment fell by a relatively modest 11,000 in November. Moreover, the employment losses of both September and October were revised lower by a combined 159,000. Employment in goods producing industries fell by 69,000 in November, the smallest monthly decline since the first half of 2008. In contrast, employment in service providing sectors rose by 58,000, led by a 52,000 increase in temporary help employment. Employment also increased in the education and health sector. Average weekly hours increased from 33.0 to 33.2. Aggregate hours worked by production and non-supervisory workers increased 0.6%, the largest monthly increase since April 2005. With average hourly earnings up 0.1%, this suggests a healthy increase in wage and salary income over the month.

The labor force participation rate fell in November from 65.1% to 65.0%. The unemployment rate declined from 10.2% to 10.0%. Nonetheless, the employment-to-population ratio was unchanged at a very low 58.5%; at the end of 2006 that ratio had been 63.4%. Despite the relatively better news overall labor market conditions remained difficult for many people. The median duration of unemployment rose to 20.1 weeks in November from 18.7 in October. Even so, it is more apparent that the pace of deterioration in the labor market has slowed substantially and that the turnaround to positive employment growth may possibly occur sooner than previously expected.

Initial claims for unemployment insurance and continuing claims continued to decline in the intermeeting period. The four-week average of initial claims in the latest week was just under 474,000, its lowest level since January. Continuing claims fell to 5.157 million, and the insured unemployment rate edged down to 3.9%.

Trade. The trade deficit narrowed from $35.7 billion in September to $32.9 billion in October. Export volumes increased in October by 4% while import volumes were flat, with a 2% increase in nonoil imports offsetting a 10% fall in oil volumes. Much of the improvement in the trade balance was due to a $2.6 billion decline in the oil bill, which was almost entirely due to lower import volumes. These data suggest that the net export contribution to GDP growth will turn around from -0.8 percentage points in Q3 to +0.2 percentage points in Q4.

Inflation. *CPI:* Total CPI increased 0.3% in October**.** Over the last 12 months the overall CPI was down 0.2%, a smaller decline than those registered in September (-1.3%) and August (-1.5%). Core CPI edged up 0.2%. The 12-month change in the core CPI was 1.7%, somewhat higher than the 12-month change of the past three months, but comparable to that of the first half of this year. The 12-month change of core goods prices has risen this year and was 2.3% in October, the highest 12-month change since 1993. In contrast, the 12-month change of core service prices has slowed and was 1.5% in October, unchanged relative to September and a historical low for this series. Given the continued softness in services inflation (particularly rent inflation), which comprises the majority of the index, and the passing of transitory factors that have held up goods price inflation, we expect some downward pressure on underlying inflation over the months ahead.

PCE Deflator: The overall PCE deflator was up 0.3% in October after rising 0.1% in September. The core PCE deflator increased 0.2%. The 12-month increase in the core index edged up from 1.3% in September to 1.4% in October. The market-based PCE index less food and energy rose 0.1% in October and its 12-month increase was unchanged at 1.6%. The overall PCE price index is now 0.2% above its year-earlier level.

Surveys. *ISM Manufacturing:* The November ISM manufacturing survey points to some deceleration in activity, as the headline index retreated modestly from a 3½-year high of 55.7 to 53.6. The prices paid index declined noticeably, suggesting some letup in cost pressures on manufacturing firms. There were declines in the production, employment, and inventories indexes.

ISM Non-Manufacturing: The ISM's composite Nonmanufacturing Index fell to 48.7 in November from 50.6 in October. After falling to 37.4 last November, this index had been on an upward trend through September but has now declined for two months in a row.

Foreign Data Releases: Production and exports continued to rebound worldwide, with Emerging Asia leading the global rebound. GDP growth was somewhat weaker than expected in the euro area, Japan, and Canada, but other data suggest their modest recoveries are on track. Foreign output is expected to increase 3.0% (Q4/Q4) in 2010 after being essentially flat in 2009.

Europe: Euro area GDP grew 1.5% (saar) in Q3, with declines in consumption and investment spending offsetting contributions from inventories, government spending, and net exports. Business confidence improved again in November while the unemployment rate was unchanged in October. The rate of job losses was the smallest in a year. U.K. GDP fell 1.2% (saar) in Q3, with consumer spending down for the sixth straight quarter.

Asia: Japanese production has been slow to rebound, although survey responses suggest better data for November and December. The labor market unexpectedly improved in September with the unemployment rate falling from 5.7% in August to 5.3%. Core prices are down 1.1% over the year.

Data for China's production, investment spending, exports and consumer demand suggest a modest slowing in Q4 growth. Several ASEAN countries had better-than-expected growth in Q3.

Latin America: Mexico grew 12.0% (saar) in Q3, ending one of the steepest recessions in its history. The recovery is tied to exports, with consumer demand quite weak. Brazil's economy likely enjoyed faster growth in Q3, supported by both consumption and a recovery in private investment. Exports to Brazil and a strong harvest are stabilizing economic conditions in Argentina.

5.2 Financial Markets

Domestic Financial Markets: Treasury yields and policy rate expectations shifted down over the intermeeting period. Stock prices increased and credit spreads were slightly narrower to unchanged. Amounts outstanding under the liquidity facilities continued to decline as short-term funding conditions were stable, while outright purchases of agency debt and agency mortgage-backed securities continued as planned.

Policy rate expectations shifted down since the last FOMC meeting as Federal Reserve communications reinforced expectations of the target rate remaining near its current level for some time [Exhibit A-5]. Based on the standard Board staff assumptions concerning term premiums, implied fed funds and Eurodollar futures rates suggest that market participants expect the policy rate to remain within its current range through the first half of 2010 and then rise to about 75 basis points by the end of 2010 and to about 1.75% by late 2011.

Treasury yields also declined since the last FOMC meeting, consistent with the decline in policy rate expectations [Exhibit A-3]. The 2-year yield fell 20 basis points to 0.72% on December 8 and the 10-year yield declined about 10 basis points to 3.38%; however, rates have moved up notably in the last two days after a couple of weak Treasury auctions and some stronger data releases. The 3-month yield traded between 2 and 6 basis points for almost all of the intermeeting period.

Real yields declined slightly more than nominal yields over the intermeeting period, causing inflation compensation to increase slightly [Exhibit A-4]. The carry-adjusted 5-year real yield thus fell 30 basis points to 0.41% on December 8, whereas the nominal yield declined 25 basis points; as a result, 0-5 year inflation compensation increased 5 basis points to 1.71%. 5-10 year inflation compensation increased 4 basis points to 3.09%.

Stock prices increased over the intermeeting period, with broad indices up about 5% [Exhibit A-7]. The S&P 500 is now 61% above its March 2009 lows. Broad credit spreads narrowed slightly, with the single A corporate spread 2 basis points narrower and the BB spread 3 basis points narrower. Credit spreads of financials were unchanged to somewhat lower with single A spreads unchanged and BBB spreads 31 basis points narrower. Equity and interest rate implied volatilities declined, with S&P 500 implied volatility down 5.1 percentage points to 23.7% [Exhibit A-6].

Bank lending conditions continued to deteriorate in the fourth quarter, as indicated by the Fed's Senior Loan Officer Opinion Survey, albeit at a lower rate than in the third quarter [Exhibit A-10]. Consistently, commercial and industrial loans outstanding declined in October; the 12-month decline was even sharper than that in September. Loans outstanding continued to decline through November 25 (the latest data).

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 mortgage-backed securities continued as planned [Exhibit A-9]. On net, Federal Reserve assets increased modestly since the last FOMC meeting to $2.2 trillion [Exhibit A-13].

Foreign Financial Markets: Global funding conditions appeared to have moved closer to normal since the last FOMC meeting, with three-month LIBOR-OIS spreads across Europe and Japan stabilizing at about 20 basis points. Participation in U.S. dollar auctions by central banks in the above mentioned regions continued to decline rapidly. Financial conditions in emerging markets came under stress over the intermeeting period after Dubai announced a standstill on its debt, resulting in a 245 basis point surge in the Dubai five-year sovereign CDS spread. Furthermore, concerns about the fiscal positions of peripheral euro area member states, particularly that of Greece, drove up sovereign CDS and bond yield spreads of Portugal, Ireland, Greece and Spain relative to Germany. These concerns were underscored by several credit rating agency actions: the credit ratings of Spanish and Portuguese sovereign debt were placed on a negative outlook (Standard & Poor's), whereas Greece's sovereign debt rating was downgraded to BBB+ (Fitch). However, these events remained localized, as the effect on overall emerging market external debt spreads did not last, and in fact these spreads decreased about 10 basis points over the period. Also, liquidity conditions in emerging market economies improved further, as, e.g., the Bank of Korea reduced its Federal Reserve swap line further with the remaining $500 million scheduled to roll off on December 15th.

Encouraging data releases improved the global economic outlook of investors, and combined with relatively good earnings in some sectors, generally resulted in equity rises over the intermeeting period, particularly in Emerging Asia and Latin America. In Japan equities were down almost 1% and bond yields fell 16 basis points, as fears of persistent deflation and yen appreciation worsened the outlook for that economy. European equities modestly increased with these increases confined to the 0.5-2% range.

The trade-weighted U.S. dollar index modestly depreciated since the last FOMC meeting. Relative to the euro the dollar was broadly unchanged, but the dollar fell 3% against the yen. More broadly, the yen strengthened just over 4% compared to other major currencies. This is a continuation of the appreciating trend in the effective yen index since late 2008, which corresponds with a persistent relative increase in Japanese real interest rates against the rest of the world. The latter, in turn, is a reflection of the deflationary trend in Japanese consumer prices over that period. The dollar remained stable against the Chinese yuan and forward contracts suggest modest dollar weakening over the next 12 months.

5.3 Global Economic Policy

Developed nation central banks maintained a very accommodative stance over the intermeeting period. Although an immediate withdrawal of this policy accommodation is unlikely, some institutions took tentative steps towards preparing for a modest turnaround in their policy stance in 2010. In contrast, monetary authorities in emerging markets and commodities-orientated 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 1.00% at its December meeting. However, at the same meeting the ECB decided upon a number of changes to their open market operations in anticipation of normalizing operations in the near future. Firstly, the December 12-month refinancing operation will be the last of its kind and will carry a rate that is indexed to changes in the policy rate over the term of the loan rather than a fixed rate, as has been previously the case. Also, the final 6-month refinancing operation will be held in March 2010. The ECB's balance sheet remained unchanged at €1.8 trillion.

At both its regular October 30th policy meeting and a special meeting on December 1st, the Bank of Japan kept its policy rate close to the zero bound at 0.10%. Corporate financing conditions have improved substantially since March, but firms have nonetheless been hit hard by domestic price deflation and yen appreciation. The Policy Board of the Bank of Japan discussed these issues at the special December meeting, albeit due to political pressure. At the meeting the Bank decided on a modest expansion of the special lending facility for corporate financing, partly reversing a decision made at the October meeting to start unwinding special liquidity programs. The Bank will offer up to 10 trillion yen of three-month term money at a 0.10 percent rate. Persistent consumer price deflation and yen strengthening might force the Bank to get involved in currency intervention and increased government bond purchases in the near future.

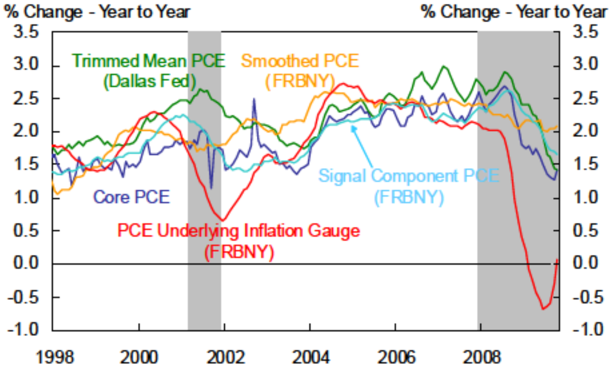
Most of the remaining G-20 central banks also kept their policy rates unchanged at historically low levels, such as the Bank of England, the Bank of Canada, the Reserve Bank of New Zealand, the Swiss National Bank (SNB) and the Brazilian central bank. In addition, the SNB decided to discontinue its purchases of Swiss franc-denominated corporate bonds, whereas the Bank of England kept its asset purchase program at 200 billion pounds. Meanwhile, the Reserve Bank of New Zealand hinted in its statement that it envisages starting hiking rates by mid-2010, earlier than previously expected. Relatively high global energy and industrial commodities demand, especially from Emerging Asia, meant that Australian economic activity picked up more rapidly than expected. The Reserve Bank of Australia, therefore, continued to raise its policy rate by 25 basis points at each of its November and December policy meetings. The rate is now 3.75%.

Central banks in Emerging Asia have kept their accommodative policy stance unchanged. However, the rapid rate of economic recovery in the region has solidified market expectations that most Emerging Asia central banks will start hiking rates in early 2010. Monthly U.S. dollar purchases by emerging markets monetary authorities were the highest on record in October and were only modestly lower in November. This occurred as authorities continued to limit an appreciation of their domestic currencies relative to the dollar, particularly in China and the rest of Emerging Asia.

A. Significant Developments

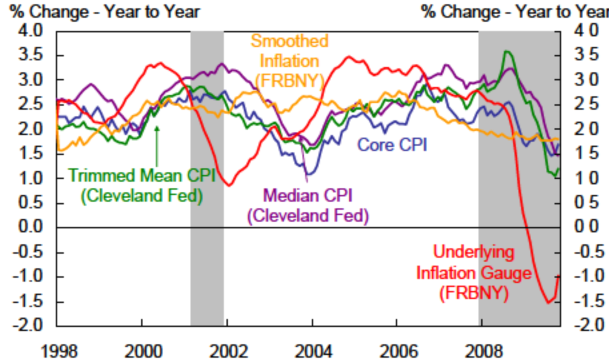
Exhibit A-1:
Measures of Trend Inflation

Alternative Measures of PCE Inflation



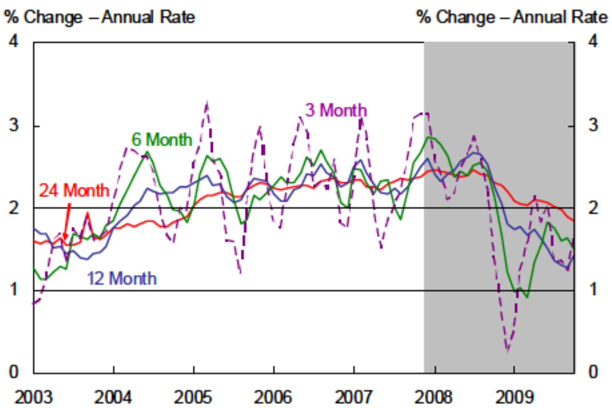
Source: Bureau of Economic Analysis, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Alternative Measures of CPI Inflation



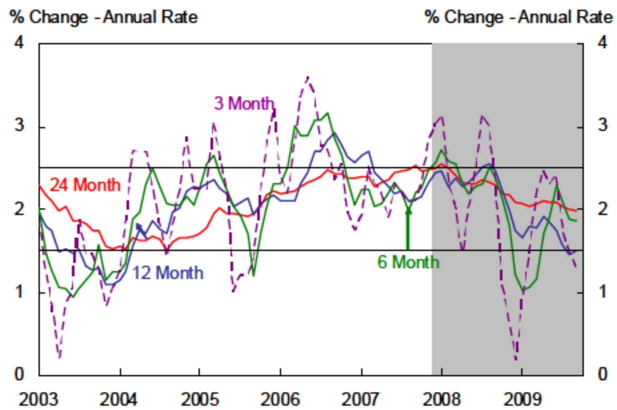
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



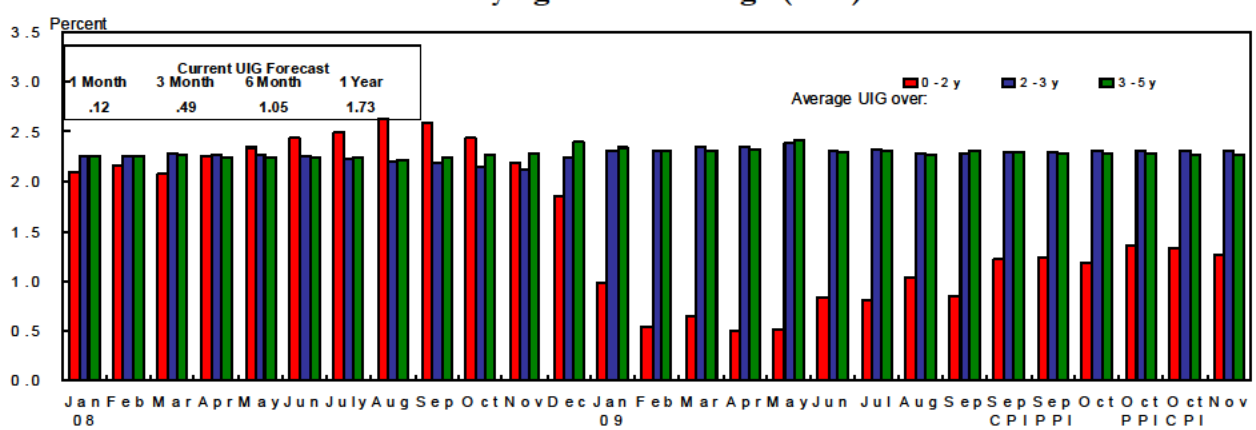
Source: Bureau of Economic Analysis

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

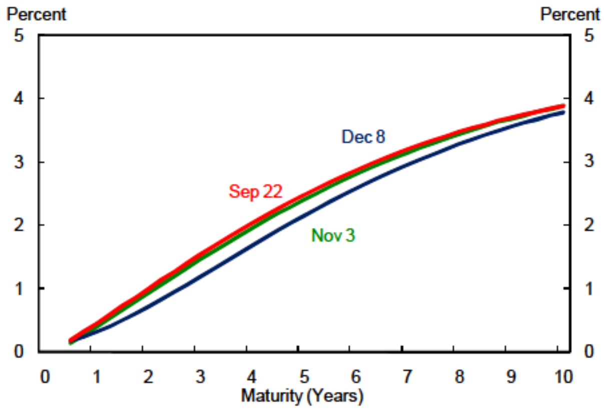
Short- and Long-Term Rates

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

Short- and Long-Term Rates (Intraday)

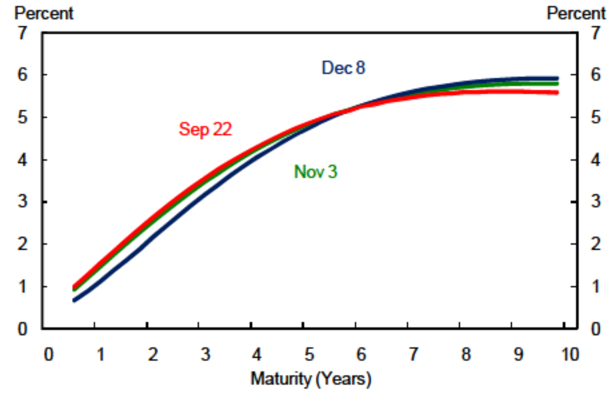
Source: Bloomberg Note: On-the-run securities, 8:00 am to 4:00 pm.

Yield Curves



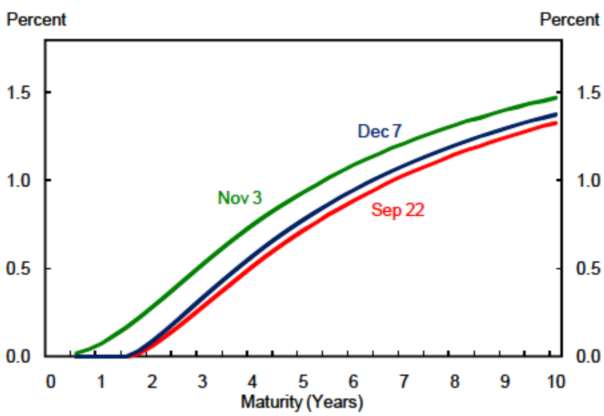
Source: Federal Reserve Board

Yield Curves: One-Year Forward Rates



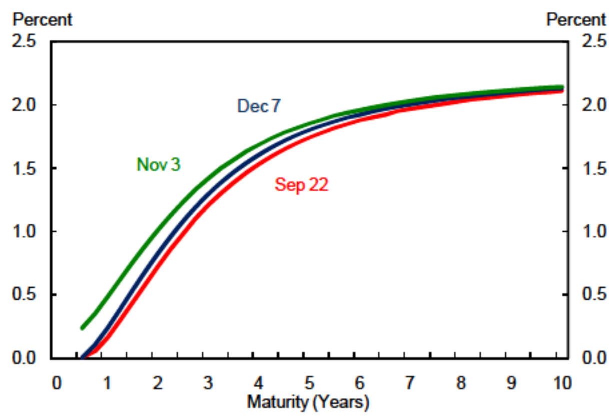
Source: Federal Reserve Board

Risk Neutral Yield Curves



Source: FRBNY calculations

Risk Neutral One-Year Forward Curves

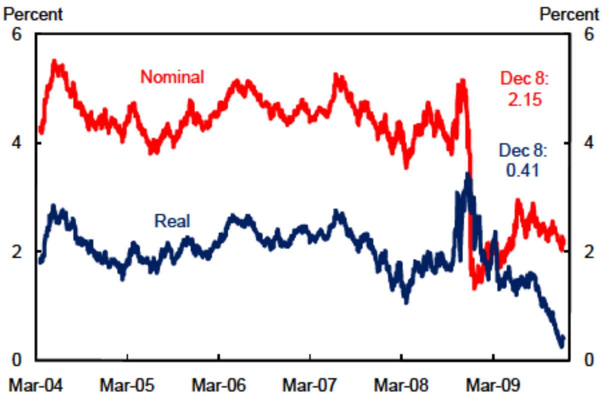


Source: FRBNY calculations

A. Significant Developments

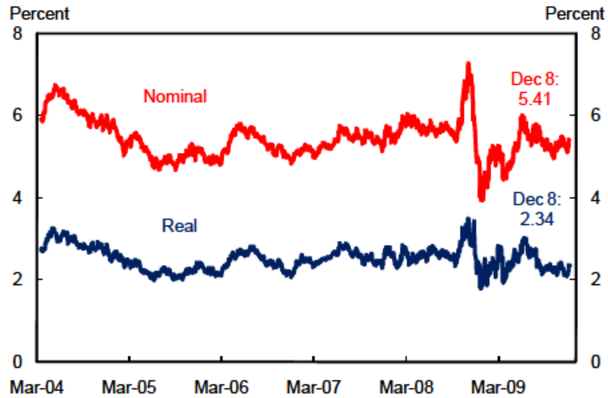
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



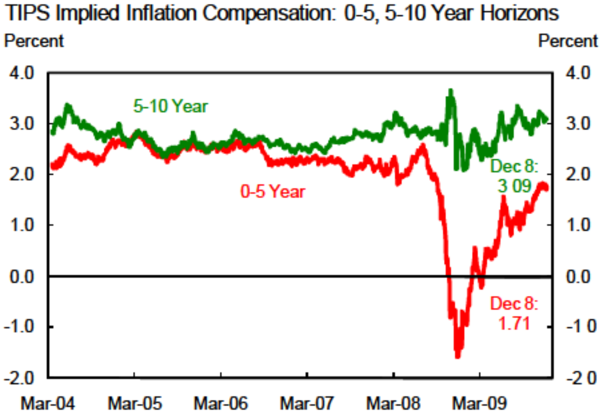
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

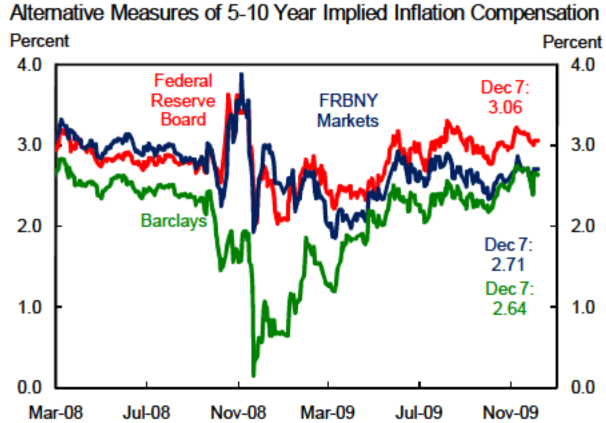
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

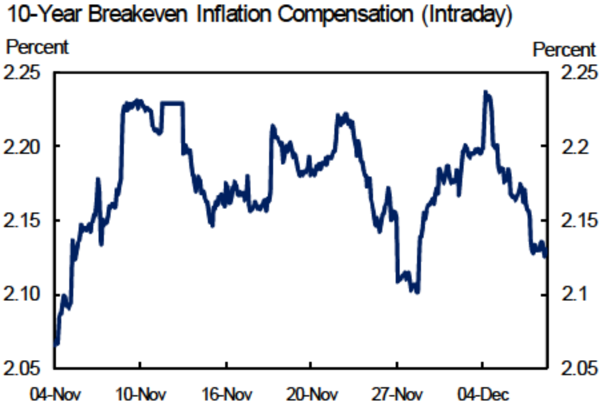
Note: Carry-adjusted

Alternative Measures of 5-10 Year Implied Inflation Compensation



Source: Federal Reserve Board, Barclays, and FRBNY calculations

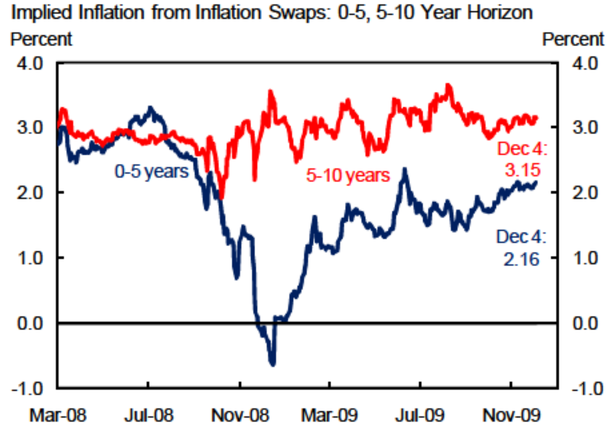
10-Year Breakeven Inflation Compensation (Intraday)



Source: Bloomberg

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

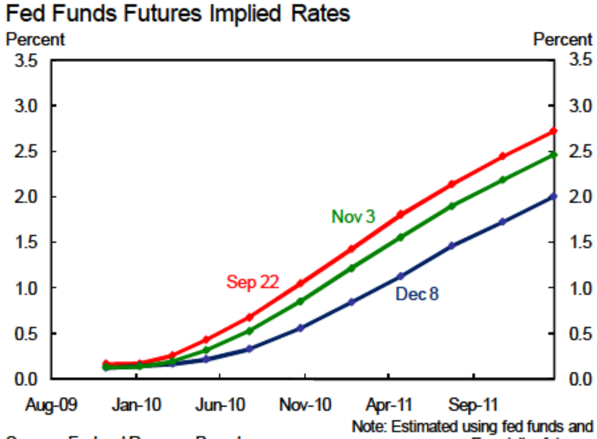
Implied Inflation from Inflation Swaps: 0-5, 5-10 Year Horizon



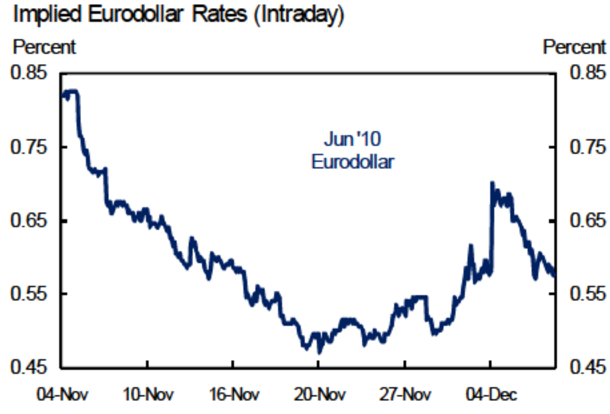
Source: Barclays

A. Significant Developments

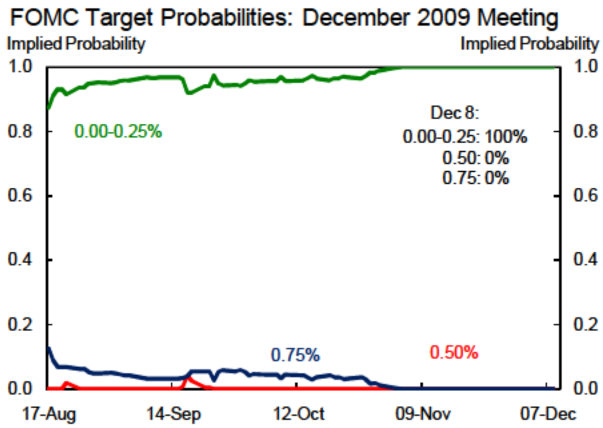
Exhibit A-5:
Policy Expectations



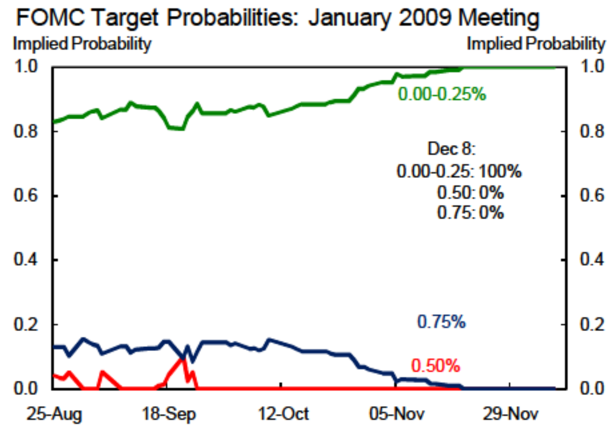
Source: Federal Reserve Board



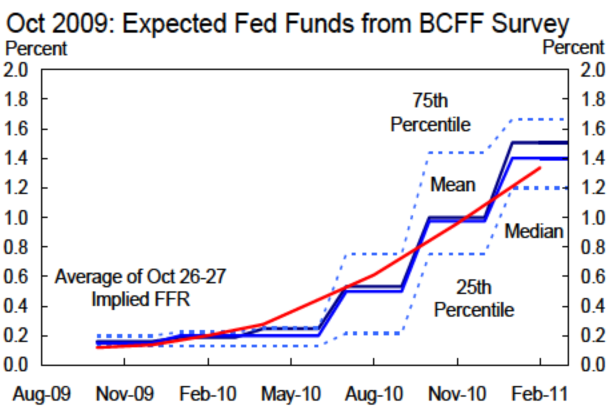
Source: Bloomberg



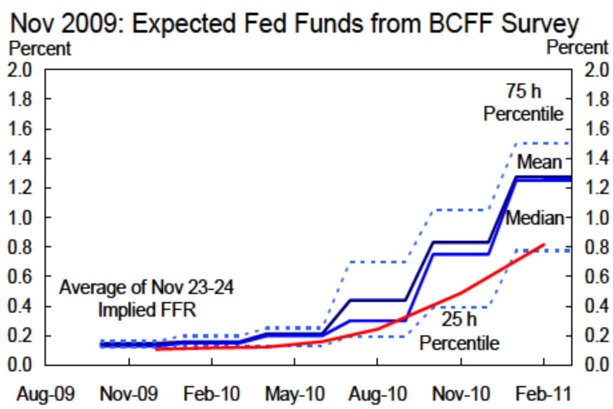
Source: Cleveland FRB Note: Estimated using options on fed funds futures.



Source: Cleveland FRB Note: Estimated using options on fed funds futures.



Note: Implied FFR are from Fed Funds and Eurodollar futures.
The BCFF survey was conducted on Oct 26-27.



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

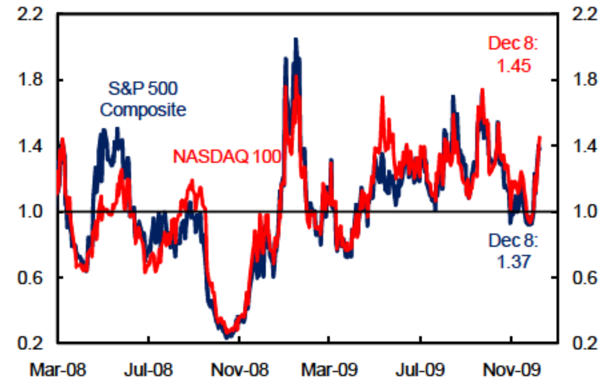
A. Significant Developments

Exhibit A-6:
Implied Volatility

Equity Index Implied Volatility: 1-Month

Source: Datastream

Ratio of Implied to Realized Volatility



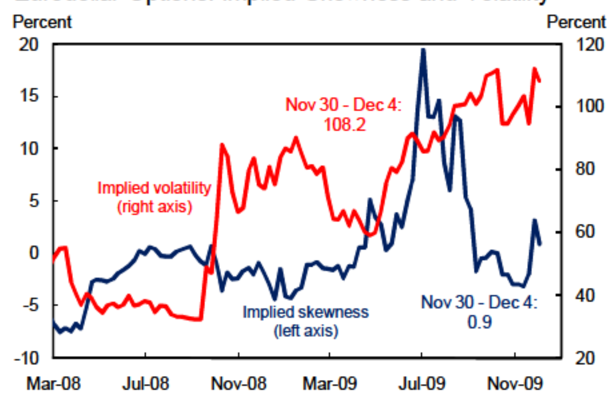
Source: Datastream

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

Option and Swaption Volatility Expectations

Source: Merrill Lynch, Haver

Eurodollar Options: Implied Skewness and Volatility

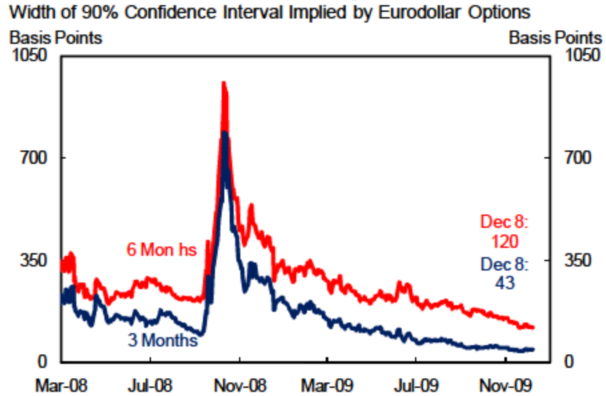


Source: CME and FRBNY calculations

Note: Weekly averages based on 3-9 month implied volatilities from Eurodollar futures options.

Short-Term Interest Rate Volatility

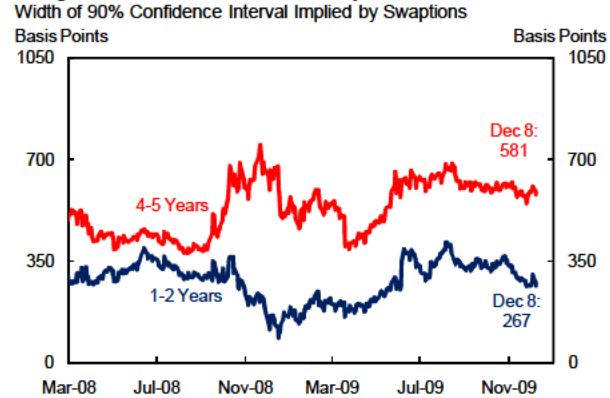
Width of 90% Confidence Interval Implied by Eurodollar Options



Source: Datastream, FRBNY calculations

Long-Term Interest Rate Volatility

Width of 90% Confidence Interval Implied by Swaptions

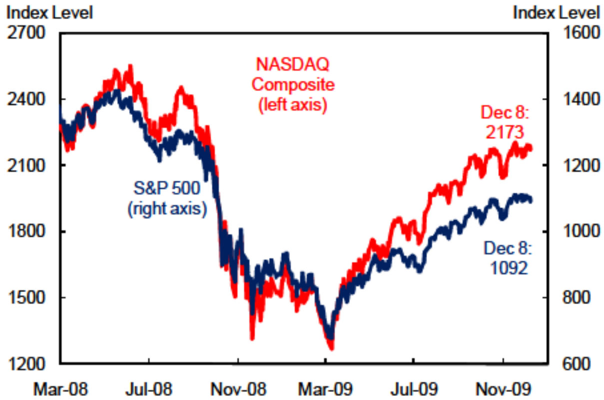


Source: Datastream, FRBNY calculations

A. Significant Developments

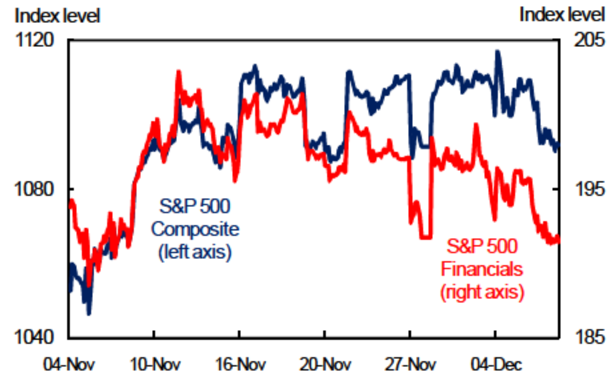
Exhibit A-7:
Equity and Credit

Equity Index Levels



Source: Datastream

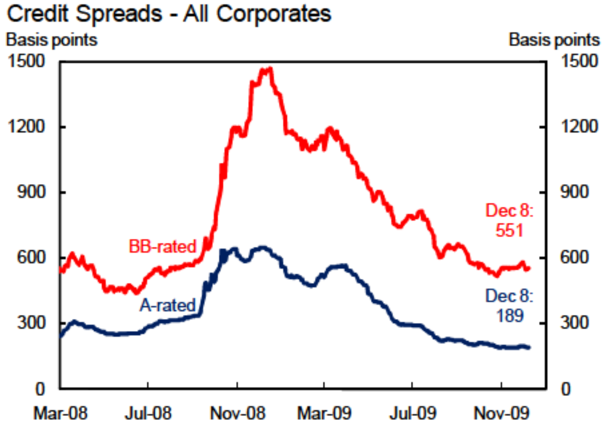
S&P 500 Indices (Intraday)



Source: Bloomberg

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

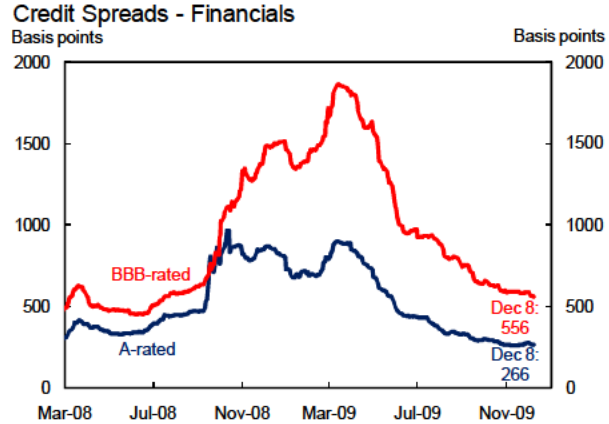
Credit Spreads - All Corporates



Source: Merrill Lynch

Note: Option-adjusted spreads.

Credit Spreads - Financials



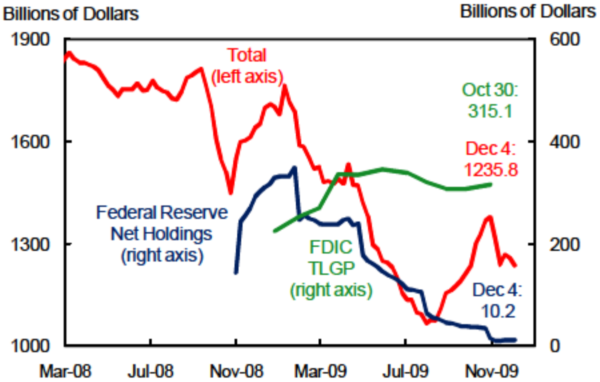
Source: Merrill Lynch

Note: Op ion-adjusted spreads.

A. Significant Developments

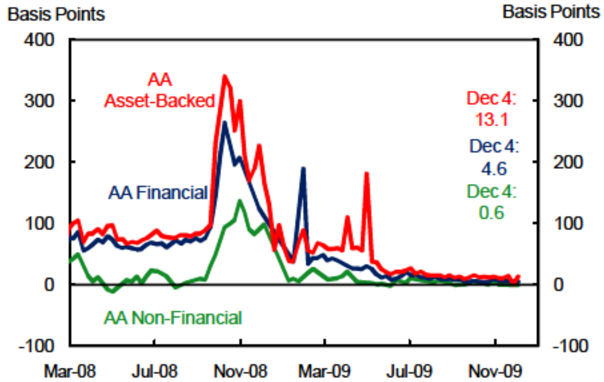
Exhibit A-8:
Liquidity Facilities

CPFF and Commercial Paper Outstanding



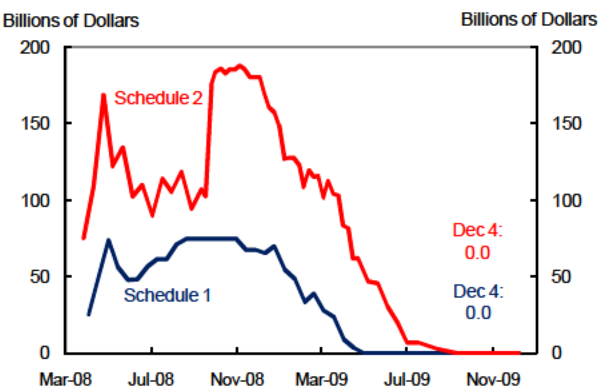
Source: Federal Reserve Board, Haver

3-Month CP Rates over OIS



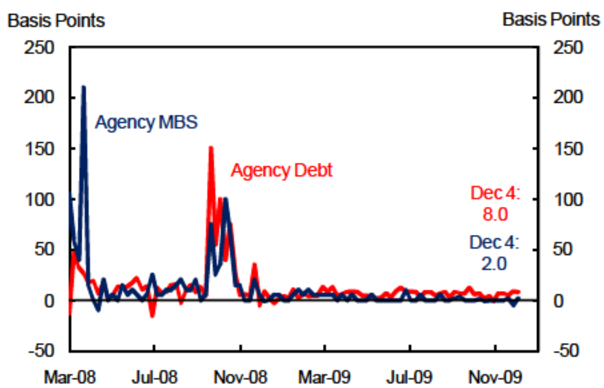
Source: Federal Reserve Board, Haver, Bloomberg

TSLF Outstanding



Source: Federal Reserve Bank of New York

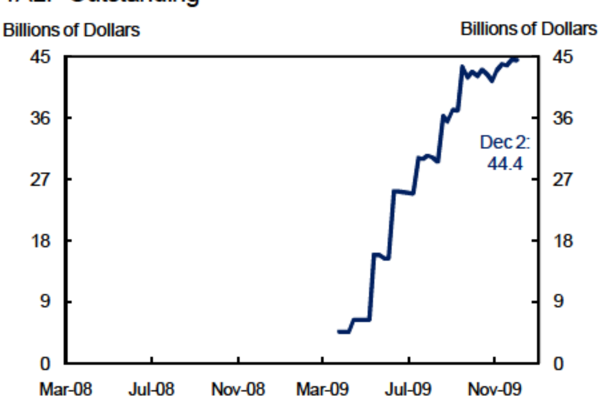
Overnight Financing Spreads



Source: Bloomberg

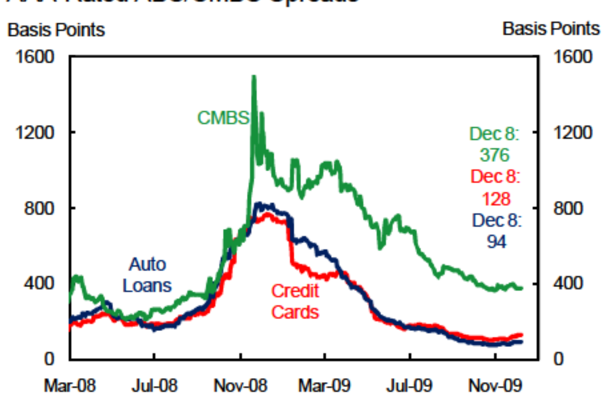
Note: Spreads are between overnight agency debt and MBS and Treasury general collateral repo rates

TALF Outstanding



Source: Federal Reserve Board

AAA-Rated ABS/CMBS Spreads

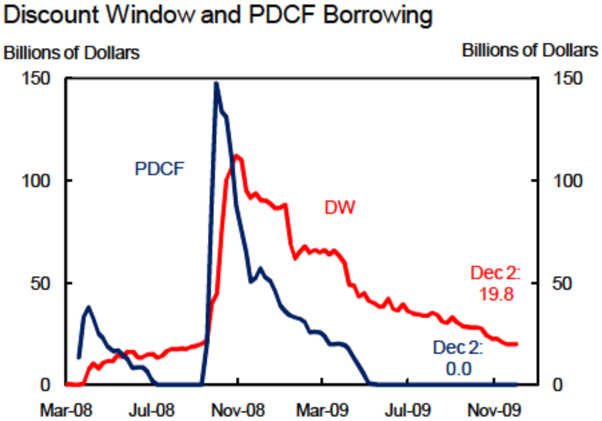


Source: Merrill Lynch

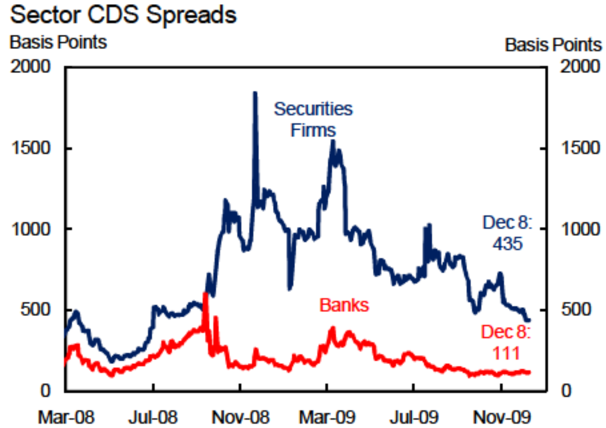
Note: Option-adjusted spreads.

A. Significant Developments

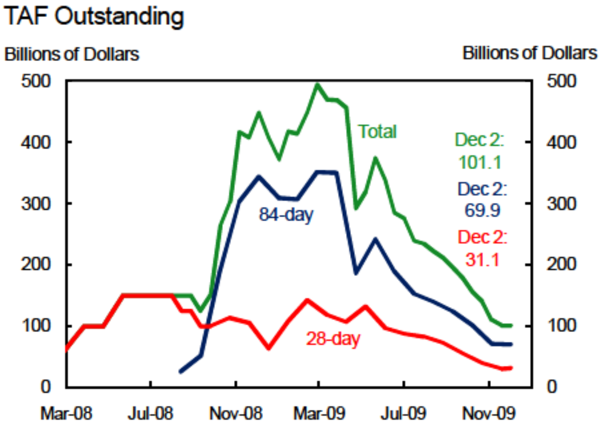
Exhibit A-8: Liquidity Facilities



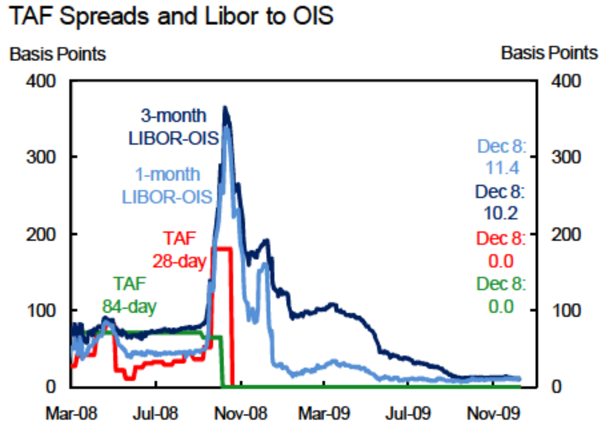
Source: Federal Reserve Board



Source: Datastream

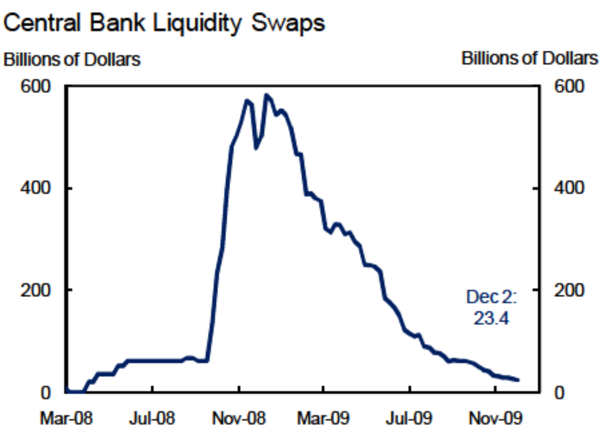


Source: Federal Reserve Board

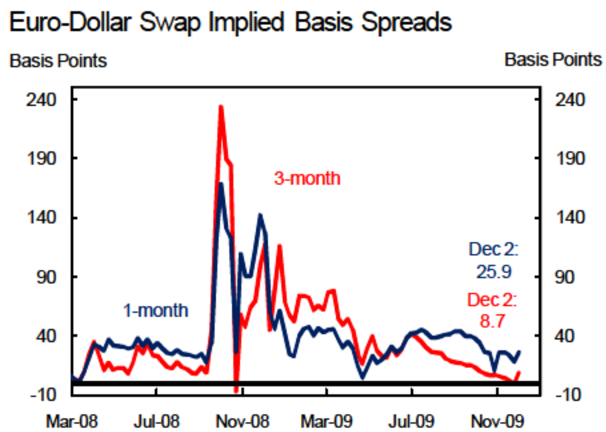


Source: Federal Reserve Board, Bloomberg

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



Source: Federal Reserve Board, Bloomberg

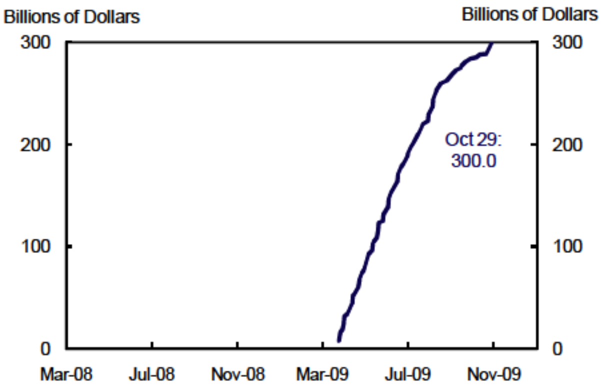


Source: Reuters, Tullett

A. Significant Developments

Exhibit A-9:
Outright Purchase Program

Treasury Outright Purchases

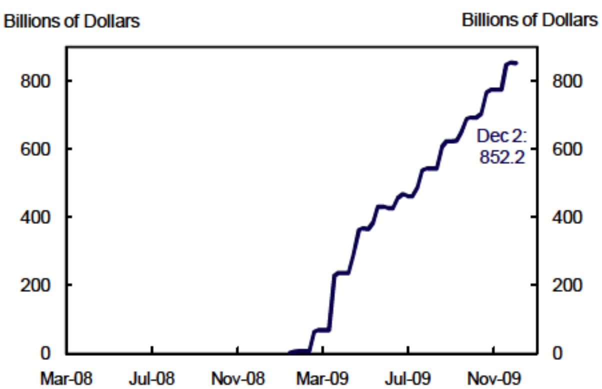


Source: Federal Reserve

Treasury Rates

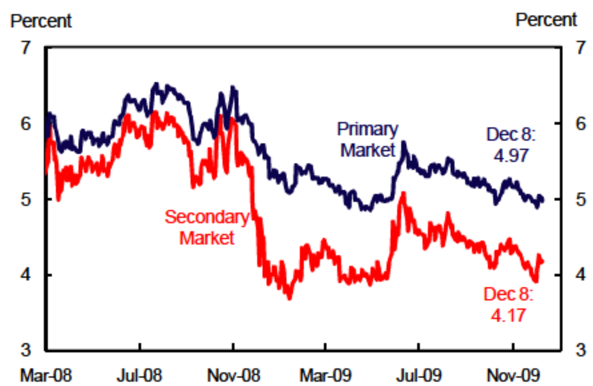
Source: Wall Street Journal, Haver

Agency MBS Net Outright Purchases



Source: Federal Reserve

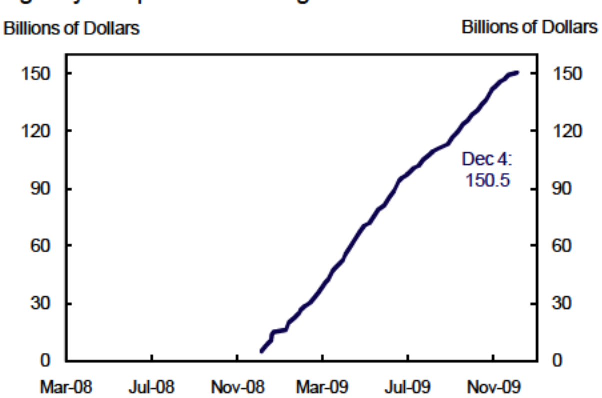
Mortgage Market Rates



Source: Bloomberg

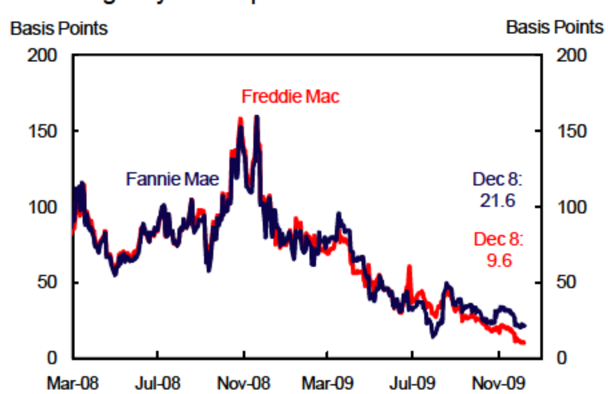
Note: 30-Year Fixed Mortgage rate and Fannie Mae current coupon yield.

Agency Coupon Debt Outright Purchases



Source: Federal Reserve

5-Year Agency Debt Spreads

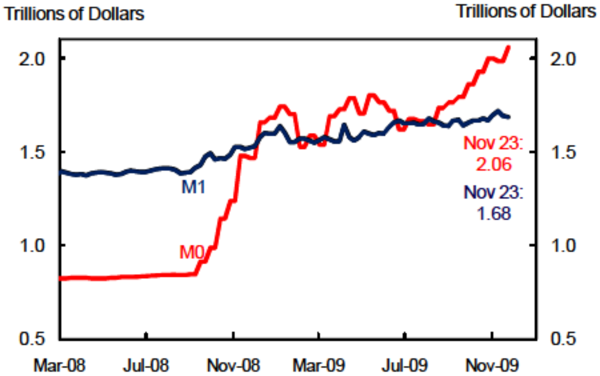


Source: Bloomberg

A. Significant Developments

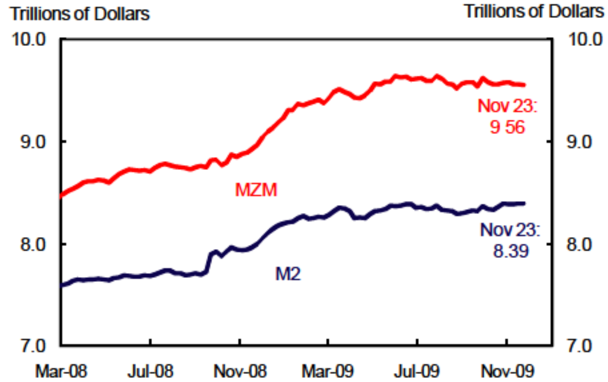
Exhibit A-10:
Money and Banking

Measures of Money Supply: M0, M1



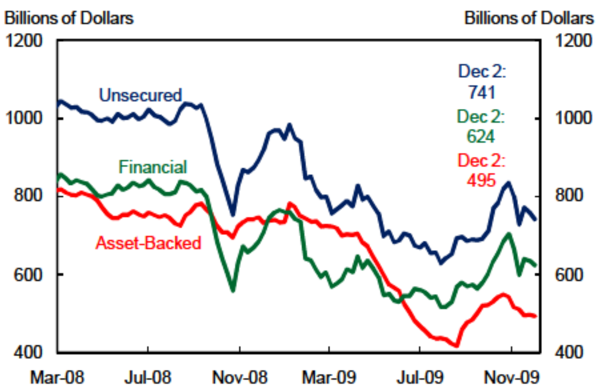
Source: Federal Reserve Board, Haver

Measures of Money Supply: M2, MZM



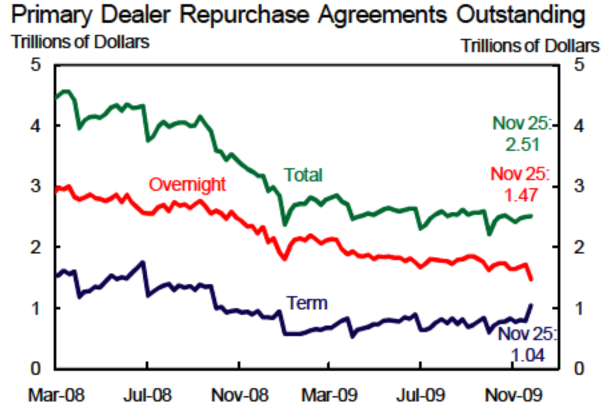
Source: Federal Reserve Board, Haver

Commercial Paper Outstanding



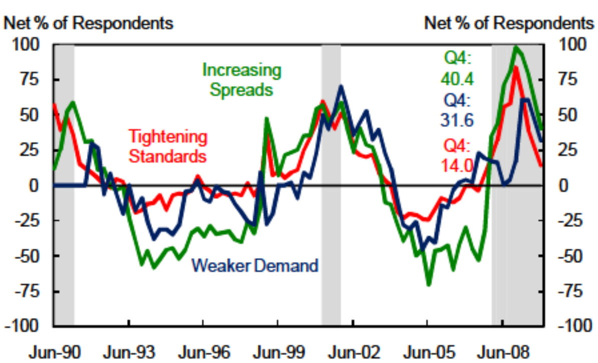
Source: Federal Reserve Board

Primary Dealer Repurchase Agreements Outstanding



Source: Federal Reserve Board

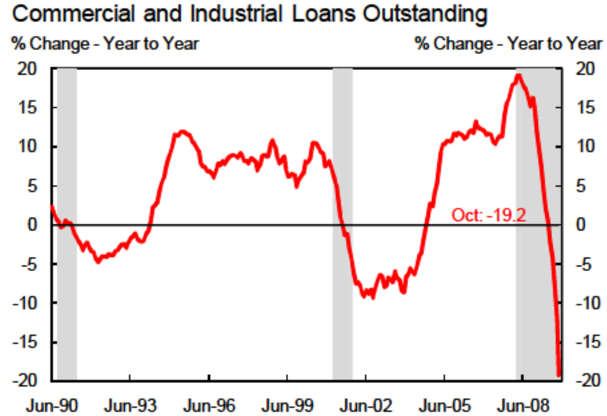
Bank Lending Practices



Source: Federal Reserve Board

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

Commercial and Industrial Loans Outstanding

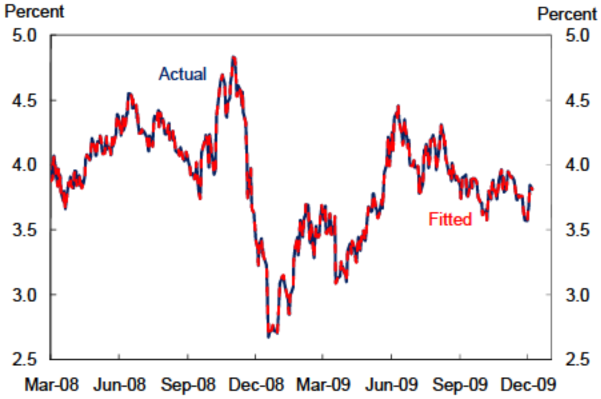


Source: Federal Reserve Board

A. Significant Developments

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

10-Year Treasury

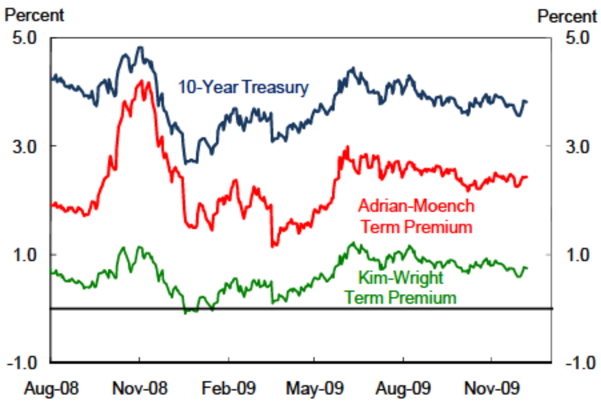


Source: FRBNY calculations, Federal Reserve Board

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

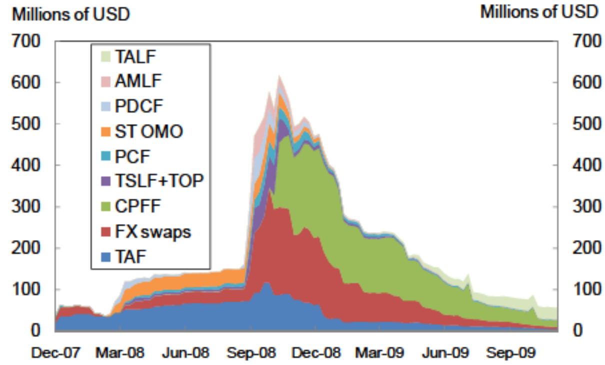
A. Significant Developments

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

Recent Developments

- Total facility interest income over the four weeks ending December 2 was $234mn, down from $308mn over the previous four weeks. The difference is primarily driven by smaller outstanding amounts in the CPFF.
- 2009 pro-forma income from the liquidity facilities has declined commensurately and is now $8.3bn.
- Pro forma income from all sources going forward is $68.6bn (based on the 12/2/09 balance sheet), with declining income from the facilities more than offset by increased income from securities held outright.

Weekly Income by Facility



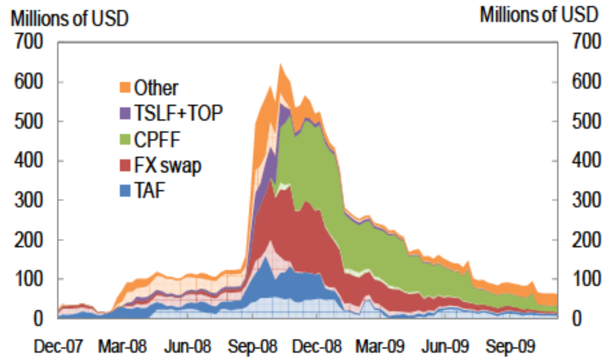
Sources: Federal Reserve, Bloomberg, foreign central banks.

Income Effects of Liquidity Facilities

Period	Interest/Fee Income	Interest Foregone	Difference
2008	11,676	3,664	8,012
2009 YTD	8,157	1,121	7,036
2009 Pro Forma	8,331	1,157	7,174
Last 4 Weeks	234	7	227
Total since 8/8/07	**19,925**	**4,847**	**15,078**

Note: Figures in millions of USD.

Weekly Facility Income and Interest Foregone



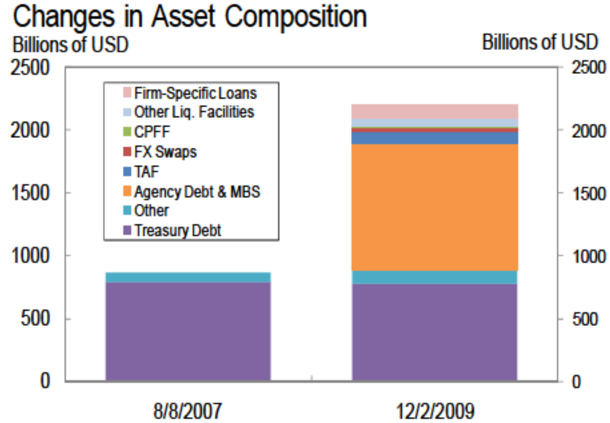
Note: Lighter colors indicate interest foregone.
Sources: Federal Reserve, Bloomberg, foreign central banks.

Pro Forma Income, Next 12 Months

Line Item	Balance Sheet 8/8/07	12/2/09	Difference
Sec. Held Outright	23,915	67,213	43,299
Liquidity Facilities	0	2,166	2,166
Firm-Specific Loans	0	1,287	1,287
Other	813	802	-10
Liabilities	-16	-2,843	-2,826
Net	**24,711**	**68,626**	**43,915**

Note: Estimates based on 8/8/07 and 12/2/09 balance sheets along with common (and current) assumptions about policy and market interest rates. Figures in millions of USD.

Changes in Asset Composition



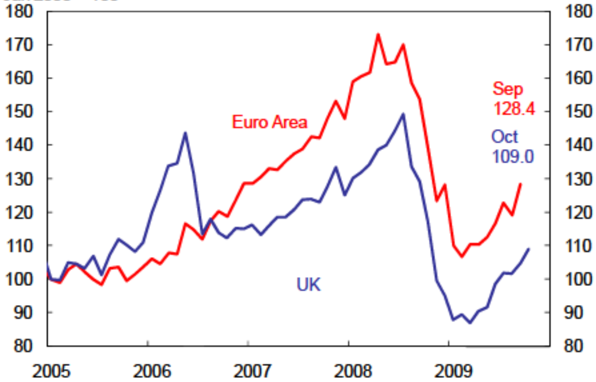
Source: Federal Reserve.

A. Significant Developments

Exhibit A-13: Exports and Industrial Production

Exports

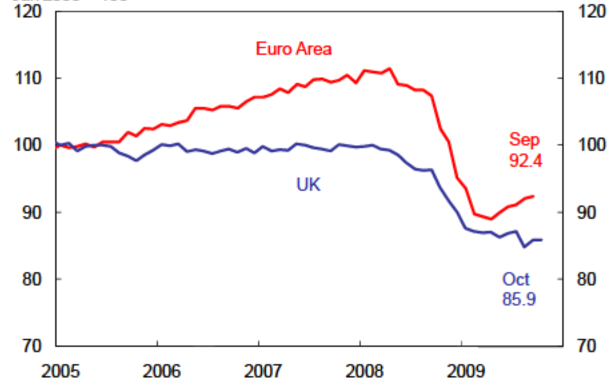
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

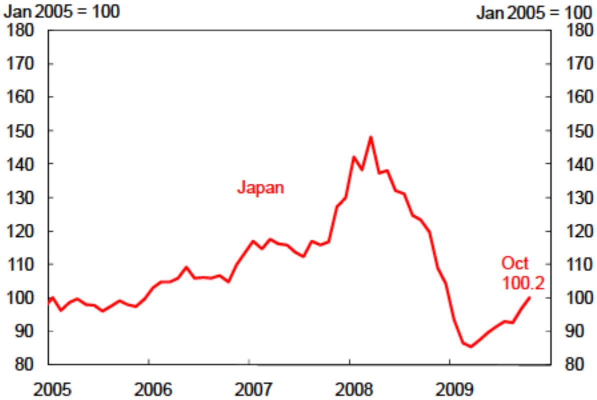
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

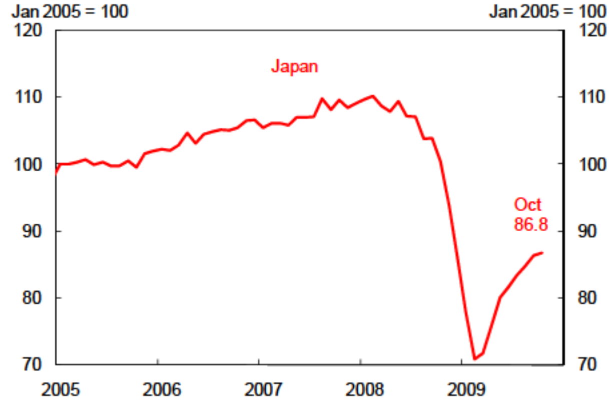
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

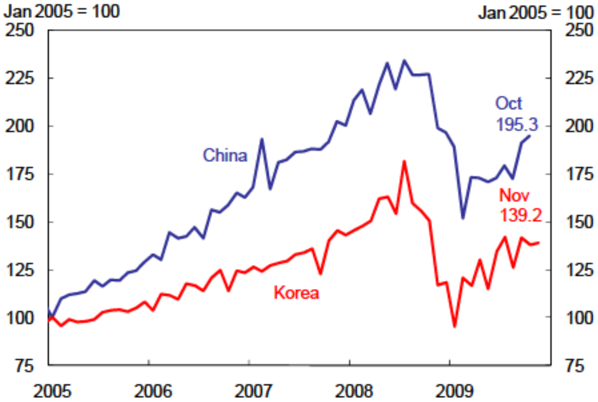
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

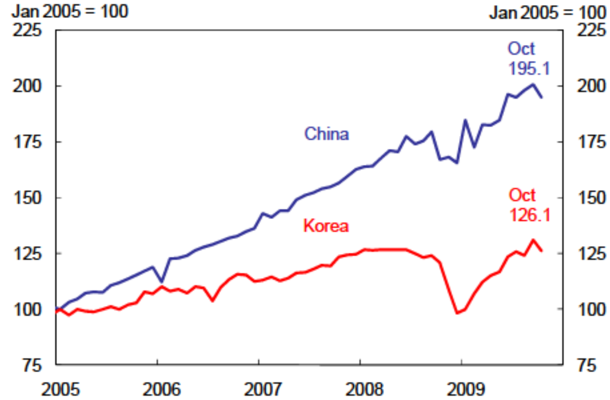
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

Jan 2005 = 100 Jan 2005 = 100

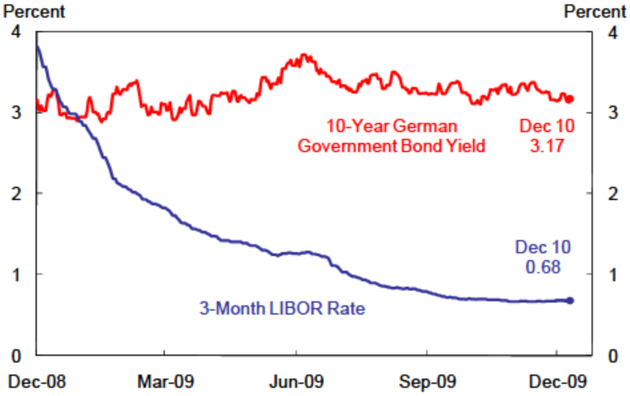


Source: Haver, CEIC

A. Significant Developments

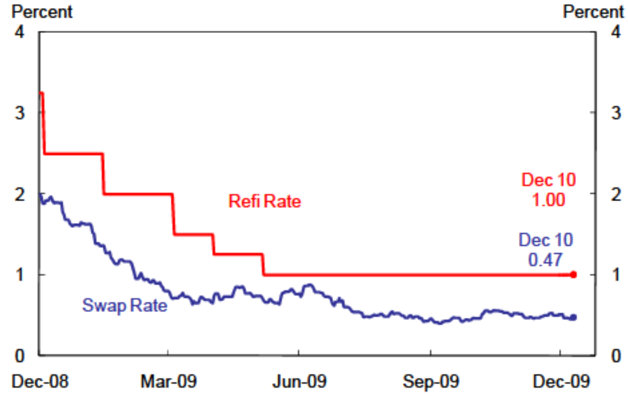
Exhibit A-14:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



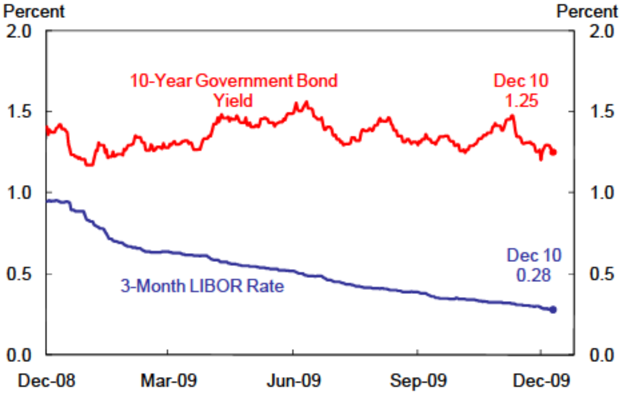
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



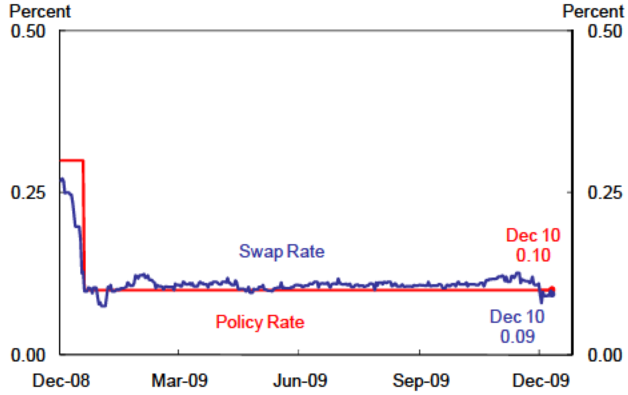
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



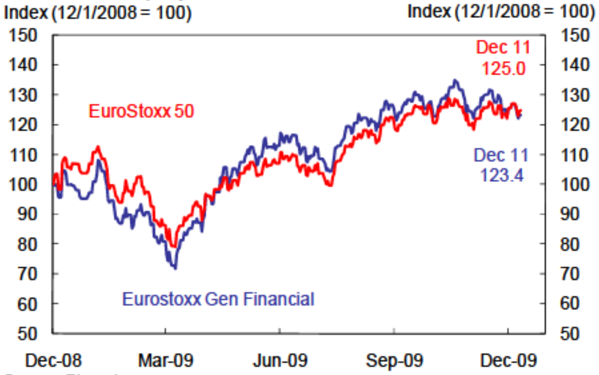
Source: Bloomberg

Japan: OIS Rate (Six Months)



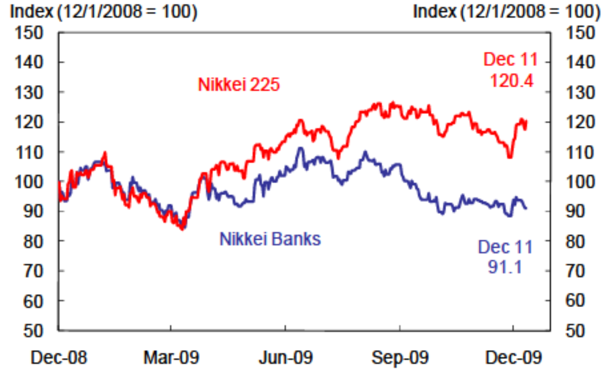
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

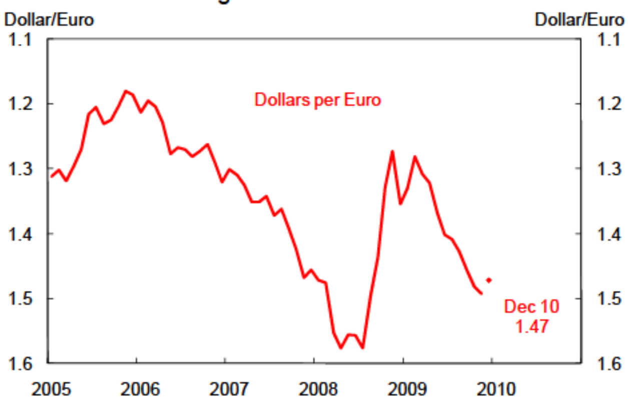


Source: Bloomberg

A. Significant Developments

Exhibit A-15:
Exchange Rates

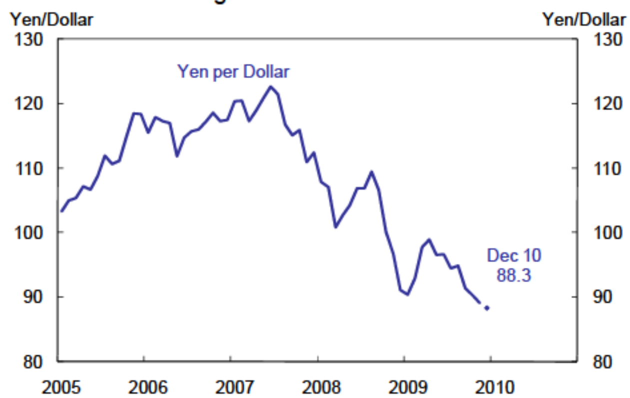
Dollar-Euro Exchange Rate



Source: Bloomberg

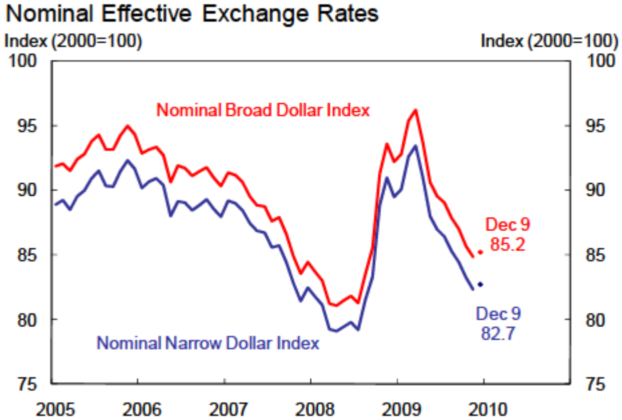
Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



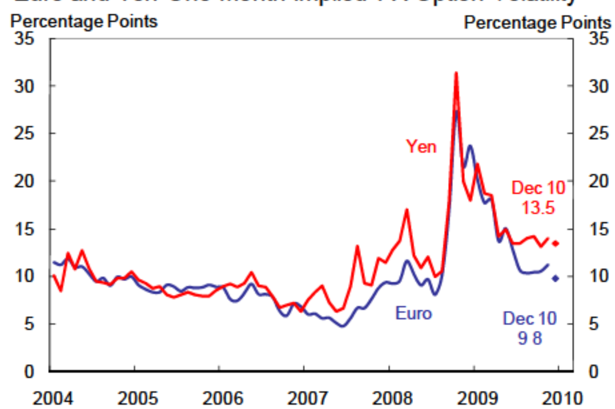
Source: Bloomberg

Nominal Effective Exchange Rates



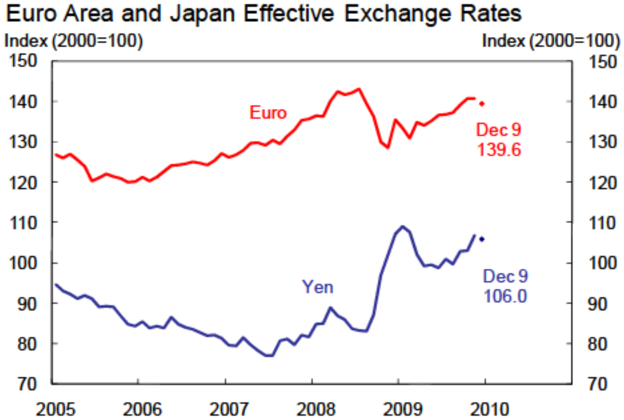
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



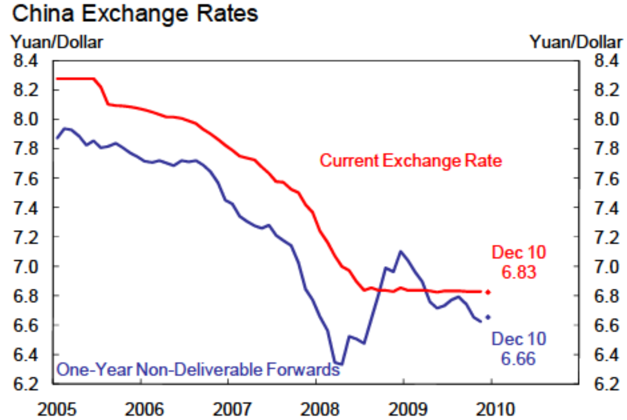
Source: Bloomberg

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

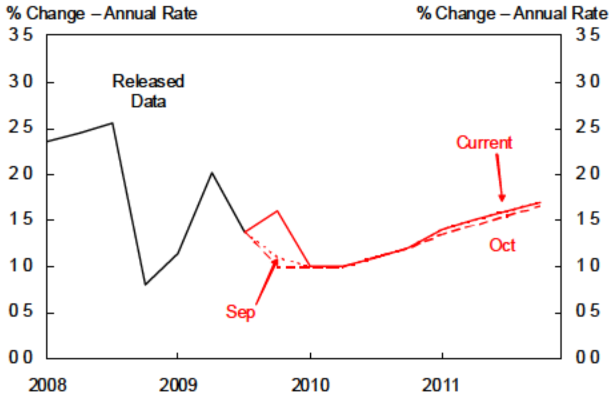
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Sep	Oct	Dec	Sep	Oct	Dec	Sep	Oct	Dec	Sep	Oct	Dec
2009												
Q1	*1.1*	*1.1*	*1.1*	*-6.4*	*-6.4*	*-6.4*	*8.1*	*8.1*	*8.1*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*2.0*	*2.0*	*2.0*	*-1.0*	*-0.7*	*-0.7*	*9.3*	*9.3*	*9.3*	0-0.25	*0-0.25*	*0-0.25*
Q3	1.4	1.4	*1.3*	3.5	3.5	*2.8*	9.7	9.6	*9.6*	0-0.25	0-0.25	*0-0.25*
Q4	1.1	1.1	1.6	3.4	3.6	4.6	10.0	10.0	10.1	0-0.25	0-0.25	0-0.25
2010												
Q1	1.0	1.0	1.0	0.6	1.2	1.9	10.1	10.2	10.2	0-0.25	0-0.25	0-0.25
Q2	1.0	1.0	1.0	1.2	1.5	1.7	10.2	10.3	10.4	0-0.25	0-0.25	0-0.25
Q3	1.1	1.1	1.1	2.6	2.3	2.2	10.3	10.3	10.3	0-0.25	0-0.25	0-0.25
Q4	1.2	1.2	1.2	3.4	3.1	3.3	10.2	10.2	10.3	0-0.25	0-0.25	0-0.25
2011												
Q1	1.4	1.4	1.4	4.0	3.8	3.8	9.9	9.6	9.7	0-0.25	0-0.25	0-0.25
Q2	1.5	1.5	1.5	3.8	3.9	3.9	9.6	9.2	9.1	0.5	0.5	0.5
Q3	1.6	1.6	1.6	4.0	4.1	4.0	9.4	8.9	8.6	1.0	1.0	1.0
Q4	1.7	1.7	1.7	4.3	4.3	4.3	9.0	8.6	8.3	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*	*2.1*	*-4.0*	*-4.0*	*-4.0*
2009	1.4	1.4	1.5	-0.2	-0.1	0.0	3.1	3.1	3.2	0.0	0.0	0.0
2010	1.1	1.1	1.1	2.0	2.0	2.2	0.2	0.2	0.2	0.0	0.0	0.0
2011	1.5	1.5	1.5	4.0	4.0	4.0	-1.2	-1.6	-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.

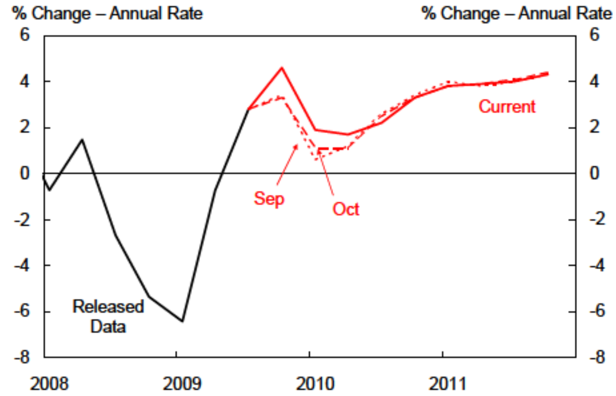
B. FRBNY Forecast Details

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

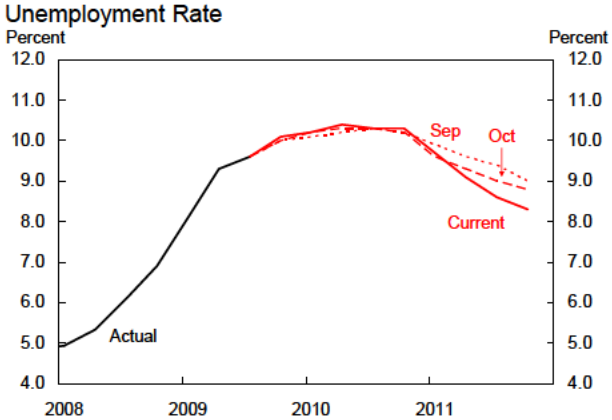
Core PCE Inflation



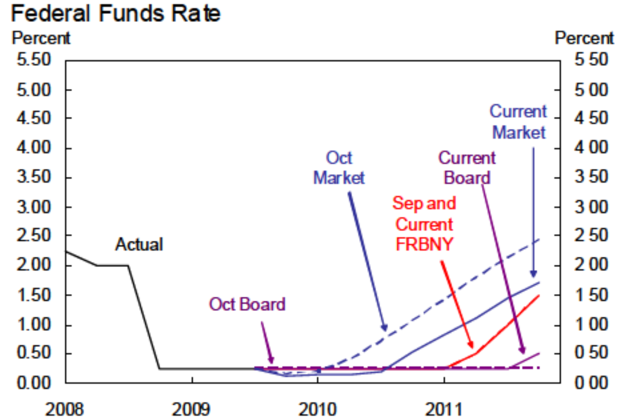
Real GDP Growth



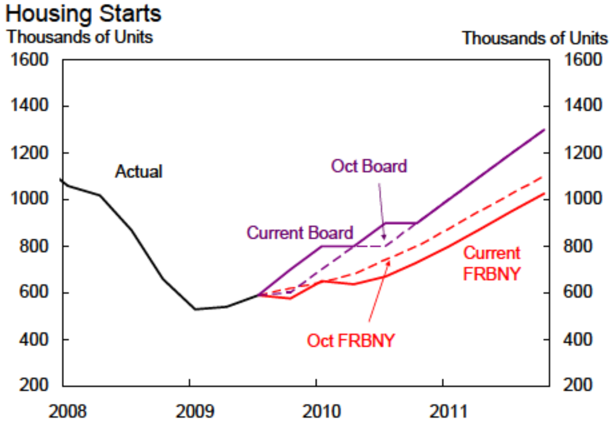
Unemployment Rate



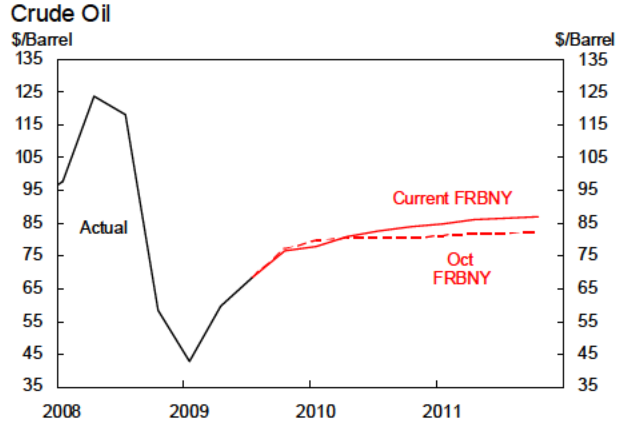
Federal Funds Rate



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	4.6	1.9	4.6	1.9
	(3.6)	(1.2)	(3.6)	(1.2)
Final Sales to Domestic Purchasers	1.8	0.1	1.9	0.1
	(0.6)	(0.0)	(0.6)	(0.0)
Consumption	2.5	1.0	1.8	0.7
	(1.5)	(0.7)	(1.1)	(0.5)
BFI: Equipment and Software	0.0	-5.0	0.0	-0.3
	(-5.0)	(-5.0)	(-0.3)	(-0.3)
BFI: Nonresidential Structures	-20.0	-15.0	-0.7	-0.5
	(-15.0)	(-10.0)	(-0.5)	(-0.3)
Residential Investment	14.0	5.0	0.3	0.1
	(15.0)	(5.0)	(0.4)	(0.1)
Government: Federal	7.9	1.5	0.6	0.1
	(1.5)	(1.5)	(0.1)	(0.1)
Government: State and Local	-1.3	-0.8	-0.2	-0.1
	(-1.0)	(-0.8)	(-0.1)	(-0.1)
Inventory Investment	--	--	2.5	2.1
	--	--	(3.2)	(1.3)
Net Exports	--	--	0.2	-0.2
	--	--	(-0.2)	(-0.1)
INFLATION				
Total PCE Deflator	2.6	1.3		
	(1.4)	(1.3)		
Core PCE Deflator	1.6	1.0		
	(1.1)	(1.0)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	6.3	2.8		
	(3.5)	(2.5)		
Compensation per Hour	2.0	1.5		
	(1.8)	(1.5)		
Unit Labor Costs	-4.3	-1.3		
	(-1.8)	(-1.0)		

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	2.2	4.0	0.0	2.2	4.0
	(-0.1)	(2.0)	(4.0)	(-0.1)	(2.0)	(4.0)
Final Sales to Domestic Purchasers	-0.8	1.3	3.6	-0.8	1.3	3.7
	(-1.0)	(1.2)	(3.6)	(-1.0)	(1.3)	(3.7)
Consumption	1.3	1.5	2.4	0.9	1.1	1.7
	(1.1)	(1.1)	(2.4)	(0.8)	(0.8)	(1.7)
BFI: Equipment and Software	-11.3	2.3	14.2	-0.8	0.1	0.9
	(-12.7)	(2.3)	(14.2)	(-0.9)	(0.1)	(0.8)
BFI: Nonresidential Structures	-25.0	-6.5	9.0	-1.0	-0.2	0.3
	(-22.5)	(-0.8)	(9.0)	(-0.9)	(-0.0)	(0.3)
Residential Investment	-10.3	6.9	18.1	-0.3	0.2	0.5
	(-9.4)	(6.9)	(18.1)	(-0.3)	(0.2)	(0.5)
Government: Federal	5.6	1.5	1.5	0.4	0.1	0.1
	(3.9)	(1.5)	(1.5)	(0.3)	(0.1)	(0.1)
Government: State and Local	0.2	0.3	2.5	0.0	0.0	0.3
	(0.0)	(0.3)	(2.5)	(0.0)	(0.0)	(0.3)
Inventory Investment	--	--	--	-0.1	0.8	0.4
	--	--	--	(0.1)	(0.7)	(0.4)
Net Exports	--	--	--	0.9	0.1	-0.1
	--	--	--	(0.9)	(0.1)	(-0.0)
INFLATION						
Total PCE Deflator	1.3	1.4	1.7			
	(1.0)	(1.4)	(1.7)			
Core PCE Deflator	1.5	1.1	1.5			
	(1.4)	(1.1)	(1.5)			
Total CPI Inflation	1.4	1.5	1.9			
	(1.1)	(1.5)	(1.9)			
Core CPI Inflation	1.7	1.3	1.7			
	(1.7)	(1.3)	(1.7)			
GDP Deflator	1.0	1.3	1.6			
	(0.8)	(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)	3.4	3.8	4.1
	(3.6)	(4.0)	--
PRODUCTIVITY AND LABOR COSTS*			
Output	-0.5	2.5	4.8
	(-0.6)	(2.3)	(4.8)
Hours	-5.6	0.6	3.5
	(-4.9)	(0.4)	(3.6)
Output per Hour	5.4	1.8	1.3
	(4.3)	(1.8)	(1.3)
Compensation per Hour	2.3	1.4	1.7
	(0.0)	(1.4)	(1.7)
Unit Labor Costs	-3.0	-0.4	0.5
	(-4.3)	(-0.4)	(0.5)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	10.1	10.3	8.3
	(10.0)	(10.2)	(8.6)
Participation Rate (Avg. Q4 Level)	65.1	65.1	65.3
	(65.4)	(65.4)	(65.6)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-409	53	384
	(-374)	(90)	(351)
INCOME			
Personal Income	-0.2	3.4	6.1
	(-1.3)	(3.0)	(5.6)
Real Disposable Personal Income	1.9	2.0	4.2
	(0.7)	(1.5)	(3.6)
Corporate Profits Before Taxes	30.9	3.1	5.4
	(28.5)	(-1.5)	(2.6)

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

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Greenbook Forecast Comparison

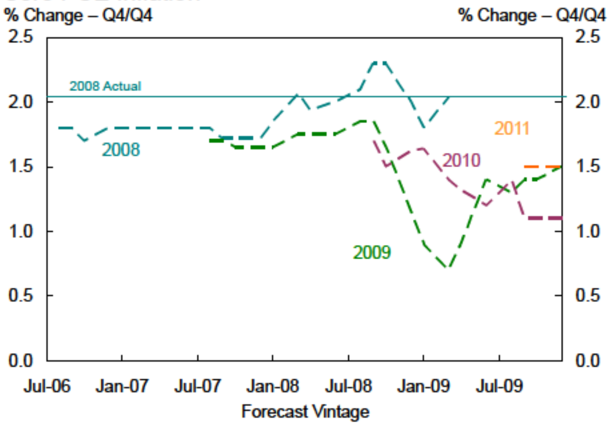
	FRBNY			Board		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	0.0	2.2	4.0	-0.3	3.6	4.5
	(-0.1)	(2.0)	(4.0)	(-0.3)	(3.4)	(4.4)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	-0.8	1.3	3.7	-0.9	3.0	4.1
	(-1.0)	(1.3)	(3.7)	(-1.1)	(2.7)	(4.1)
Consumption	0.9	1.1	1.7	0.8	1.8	2.4
	(0.8)	(0.8)	(1.7)	(0.7)	(1.7)	(2.4)
BFI	-1.8	-0.1	1.1	-1.8	0.6	1.0
	(-1.8)	(0.1)	(1.1)	(-1.8)	(0.5)	(0.9)
Residential Investment	-0.3	0.2	0.5	-0.3	0.2	0.5
	(-0.3)	(0.2)	(0.5)	(-0.4)	(0.2)	(0.6)
Government	0.5	0.2	0.4	0.4	0.4	0.2
	(0.3)	(0.2)	(0.4)	(0.4)	(0.3)	(0.2)
Inventory Investment	-0.1	0.8	0.4	-0.2	0.7	0.5
	(0.1)	(0.7)	(0.4)	(-0.1)	(0.7)	(0.5)
Net Exports	0.9	0.1	-0.1	1.0	-0.1	-0.1
	(0.9)	(0.1)	(0.0)	(1.0)	(0.0)	(-0.1)
INFLATION						
Total PCE Deflator	1.3	1.4	1.7	1.3	1.3	1.2
	(1.0)	(1.4)	(1.7)	(1.1)	(1.4)	(1.0)
Core PCE Deflator	1.5	1.1	1.5	1.5	1.2	1.1
	(1.4)	(1.1)	(1.5)	(1.4)	(1.1)	(1.0)
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	0-0.25
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	5.4	1.8	1.3	4.7	0.9	1.0
	(4.3)	(1.8)	(1.3)	(4.6)	(1.1)	(0.8)
Compensation per Hour	2.3	1.4	1.7	2.4	2.0	2.0
	(0.0)	(1.4)	(1.7)	(-0.2)	(1.8)	(2.1)
Unit Labor Costs	-3.0	(0.4)	0.5	-2.3	1.0	1.0
	(-4.3)	(-0.4)	(0.5)	(-4.7)	(0.7)	(1.2)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	10.1	10.3	8.3	10.1	9.6	8.3
	(10.0)	(10.2)	(8.6)	(10.1)	(9.5)	(8.2)
Participation Rate (Avg. Q4 Level)	65.1	65.1	65.3	65.0	64.9	64.8
	(65.4)	(65.4)	(65.6)	(65.2)	(65.1)	(65.0)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-409	53	384	-392	192	333
	(-374)	(90)	(351)	(-425)	(167)	(325)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	575	730	1025	600	800	1100
	(620)	(800)	(1100)	(700)	(900)	(1300)

B. FRBNY Forecast Details

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

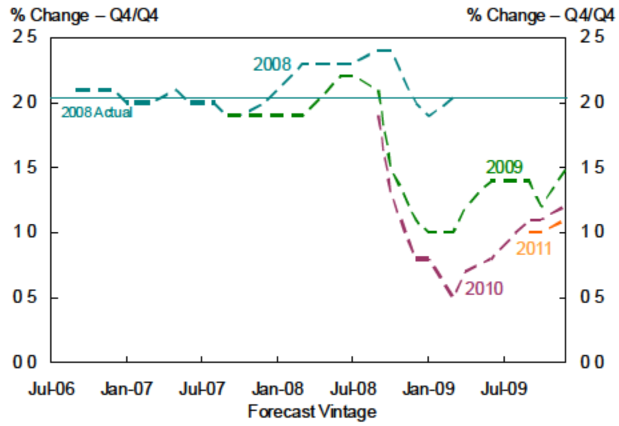
FRBNY

Core PCE Inflation

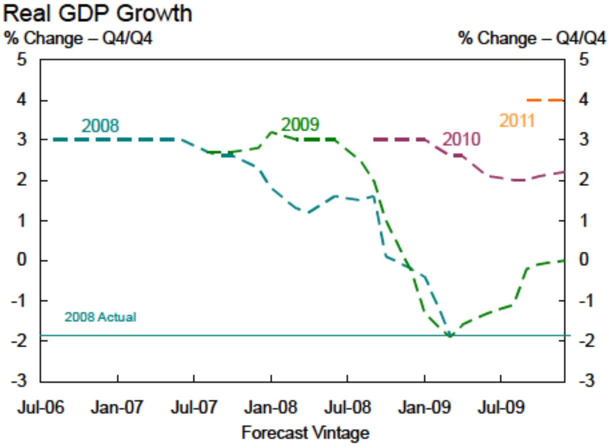


Board

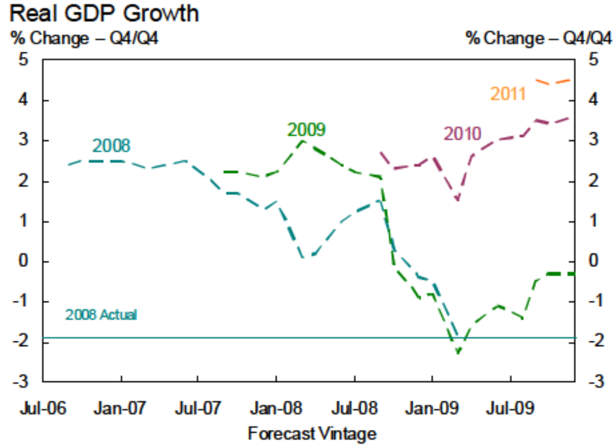
Core PCE Inflation



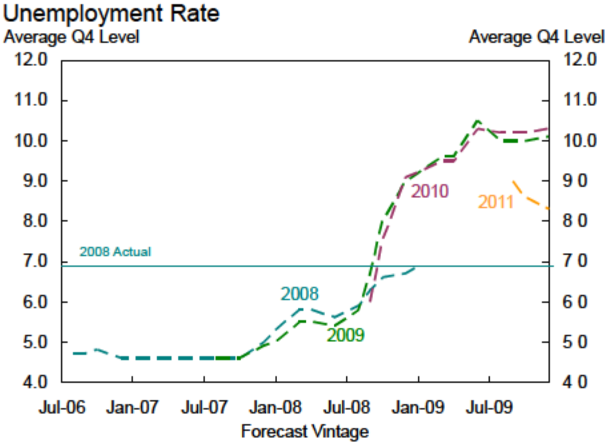
Real GDP Growth



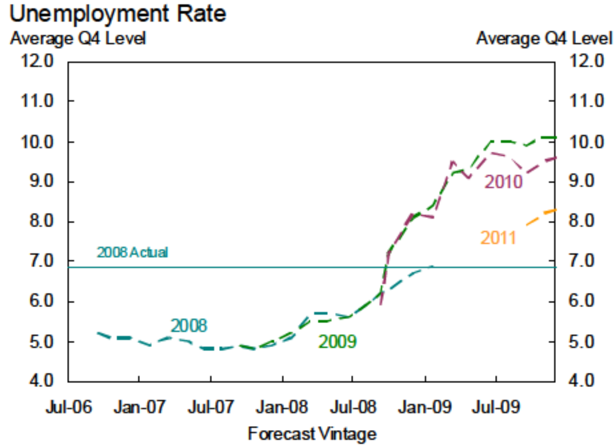
Real GDP Growth



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

Real GDP Growth

	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	12/10/2009	4.6	1.9	0.0	2 2
		(3.6)	(1.2)	(-0.1)	(2 0)
PSI Model	12/10/2009	0.5	1.3	--	--
		(1.7)	--	--	--
Blue Chip	12/10/2009	2.8	2.8	-0.5	2.9
		(2.4)	(2.6)	(-0.4)	(2.8)
Median SPF	11/16/2009	2.7	2.3	-0.3	2.6
		(2.2)	(2.5)	(-0.8)	(2.7)
Macro Advisers	12/9/2009	3.4	3.5	-0.4	4.0
		(3.6)	(3.8)	(-0.1)	(4.1)

Core PCE Inflation

	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	12/10/2009	1.6	1.0	1.5	1.1
		(1.1)	(1.0)	(1.4)	(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	12/7/2009	1.7	1.3	1.5	1.1
		(1.0)	(0.8)	(1.4)	(0.8)

CPI Inflation

	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	12/10/2009	3.2	1.3	1.4	1.5
		(2.0)	(1.3)	(1.1)	(1.5)
Blue Chip	12/10/2009	2.7	1.8	1.3	1.8
		(1.7)	(1.6)	(0.9)	(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	12/7/2009	3.2	1.6	1.4	1.3
		(0.8)	(0.8)	(0.8)	(0.9)

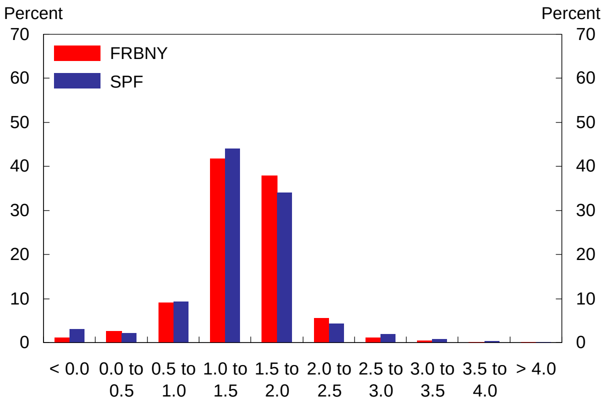
Core CPI Inflation

	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	12/10/2009	1.5	1.1	1.7	1.3
		(1.3)	(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	12/7/2009	1.7	1.2	1.8	1.1
		(0.9)	(0.9)	(1.6)	(0.9)

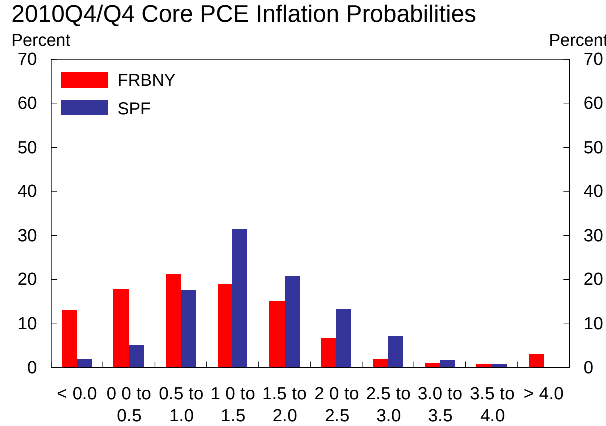
B. FRBNY Forecast Details

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

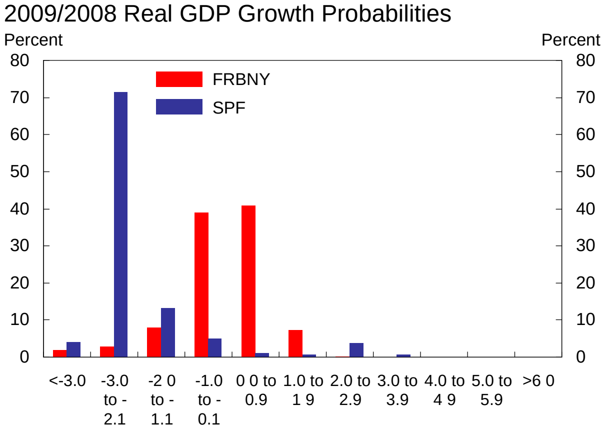
2009Q4/Q4 Core PCE Inflation Probabilities



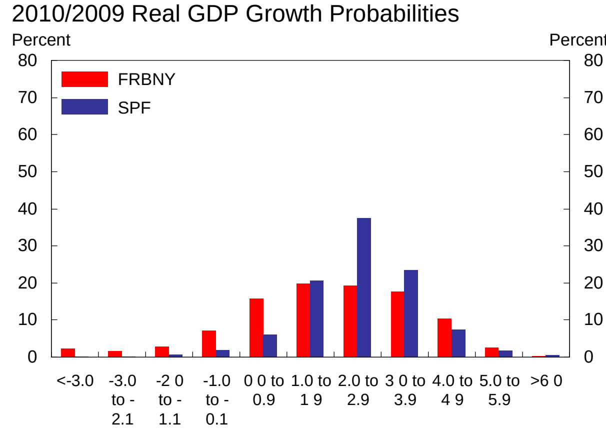
2010Q4/Q4 Core PCE Inflation Probabilities



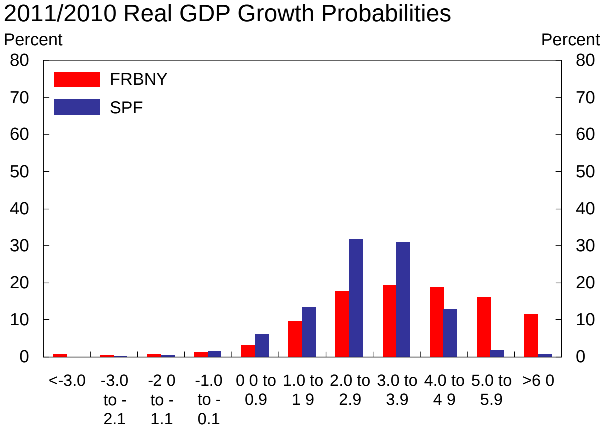
2009/2008 Real GDP Growth Probabilities



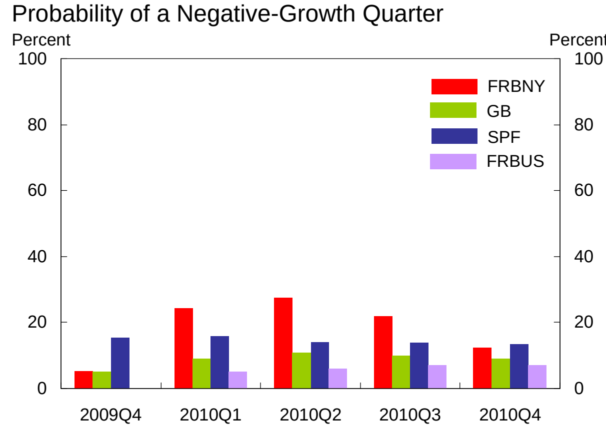
2010/2009 Real GDP Growth Probabilities



2011/2010 Real GDP Growth Probabilities



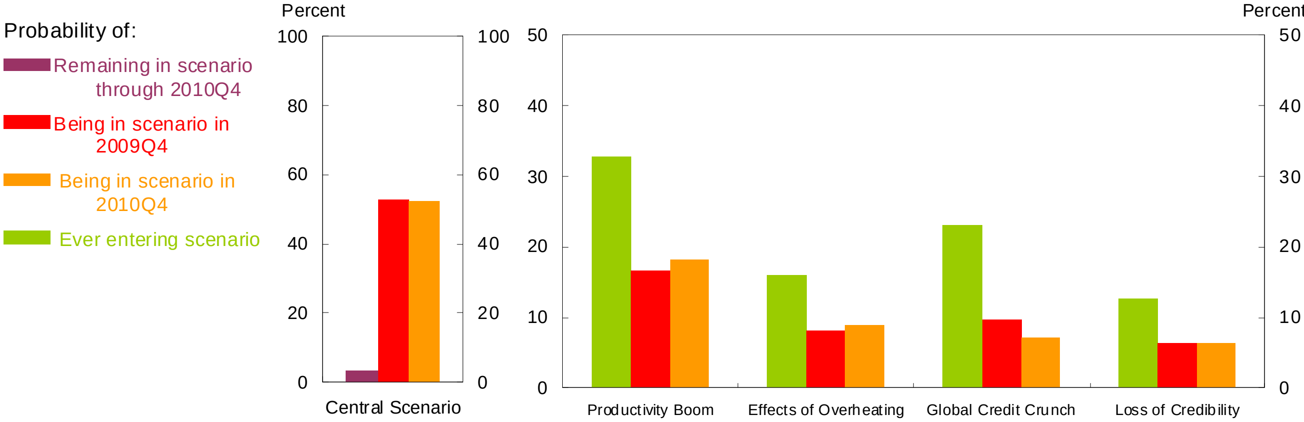
Probability of a Negative-Growth Quarter



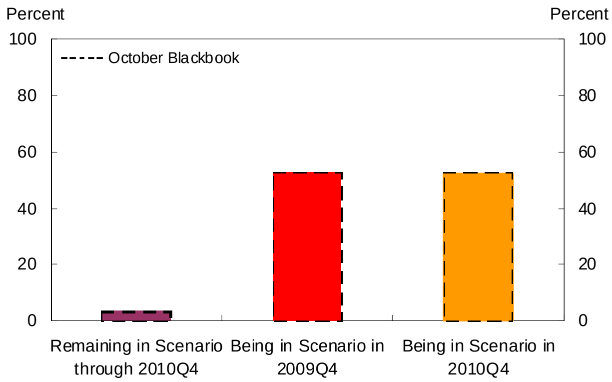
C. FRBNY Forecast Distributions

Exhibit C-1:
Risks

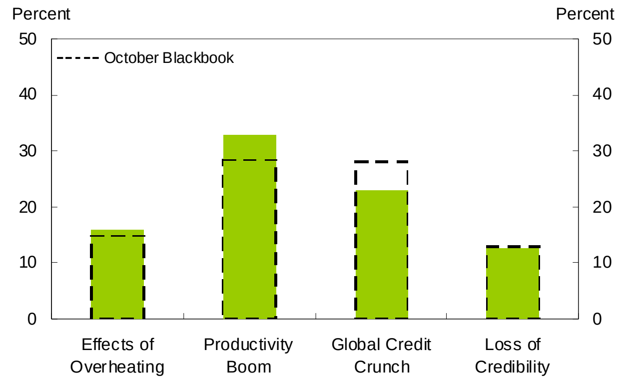
Scenario Probabilities



Change in Central Scenario Probabilities



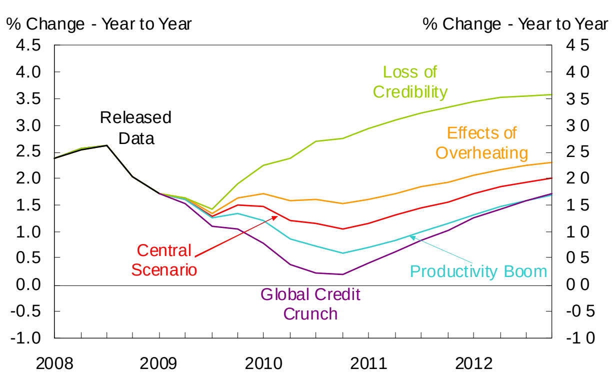
Change in Alternative Scenario Probabilities*



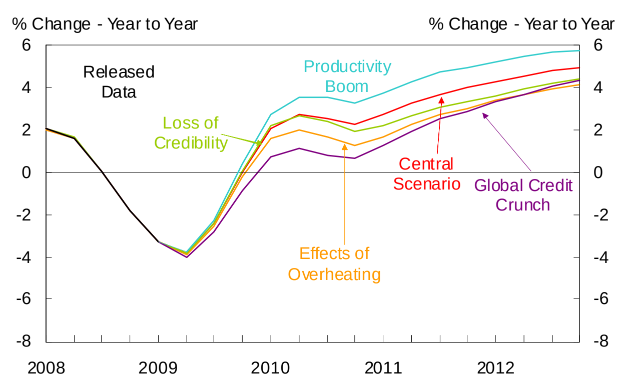
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

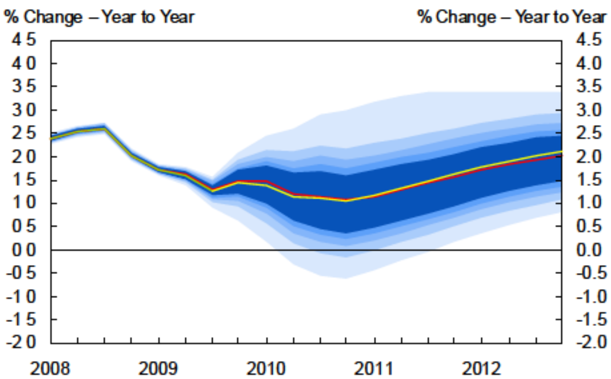


Source: MMS Function (FRBNY)

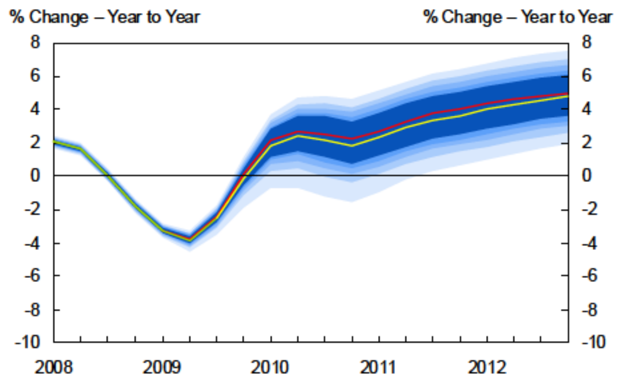
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

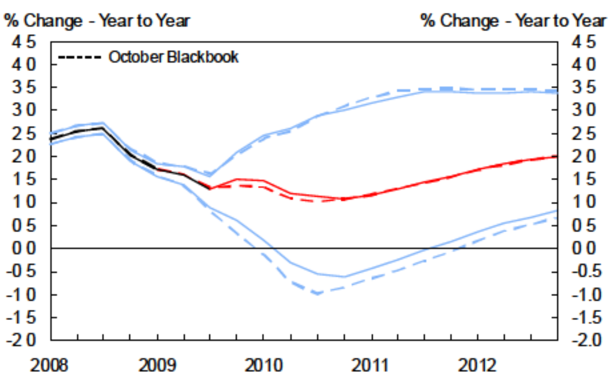


Real GDP Growth Forecast Distribution

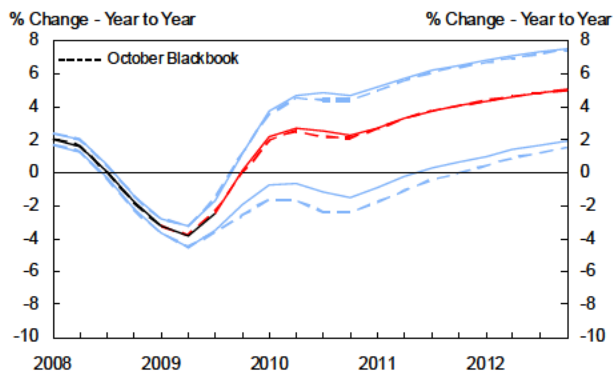


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

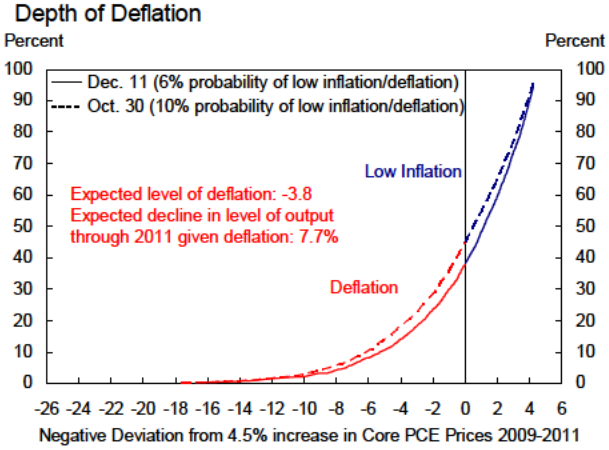


Change in Real GDP Growth Forecast Distribution

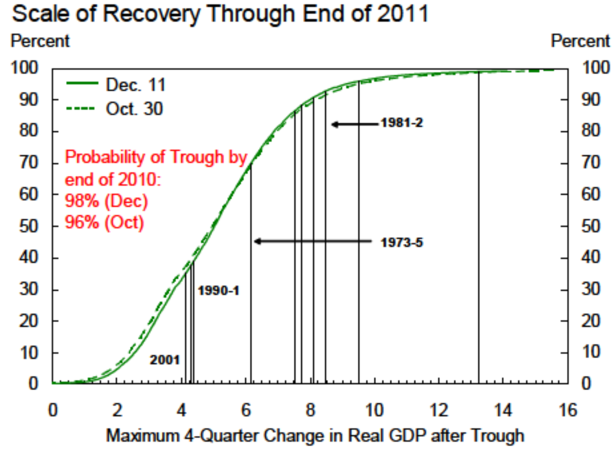


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Depth of Deflation



Scale of Recovery Through End of 2011

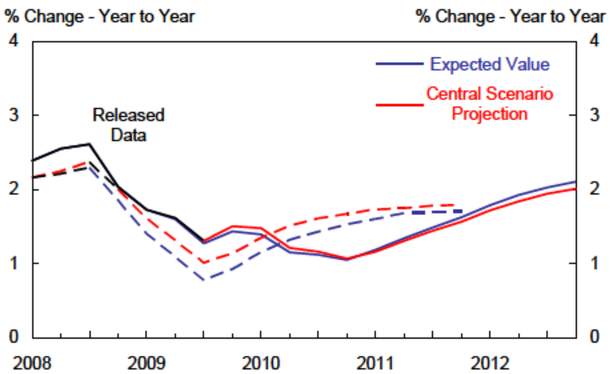


Source: MMS Function (FRBNY)

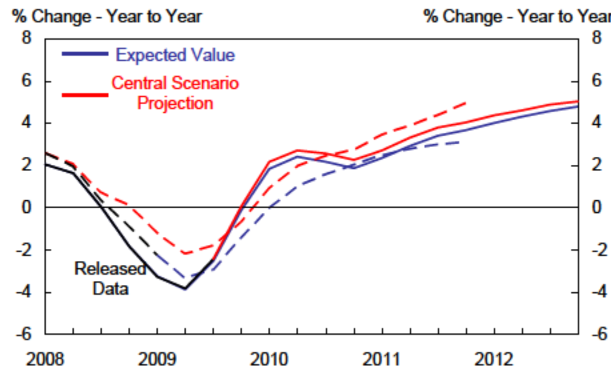
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

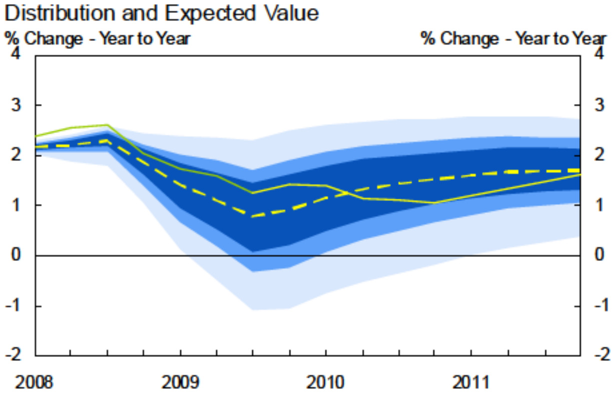


One-Year Comparison of Real GDP Growth Forecast

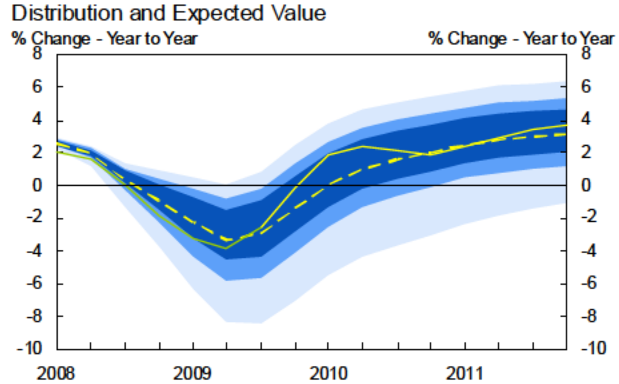


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

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



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



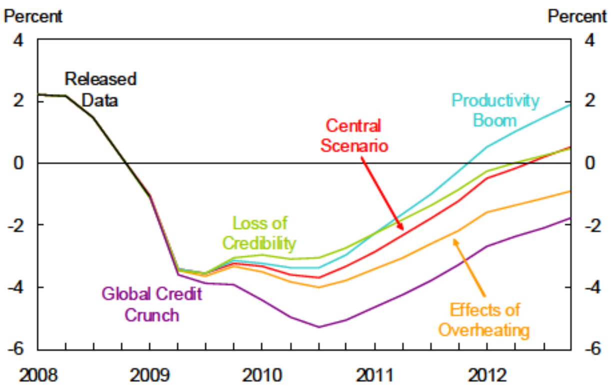
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the expected value from the year-ago Blackbook. The shading represents the 50, 70 and 90 percent probability intervals from the year-ago forecast. The green lines are released data.

Source: MMS Function (FRBNY)

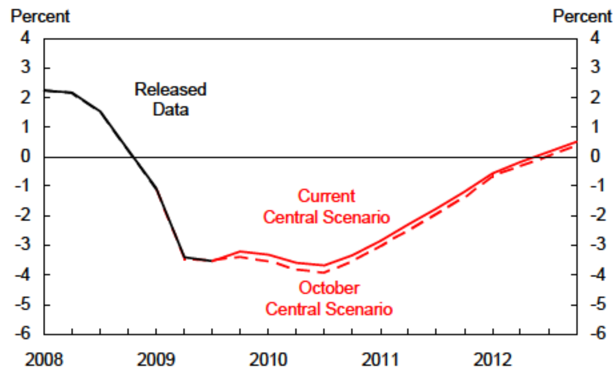
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

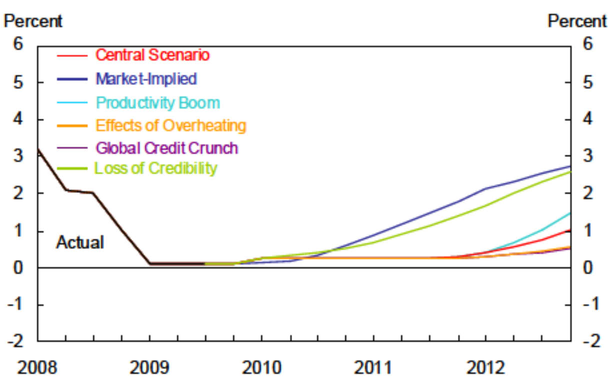
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

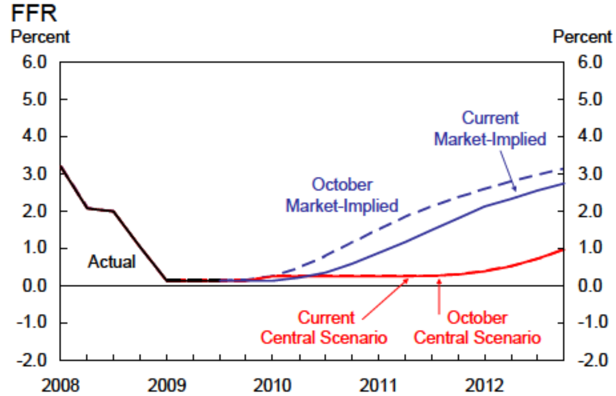
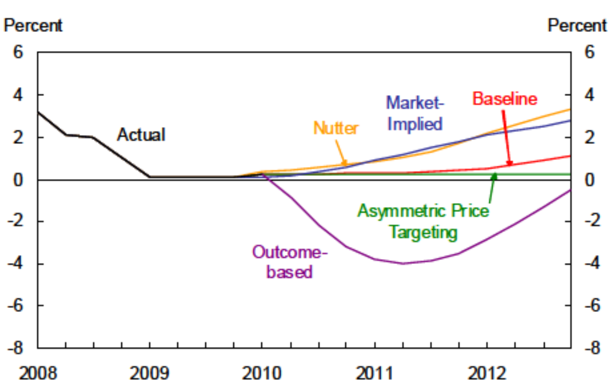


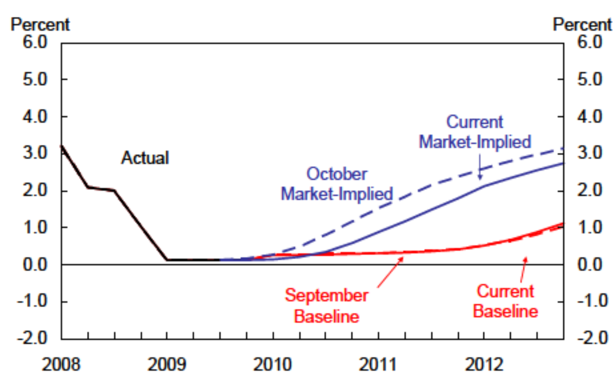
Exhibit D-2: Alternative Policy Rules under Expected Value of Forecast Distribution

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

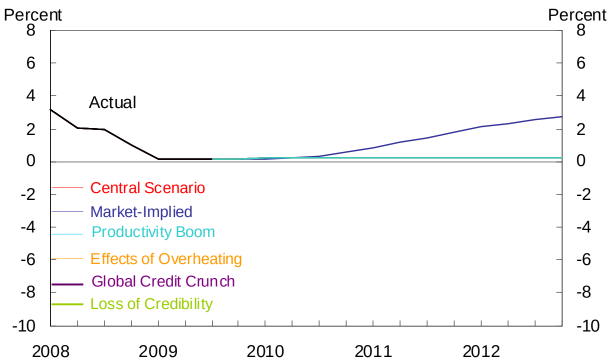
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

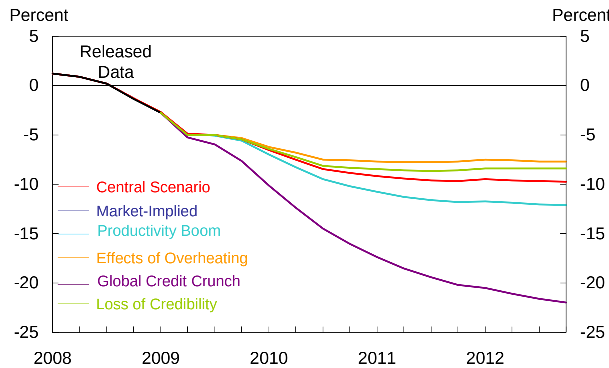
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

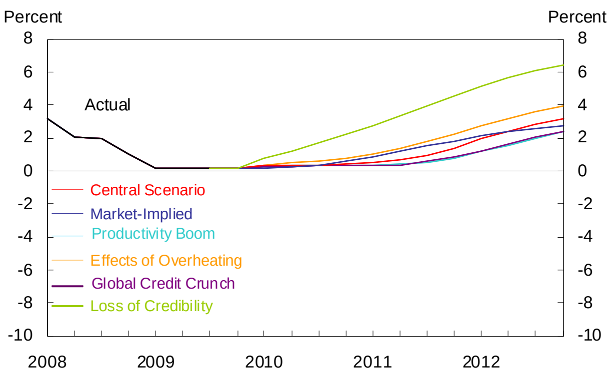


Real FFR under Alternative Scenarios

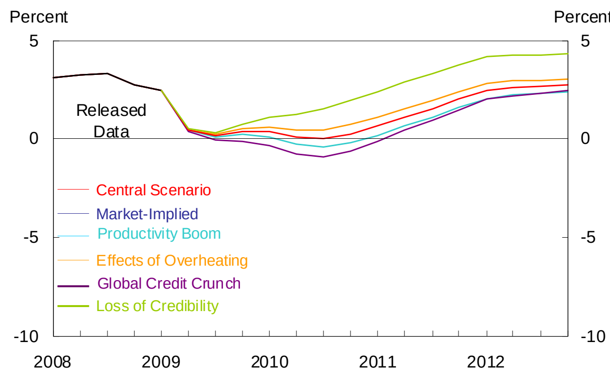


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios

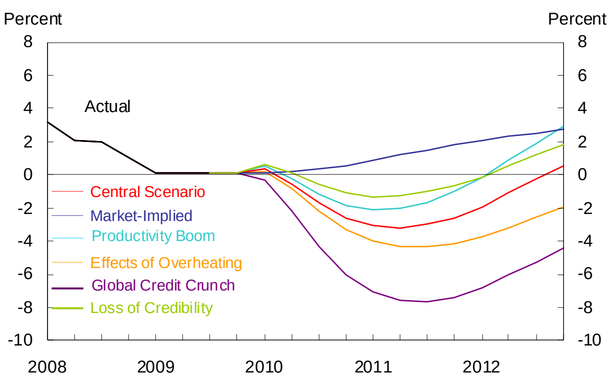


Real FFR under Alternative Scenarios

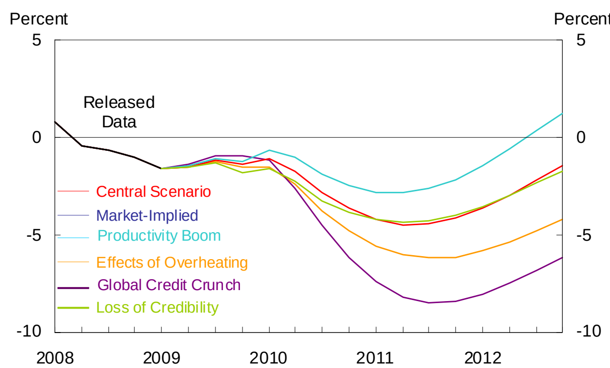


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



Real FFR under Alternative Scenarios



Source: MMS Function (FRBNY)

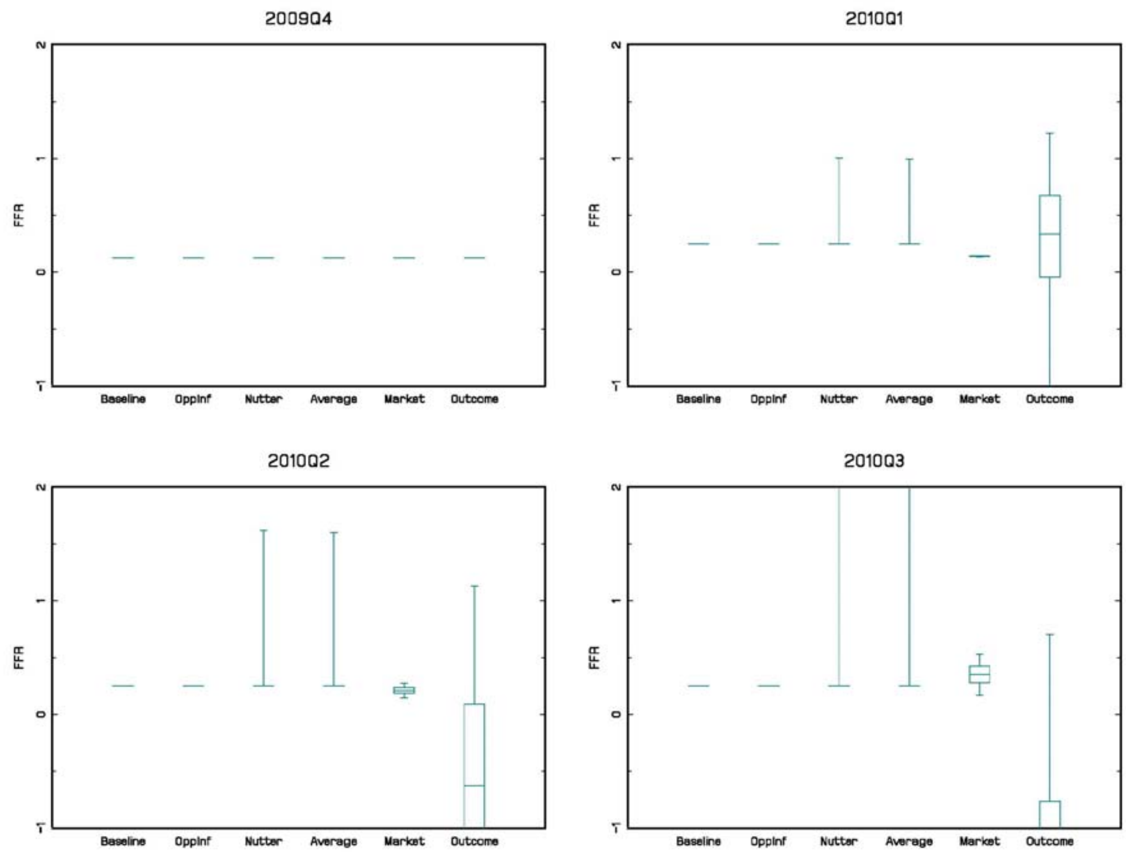
D. FRBNY Fed Funds Rate Projections

Exhibit D-4: Comparison between Market and Policy Rule FFR Expectations: 2009Q4

"Average" Weights:

Rule	Current	Oct Blackbook
Baseline	0.01	**0.01**
Asymmetric Price Targeting	0.01	**0.01**
Nutter	0.98	**0.98**

Exhibit D-5: FFR Distributions

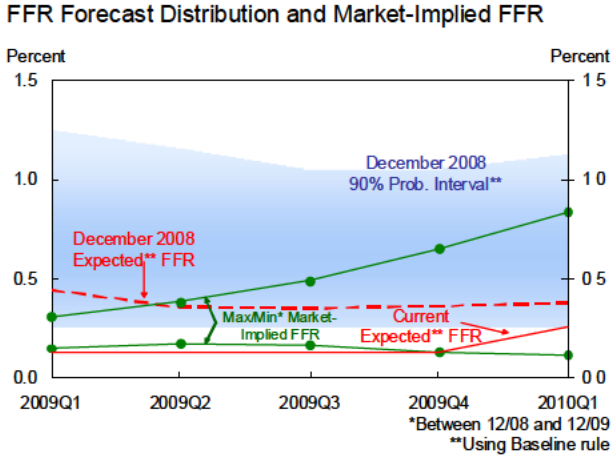


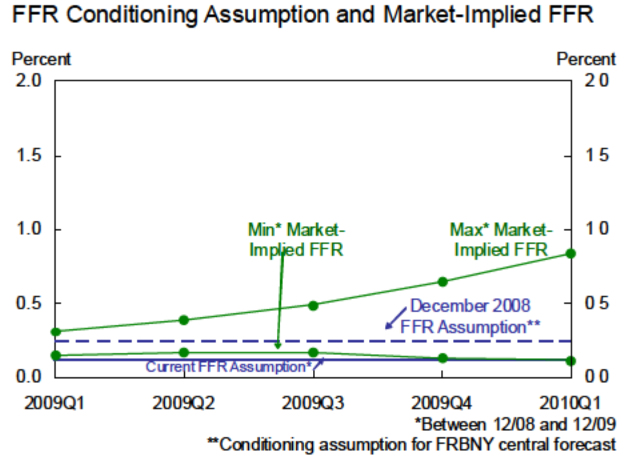
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-6: Evolution of FFR Expectations and Assumption





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 ($\varphi_\pi = 2$ 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: $i_t = 1.20 * i_{t-1} - 0.39 * i_{t-2} + 0.19 * (1.17 + 1.73 * \pi_t + 3.66 * x_t - 2.72 * x_{t-1})$