FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

October 2009

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK
October 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 September FOMC meeting had little net effect on our central projections for output growth and inflation. Real GDP growth and core PCE inflation in 2009Q3 was close to our projections in the September Blackbook. Consumer spending in the third quarter was stronger than we expected in the September Blackbook, but the positive signals from that development were offset by another negative labor market report, where the prime age male unemployment rate reached a record high of 10.4% in September. As a result, we continue to expect a rebound in the next few quarters that is tepid relative to typical recoveries, which then should pick up steam into 2011 and 2012. On the inflation front, most measures of underlying inflation continued their recent decline, supporting the view that low levels of resource utilization are exerting downward pressure on inflation. 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, as we expect economic slack to persist for some time.

In light of this 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. Although corporate credit spreads declined modestly over the period, they remained elevated. Furthermore, a number of major financial institutions still appear in a fragile state, and, even though the net percentage of banks tightening credit standards declined again in the latest Senior Loan Officer Opinion Survey (which is not yet released to the public), the amount of bank credit continued to shrink. The impaired state of lending remains a major factor driving our expectations of a moderate pace of recovery over the medium term and it validates our recommendation to maintain the policy rate at a low level for an extended period.

In terms of communication, it is important to refine and clarify the conditionality of the commitment to a federal funds rate near zero. Given market participants' concerns, in both directions, about the length of the low-interest rate policy commitment, providing more guidance of the commitment conditions may lead to lower and more stable risk premia and thus clearer market signals about the expected future policy rate path and inflation expectations. Furthermore, it also would be especially useful to give guidance on the likely policy response should the economic weakness show signs of greater persistence and/or severity than is in our central forecast. In that situation, a shift in the expected timing of interest rate normalization further into the future would be one of the few effective monetary policy tools available. Given that we still see the balance of risks to growth on the downside, planning for this contingency seems particularly crucial. In contrast, the option of raising rates in response to unwelcome movements in inflation expectations remains readily available to the Committee and therefore raises less communication-related challenges.

2. Evolution of Outlook and Risks

2.1 Central Forecast

Conditioning assumptions. In our central projection, the recovery of the U.S. economy began in 2009Q3 after a post-WWII record four-quarter decline of real GDP of nearly 4%. Indeed, based on the advance estimate, real GDP rose 3.5% (annual rate) in 2009Q3, and growth in 2009Q4 is expected to be comparable to that of 2009Q3. Real personal consumption expenditures increased 3.4% (annual rate) in 2009Q3, due largely, but not entirely, to the boost to light-weight vehicle sales provided by the "cash for clunkers" program. Similarly, single-family housing starts have moved up more than anticipated due to the strong response to the first-time home buyer tax credit as well as the success of the Fed's purchases of agency MBS in lowering mortgage interest rates. Finally, led by the auto sector, the inventory cycle is turning out to be stronger than previously expected, and likely will contribute 2 to 2½ percentage points to the second half growth rate.

Despite the stronger-than-expected second half growth of real GDP, labor market conditions are turning out to be only modestly better than expected in June. On the plus side, it appears that the unemployment rate will average closer to 10% in 2009Q4 rather than the 10½% previously expected. However, in 2009Q3 hours worked continued to decline more rapidly than employment while the rate of increase of wages and salaries continued to slow. For 2009Q3, aggregate wage and salary disbursements were 5.2% below year-ago levels, the steepest year-over-year decline of the post-WWII period. Initial claims for unemployment insurance have declined from their peak but remain stubbornly high around 530,000 per week.

In contrast, inflation has behaved largely as expected in recent Blackbooks. The PCE deflator will likely increase 2% (annual rate) over the second half of 2009 after being essentially unchanged over the first half. This pattern reflects the large swings in energy prices, which fell sharply in 2008Q4 and 2009Q1 and then increased in 2009Q3. Core inflation has been more stable over recent quarters, but numerous indicators are consistent with the view that the large amount of slack in the economy is putting downward pressure on underlying inflation.

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, up from 0.2% in the September Blackbook. For 2010 foreign GDP is expected to increase 2.9%, followed by a gain of 3.3% in 2011. The projected path of oil prices is moderately higher, with the price of West Texas Intermediate grade oil expected to average $77.25 per barrel in 2009Q4, and then rise to $80.50 per barrel by 2010Q4 and $82.50 per barrel by 2011Q4. Our assumed path for oil prices is modestly lower than that of the Greenbook.

Our assumptions regarding fiscal policy are the same as that of the Greenbook. In particular, the emergency unemployment compensation program will be expanded through next year, recipients of Social Security and veterans benefits will receive another \$250 payment early in 2010, and the first-time home buyer tax credit will be extended through mid-2010 and expanded to 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 5% lower than in September. The exchange value of the dollar (trade-weighted basis) is assumed to decline 8.5% (Q4/Q4) in 2009, 1.8% in 2010, and 1.8% in 2011. The cumulative decline of the dollar over the forecast horizon is 4%, 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 32% from 2006Q2 through March of this year, but then rose 5% from March to August. The Greenbook assumption is that most of the recent gain will be retraced over the remaining months of 2009 followed by essentially no change over the remainder of the forecast horizon. While this is certainly a sensible point forecast, we fear that the risks are skewed to the downside. It appears to us to that the recent firming of home prices is due to a range of temporary factors, including foreclosure moratoria, the first-time home buyer tax credit, and the Fed's massive purchases of agency MBS. The effect of these factors on the demand side of the housing market will fade with time while serious mortgage delinquencies continue to rise, boosting supply.

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 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 has modestly raised their estimate of potential over the forecast horizon, from 2.0% to 2.1% for 2010 and then to 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 2010 we continue to project growth of real GDP around 2 percent (Q4/Q4), with the first half of the year notably weaker than the second half. As this is below our estimate of potential, there is some further upward movement of the unemployment rate to around 10¼% by midyear. This is very sluggish growth for the first full year of recovery and is below the consensus. A key feature of this projection is that the significant headwinds confronting the household sector prevent a typical cyclical rebound of consumer spending. Payroll employment is roughly five percent below its peak level and expected to recover very slowly. The household sector has made only minimal progress in reducing its substantial debt overhang. The effects of the stimulus bill on taxes and transfers are largely behind us, and energy prices have increased from recent lows. While the stock market and home prices have improved of late, we estimate that as of 2009Q3 the ratio of household net worth to disposable income remains roughly 20 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. In addition to tightened mortgage underwriting standards, high volumes of foreclosed homes will continue to come onto the market; both factors would depress the need for new residential construction. Finally, construction of multifamily units has taken a movement downward reflecting the 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 capacity utilization rates at historic lows, rapidly rising retail and office vacancy rates, and sharply declining prices for existing commercial real estate. Also contributing to the relatively tepid growth expected for 2010 is the ongoing structural adjustment taking place in state and local governments that is expected to result in significant declines in this sector's employment 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 U.S. will lead to rapidly increasing imports. Consequently, 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 4.0% (Q4/Q4) in 2011. With this above-potential growth, the unemployment rate should approach 8½% by the end of 2011. Underlying this projection is the expectation that financial market functioning returns to more normal conditions as well as that consumer and business confidence and the general appetite for risk taking are 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, much of the structural adjustments in the state and local government and commercial real estate sectors will probably be completed by that time.

Barring a significant decline in the level of potential output and/or the 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 will 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 within 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. Finally, an important risk over the medium term is the uncertainty surrounding our assumption of the economy's potential growth rate. There is considerable concern that with the weakness of business investment and the 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 potentially could have a significant impact on both growth prospects and inflation expectations. Finally, relatively modest changes in variables such as productivity growth, the participation rate, and the average work week could end up having a significant impact on the ultimate path of the unemployment rate.

The risks around the central scenario for inflation are relatively balanced. Clearly, the significant downside risk to the growth projection combined with the possibility of no meaningful decline in potential growth implies downside risk to the inflation projection. In contrast, given 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 growth does indeed slow.

2.2 Alternative Scenarios and Risks

The risk assessment is not very different from that in September, with relatively small changes in the likelihoods associated with the various scenarios. After many months in which the downside risks had steadily diminished, the improvement in the risk assessment came to a halt during this intermeeting period, despite the relatively strong Q3 GDP and retail sales numbers, as well as some improvement in financial market conditions. These positive developments were offset primarily by the dismal September labor market report, which casts doubts on the strength of the recovery. Notably, for the first time since March the likelihood of the *Global Credit Crunch* scenario has increased, albeit modestly [Exhibit C-1]. The labor market report affects not only the risk assessment for output, but also that for inflation: The likelihood of deflation has increased from last FOMC, but again only very modestly.

The *Productivity Boom* scenario is currently as likely as the *Global Credit Crunch* scenario, with an associated probability of just below 30%. The relatively high likelihood of the *Productivity Boom* scenario reflects the strong productivity numbers observed in the last few quarters, suggesting that trend productivity growth may not have decreased in the aftermath of the crisis as much as assumed under the *Central* scenario. The probability associated with the more inflationary scenarios, namely the *Loss of Credibility* and the *Effects of Overheating*, is slightly less than in September.

The paths for core PCE inflation and real GDP growth associated with the various scenarios have not changed at all in the intermeeting period. Because the probabilities of the various scenarios are only marginally different from last Blackbook, and the associated paths are the same, the changes since September in the uncertainty surrounding the forecasts for core PCE inflation and real GDP are also small. The forecast distribution for both variables has shifted slightly downward, reflecting the modest increase in downside risks. The Depth of Deflation chart shows that the probability of deflation is still small. The probability has increased slightly from September to October, but still rounds to 9%. Uncertainty about inflation is currently much larger than uncertainty about output, as has been the case for the past few Blackbooks.

The “Rate of Recovery Through 2011” 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 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. Notably, for the first time in many Blackbooks the actual paths for output are within the 70% probability bands generated a year before. This suggests that in October 2008 the probability distribution embedded in the forecasts appropriately reflected the risks the U.S. economy was to face in the following 12 months.

3. Forecast Comparison

3.1 Greenbook Comparison

There are no significant changes in the Board forecasts for output and inflation compared to the previous Greenbook. The Board staff is now close to our projection of 3.5% GDP growth (annual rate) in the second half of 2009, but continues to be markedly more optimistic about output growth for 2010. Following the recent strength in productivity growth, the Board staff revised up its assumed level of structural productivity, and of potential output, leaving the expected growth rate unchanged. As a result, the output gap is projected to be wider throughout the forecast horizon than expected in the September Greenbook.

The Blackbook forecast for inflation over 2009-2010 remains very similar to that in the Greenbook, with no significant changes in either projection since August. The Board staff expects that the negative effect of a larger output gap on inflation will be offset by upward pressure from higher oil prices. However, a divergence emerges in 2011, as the Blackbook forecasts that stronger growth with anchored inflation expectation will begin to push inflation toward the FOMC objective, while the Greenbook expects that the continued assumed output gap 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% through the end of 2011, while in the Blackbook it is assumed to rise from this level to 1.5% over the course of 2011. In line with the FRBNY forecast assumptions, the Greenbook expects the 10-year Treasury rate to move gradually towards 4 percent over this period, while bond spreads continue to narrow. The Greenbook also assumes that equity prices will rise 15% per year over 2010 and 2011, with house prices roughly stable at the current level.

The Board staff expects a further improvement in foreign growth with respect to August and further depreciation of the dollar through 2011, although at a slowing rate. Both these assumptions are in line with those built into the FRBNY forecast.

International trade. The FRBNY forecast for the net export contribution to GDP growth is 0.9 percentage points in 2009, 0.1 percentage points in 2010 and 0.0 percentage points in 2011. The FRBNY forecast is very close to the Board's, lying within a 0.1 percentage point range in each year. Although the Board's domestic demand projection is higher than the FRBNY, the similar net export path reflects that the FRBNY is forecasting a relatively larger import growth response from a given change in demand: because imports slumped 15% in 2009Q2 compared with exports dropping 5%, we are expecting a relatively larger payback in import growth in 2010.

Inflation. The FRBNY and Board staff both forecast core PCE inflation to be 1.1% in 2010. However, the Greenbook projects core PCE to continue falling to 1.0% in 2011, while we see it rebounding to 1.5%. The difference reflects differing assumptions about the impact of the output gap on inflation and the persistence of the inflation process.

Real Activity. Compared to September, the Board staff has lowered its forecast of real GDP growth to 2.8% (annual rate) in 2009Q4, while our forecast increased slightly to 3.6%. This leaves the Board staff's forecast for 2009 (Q4/Q4) at -0.3%, compared to our projection of -0.1%. For 2010, the two forecasts diverge significantly. We expect a growth rate of real GDP of 2.0%, while the corresponding Board staff forecast is 3.4%. Our forecast for GDP growth in 2011 remains somewhat below the Board's estimate, both are nearly unchanged from September. According to the Greenbook, the growth projected by the Board staff will be driven by a general improvement in underlying economic conditions: continued rising equity prices and a leveling off of house prices with the attendant positive wealth effect, low interest rates, and further improvements in the availability of credit and in the prospects for labor income and firms' output. In comparison, our forecast relies less on the transmission from brighter income and wealth prospects to demand in light of continued labor market weakness and takes into account some doubts on the solidity of the recovery in financial markets.

Uncertainty around forecasts. The FRBNY forecasts for core PCE inflation are somewhat more uncertain than those of the Board staff. They capture both a higher risk of deflation in 2010, as well as the possibility of a rebound above the long-run inflation goal in 2011, which is fairly unlikely according to the Greenbook. The Board staff's extremely low inflation rate projection for 2011 (1.0%) remains in the left tail of our inflation forecast distribution.

The Board staff is relatively confident that the economy will rebound in 2010 and that it will expand at a solid pace in 2011, with the lower bound of the 90% confidence interval around 1% until the end of 2012. In contrast, the Blackbook distribution continues to contemplate a non-negligible probability of negative growth in 2010, although our forecast distribution has shifted slightly upward compared to the September Blackbook. 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	0.8, 1.7 (0.8, 1.9)	1.2, 1.7 (1.1, 1.8)	-1.2, 0.7 (-1.4, 0.7)	-0.9, 0.2 (-1.4, 0.3)
2010	0.0, 1.9 (0.0, 2.0)	0.4, 1.7 (0.4, 1.8)	-0.4, 3.6 (-0.5, 3.4)	1.7, 5.1 (1.7, 5.3)
2011	0.6, 2.4 (0.7, 2.4)	0.2, 1.9 (0.0, 2.0)	1.7, 5.5 (1.7, 5.5)	3.0, 5.8 (2.8, 6.3)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2009	57 (53)	45 (42)
2010	56 (54)	82 (87)
2011	28 (26)	66 (69)

Alternative Greenbook Forecasting Scenarios. As usual, the October Greenbook explores six alternative scenarios. Four of the six scenarios imply lower inflation and higher unemployment than the extended Greenbook baseline over the forecast horizon. Three of these scenarios are driven either by stronger productivity growth (*Jobless recovery*), weaker demand (*Weaker aggregate demand*) or both (*Jobless recovery and more caution*). A steeper trajectory of productivity than in the baseline, as in the *Jobless recovery* scenario, would be similar to the pattern seen during the 2002 "jobless" recovery and would result in more subdued hiring, as firms are able to satisfy demand for some time without increasing employment. The resulting sluggishness in the labor market could also weigh on consumer sentiment and further erode labor income, leading to additional restraint on spending, as in the *Jobless recovery and* m*ore caution* scenario. In the fourth "weak" scenario (*Greater disinflation*), inflation expectations fall more significantly than in the baseline, in part as a reaction to persistent economic slack.

Taken together, these four "weak" scenarios delineate economic outcomes similar to our *Global Credit Crunch* and *Productivity Boom* scenarios. Although they have different implications for output growth, they share the crucial feature of producing fairly large and persistent declines in inflation below the long-run objective and a weaker labor market than in the baseline. In none of these scenarios does unemployment fall below 7% before 2012, with inflation rates as low as 0%, and never higher than 1.5%. In more normal times, this particular configuration of outcomes is one to which monetary policy would react by lowering rates aggressively. Yet, in the current environment, the only possible policy rate response is to postpone the normalization of policy rates, a reaction which is indeed assumed in all the scenarios considered. However, this policy response is not very effective according to the FRB/US simulations, because it is insufficient to prevent the extremely unfavorable combinations of inflation and unemployment just described. One implication we draw from these simulations is that, if the conditions underlying these scenarios do in fact materialize, the period of an exceptionally low federal funds rate might need to be significantly longer than currently anticipated.

The remaining two Greenbook scenarios are characterized by a stronger economy and higher inflation, making them comparable to our *Loss of credibility* and *Effects of overheating* scenarios. In the first Greenbook scenario (*V-shaped recovery*), demand rebounds more strongly than in the baseline and somewhat higher inflation follows. In the second scenario (*Earlier liftoff*), the V-shaped recovery is accompanied by a large and persistent increase in inflation expectations, which drives actual inflation above 2% in 2011 and close to 3% in 2014. The assumed policy reaction to this latter scenario maintains the interest rate at 0%-0.25% through the end of 2010 and then raises it on a steady path to 5.5% over a period of two years. The tightening pace assumed in this scenario, which is based on a standard Taylor rule, is somewhat faster than the one followed between 2004 and 2006. This observation suggests that a distinctly more aggressive tightening than in that episode would be desirable if inflation expectations start to drift higher.

Taken together, the six Greenbook scenarios suggest that the Board staff finds it easier to imagine situations in which inflation falls further below target at the same time as the economy remains weak, despite the fact that the risks around the baseline forecast are roughly balanced from the perspective of the historical record. With the federal funds rate already at zero, these scenarios pose the hardest challenges to monetary policy. They may require an adjustment to the commitment to low interest rates, both in terms of the expected timing of the commitment and of the conditions under which such a commitment is maintained.

3.2 Comparison with Private Forecasters[1]

The main point to note is that FRBNY forecasts for GDP growth in 2010 are well below the projections of private forecasters. In this comparison, we will ignore the Survey of Professional Forecasters because the last survey is now fairly old (from August 14). The forecasts are reported in Exhibit B-8.

GDP Growth. The FRBNY forecasts for GDP growth are roughly in line with private forecasters' estimates for 2009, but are well below private forecasts for 2010. In particular, our projection of 2.0% growth for 2010 (Q4/Q4) is well under the very optimistic estimate of 4.1% from Macro Advisers. Similarly, at 1.2% (annual rate) the FRBNY forecast for 2010Q1 is over 2.5 percentage points below the most optimistic private sector forecast from Macro Advisers. For 2009Q4, our forecast of 3.5% growth (annual rate) is close to the estimate from Macro Advisers, but well above the 2.4% from Blue Chip. Note that the Blue Chip forecast is relatively old (from 10/10), while the Macro Advisers' estimate has increased by almost one percentage point to 3.6% since the last Blackbook. The corresponding 2009Q4 forecast from the PSI model, at 1.7% (annual rate), is far below our estimate.

Inflation. For 2009, the FRBNY forecasts for CPI inflation are above the corresponding private sector estimates. Most notably, at 2.0% (annual rate) our forecast for 2009Q4 is considerably above the 0.8% projection from Macro Advisers. The FRBNY forecasts of CPI inflation in 2010 are somewhat below the estimates from the Blue Chip, but well above the forecasts advanced by Macro Advisers. In particular, our estimates for an annual inflation rate of 1.3% in 2010Q1 and 1.5% for 2010 (Q4/Q4) contrast with forecasts of 0.8% and 0.9% from Macro Advisers. The difference probably reflects a stronger effect of economic slack on inflation in the Macro Advisers forecast. For core CPI and PCE inflation, the FRBNY forecasts are fairly close to but above the estimates from Macro Advisers (the only recent private sector forecasts available), across all time horizons.

[1] Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (10/10), SPF (08/14), Macro Advisers (10/28), and the PSI Model (10/28). Quarterly numbers are SAAR.

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Our current policy recommendation is to keep the target federal funds rate in the 0–0.25% range through 2010, as has been the case for the past few months. On balance, macroeconomic conditions have not changed substantially in the intermeeting period, with a weak labor market report counteracting the strength in retail sales. The zero bound 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. Because we had no such changes in the intermeeting period, our recommendation (as was the case in the last Blackbook) is still consistent with the *Baseline* policy rule under all scenarios except the *Loss of Credibility* scenario [Exhibit D-1], and under the expected value of the forecast distribution [Exhibit D-2]. Under all scenarios but the *Loss of Credibility,* rates begin to rise only in the second half on 2011. Under the *Central* Scenario the FFR is still 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, is close to that from market expectations under the expected value of the forecast distribution in 2012, but is still about 100 bps below market expectations in 2011. Under the *Loss of Credibility* scenario the *Nutter* rule produces a FFR path that is markedly steeper than the market-implied path [Exhibit D-3], but the likelihood associated with this scenario is fairly small and has decreased modestly since last Blackbook. Under the *Central* scenario even the policy prescriptions from the *Nutter* rule are consistent with our policy recommendations, since the FFR under this scenario and policy rule does not begin to rise significantly above zero until 2011Q1.

All other rules (*Asymmetric Price Targeting* and *Outcome-based*) result in a FFR path that is close to zero until the end of 2011. For the *Outcome-based* rule, we show the nominal FFR ignoring the zero bound, which implies that under the expected value of the forecast distribution the FFR is as low as -5% by the end of 2010, increasing to -4% by the end of 2011 [Exhibit D-2].

Exhibit D-1 shows the *shadow* real rates - that is, the real FFR rates implied by the various rules under the various scenarios *ignoring* the zero bound constraint. The "shadow" real rate implied by the *Baseline* rule under the *Central* scenario is about -3% in the current quarter. This figure can be interpreted as indicating the desired level of expected inflation given that the nominal FFR is constrained at zero. Exhibit D-3 shows the real rate under the *Asymmetric Price Targeting* and the *Outcome-based* rules.

As a robustness check, we also use the DSGE-VAR and the DSGE models to assess the current stance of monetary policy. We perform a counterfactual exercise eliminating past policy shocks. We find that the DSGE-VAR model predicts a counterfactual FFR for the current quarter in line with the policy rate, while the DSGE model predicts a counterfactual FFR that is higher in the current quarter (about 1.5%), but closer to the policy recommendation in 2010.

4.2 Comparison to Market Expectations

The market-implied FFR path has barely moved in the since the last Blackbook. 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 early 2010. The market-implied FFR path indicates a more aggressive tightening than the forecasts from the primary dealers. The latter did not change substantially in the intermeeting period, but their uncertainty and disagreement increased slightly since last FOMC. The mode of the dealers' distribution on the expected timing of the first rate hike shifted from 2010Q3 to 2011Q1, although the mean of the distribution is about the same as in September.

5. Significant Developments

5.1 Economic Developments

U.S. Data Releases. Data over the intermeeting period supported expectations that real growth will be around 3 percent for the second half of the year. The housing sector continued to stabilize and housing prices firmed further, although the trend in the housing market may be driven partly by the first-time home buyer tax credit. Real consumer spending rose in the third quarter, with the increases occurring beyond just motor vehicles, but personal income remained stagnant. Labor market conditions remained poor as payroll employment continued to contract and the unemployment rate reached 9.8 percent in September.

Real activity. *GDP:* Real GDP rose at a 3.5% annual rate in Q3, the first increase since 2008Q2 and the largest gain since 2007Q3. Consumer spending, residential investment, equipment and software spending, and federal government spending all rose in real terms, and the pace of inventory liquidation slowed, offset somewhat by drops in state and local government spending and nonresidential construction, as well as increased imports. Nominal GDP rose for the first time since 2008Q4. However, household incomes remained stagnant: personal income was flat in September after rising only modestly in August. The 2009Q3 level of personal income was little different from that in the first half of the year.

Production: Industrial production rose 0.7% in September, following a (revised) increase of 1.2% in August. Manufacturing output rose 0.8% in September, the third consecutive robust increase, even though manufacturing employment and hours continued to contract. The growth in manufacturing output was led by the production of motor vehicles, which rose 8.1% following strong growth in August. With the September gain, the 12-month change in manufacturing was -7.8%, still quite negative, but a noticeable improvement over the double–digit decline seen in all previous months this year. With the pickup in output, the total capacity utilization rose to 70.5% in September (67.5% in manufacturing).

Orders and Shipments: New orders for durable goods manufacturers increased 1.0% in September, which followed a 2.6% decline in August. Inventories at durable goods manufacturers fell 1.0% in September, and the inventories-shipments ratio fell again. However, inventories at these firms still remain at a high level relative to sales, suggesting that manufacturing firms will continue to cut inventories over the near term.

Shipments of nondefense capital goods excluding aircraft fell 0.2% in September, and declined modestly in 2009Q3, but real equipment and software expenditures rose modestly for the quarter. Orders for nondefense capital goods ex-aircraft rose 2.0% in September, which may indicate some near-term momentum for capital spending.

Retail Sales: Total retail sales fell 1.5% in September, led by a 10.4% decline in sales of motor vehicles and parts, as expected following the expiration of the "cash for clunkers" program. However, excluding autos, retail sales rose 0.5%, following a 1.0% gain in August, suggesting some more widespread strength in consumer spending for the third quarter. In fact, real expenditures on nondurable goods showed a solid increase in 2009Q3, while overall real PCE rose 3.4% (annual rate).

Inventories: Business inventories fell 1.5% in August and retail inventories declined 2.3%, indicating that businesses continued to shed inventories in August at a rapid rate similar to that of earlier in the year. The inventories-sales ratio for the business sector fell in August, but remains somewhat elevated at 1.33. The inventories-sales ratio in the retail sector declined to a new historical low of 1.39, suggesting that inventory drawdown in the retail sector could be approaching an end. Even though firms continued to shed inventories in the third quarter, it was at a somewhat slower pace than earlier in the year; consequently, the inventory growth contribution to real GDP growth in 2009Q3 was positive in the advance GDP estimate.

Productivity: No data releases during the intermeeting period.

Home Sales/Starts: Sales of existing homes (single-family and condos/coops) rose a steep 9.4% in September, after falling 2.9% in August. From their recent trough in January of this year, existing home sales are up 24%, reflecting the impact of continued low mortgage rates but also the first-time home buyer tax credit. In contrast to existing home sales, sales of new single-family homes fell 3.6% in September to a seasonally-adjusted annual rate of 402,000, and sales levels over the three preceding months were revised down. The decline in September, along with the decline in purchase mortgage applications over the month of October, appears to be related to the pending expiration of the $8,000 first-time home buyer tax credit (because new home sales data measures signed contracts and a sale must be closed before November to be eligible for the credit, September new home sales would be impacted by the pending expiration of the credit).

Housing starts: Single family starts rose 3.9% in September following a 4.7% decline in August. The September level of 501,000 units (annual rate) is slightly below the July level. Housing starts in the volatile multi-family category fell 15%, following a 21% increase in August. Single-family permits fell 3% in September, after five consecutive monthly increases, a sign that the recovery in the housing market remains fragile.

House Prices: The FHFA home price index fell 0.3% from July to August; however, the 12-month decline in the index continued to moderate, from 4.2% in July to 3.6% in August. In contrast to the FHFA index, the seasonally adjusted S&P/Case-Shiller for 20 large US metropolitan areas rose 1.0% in August, the third consecutive monthly increase. The index is now 11.5% under its level a year ago, a marked improvement from the 19% year-over-year decline seen in January of this year. Price increases were widespread. While this is undoubtedly good news, the brisk pace of increase in this index (12.7% at an annual rate in the last three months) partly reflects a change in the mix of sales between distressed and non-distressed properties.

Construction Spending: Total construction spending rose 0.8% in August. However, levels of spending in June and July were revised substantially lower. Private residential construction rose a sharp 4.7% in August, led by an increase in value-put-in-pace of new single-family homes. However, the reported increase of 2.3% in July was revised to a mere 0.6% increase. Private nonresidential expenditure declined a modest 0.1% in August, but the levels for the two preceding months were revised down substantially. Indeed over the past three months this category of nominal spending has declined at a steep 24% annual rate, close to the 2009Q1 decline.

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

Labor market. *Nonfarm Payrolls:* Nonfarm payroll employment fell by 263,000 in September and the unemployment rate increased to 9.8%, twice its level in December 2007. The prime-age male unemployment rate jumped up from 10.0% to 10.4%, which is a historical high. Hours and earnings data were also very weak. The index of aggregate hours worked declined by 0.5% and average hourly earnings only rose by 0.1%. During the intermeeting period the BLS announced its preliminary estimates of the annual benchmark revision to the establishment survey employment series. The preliminary estimate of the benchmark revision shows that the growth of employment between March 2008 and March 2009 was overestimated by about 824,000 units (0.6%), which is large compared to recent years. The final revision is likely to bring up the average monthly job losses between March 2008 and March 2009 by 70,000. Most of the revision was due to the earlier months of 2009. This is possibly due to the increase in establishment exits, and indicates that establishment entry may have been weaker than what the BLS's birth-death model initially suggested.

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 526,250, its lowest level since January. Continuing claims fell over the inter-meeting period to 5.797 million, and the insured unemployment rate edged down to 4.4%. However, the drop in continuing claims may reflect the exhaustion of regular benefits as this decline appears to be largely offset by the rise in claimants under the extended and emergency programs. Given the weakness in the monthly labor market reports, it is hard to expect the unemployment rate to go down anytime soon.

With the weakness of the labor market, labor compensation growth continued to moderate. The 12-month change in the Employment Cost Index for private industry workers was 1.3%, the lowest in the history of the series (which began in 1980).

Trade. The trade deficit narrowed slightly from $31.9 billion in July to $30.7 billion in August. Both export and import volumes retreated, partly offsetting the large monthly increases in July. Export volumes fell 1.5%, mostly driven by declines in capital goods. The decline in import volumes was driven by oil, which fell 10.5%. Non-oil import volumes were unchanged after jumping 6.7% in July. The net export contribution to GDP growth turned around from the large 1.6 percentage point contribution in Q2 (driven by a massive decline in imports) to a -0.5 percentage point contribution in Q3.

Inflation. *CPI:* Total CPI increased 0.2% in September, consistent with the median expectation. Core CPI edged up 0.2%, above the consensus expectation of 0.1%. Over the last 12 months the overall CPI (sa) was down 1.3%, with a peak decline of 1.9% registered in July. Core CPI is up 1.5% over the past 12 months, a very slight increase relative to August. The 12-month change of core goods prices has been rising this year and was 1.6% in September. In contrast, the 12-month change of core service prices has been slowing and was 1.5%. Since core services represent 72% of the total while core goods represent 28%, over the months ahead the downtrend in core services prices will determine the direction of overall core inflation.

PCE Deflator: The overall PCE deflator increased 0.1% in September after rising 0.3% in August. The 12-month change in the PCE deflator was -0.5% in September. The core PCE deflator rose 0.1% in both August and September. It has increased 1.3% since last September, the lowest level since September 2001.

Surveys. *ISM Manufacturing:* The headline index was little changed in September at 52.6, a level consistent with continued stabilization of the manufacturing sector. The prices paid index also changed relatively little, indicating some continued moderate cost pressures on manufacturing firms from the recent rebounds in some commodity prices. The production and new orders indices were moderately lower then in August, but remained above 50. The inventory index increased, which suggests that the inventory liquidation process may be ending soon.

ISM Non-Manufacturing: The composite index rose to 50.9 in September, its highest level in nearly a year and a half, and the first above 50 in a year.

Foreign Data Releases. Production and exports continue to rebound worldwide, with Emerging Asia leading the global recovery. The first wave of GDP releases showed somewhat stronger than expected growth in China and Korea and weaker than expected growth in the United Kingdom. On balance, the data have not led to much of a change in the outlook. Foreign output is now expected to increase 0.3% (Q4/Q4) in 2009, little different from September's forecast of a 0.2% increase. The 2010 outlook is unchanged at 2.9%.

Europe: Euro area GDP likely grew in Q3, as production staged a modest recovery over the summer. Business confidence improved in September, continuing an upswing that started in April. The unemployment rate, though, hit 9.6% in August with no sign yet that the upward trajectory is moderating. Labor productivity was down 3.0% over the year in Q2, putting significant upward pressure on unit labor costs. The United Kingdom appears to be the laggard among major economies, with initial GDP data reporting that output fell 1.6% (saar) in Q3.

Asia: Japanese business confidence improved as exports and production recover from very low levels. The still dire state of domestic demand was reflected in the relatively poor responses of domestically-oriented firms. The labor market unexpectedly improved in September with the unemployment rate falling from 5.7% in August to 5.3%. Core prices are down almost 1% over the year.

China's strong domestic-led recovery is continuing, with output up 9.3% (saar) in Q3. Credit creation is slowing but is still quite robust. Exports picked up in September after being stuck at low levels for most of the year. Korean GDP was up 12.3% in Q3, bringing output back up to its year-ago level.

Latin America: Mexican production and exports are finally moving higher, while retail sales and confidence measures remain weak. Brazil's economy likely had another strong GDP result for Q3, supported by aggressive stimulus measures.

5.2 Financial Markets

U.S. Markets. Treasury yields and policy rate expectations were largely unchanged over the intermeeting period. Equity markets were also little changed. Credit spreads narrowed modestly. Amounts outstanding under the liquidity facilities continued to decline while outright purchases continued, as expected.

Nominal Treasury yields are little changed since the last FOMC meeting [Exhibit A-3]. Nominal yields initially declined over the intermeeting period with some weaker-than-expected economic announcements, but then rose with supply factors and official commentary on the level of long-term rates and the renormalization of policy rates. The 10-year yield declined from 3.45% on September 22 to 3.18% on October 1, before rising back to 3.45% by October 27. The 3-month yield traded between 5 and 10 basis points for almost all of the intermeeting period.

Policy rate expectations are also little changed since the last FOMC meeting [Exhibit A-5]. Implied fed funds and Eurodollar futures rates suggest that market participants expect the policy rate to remain within it current range into early 2010 and then rise to about 1% by the end of 2010 and 2.25% by late 2011.

Real yields declined over the intermeeting period, especially at the short end [Exhibit A-4]. The carry-adjusted 5-year yield thus fell 33 basis points to 0.78%. The 5-year real yield has declined fairly steadily since November 2008 when it neared 3.5%. Some of the recent decline can be attributed to increased short-term inflation expectations, although one might expect increased inflation expectations to show up in increased nominal yields as opposed to decreased real yields. Another explanation is that improved liquidity in the TIPS markets has lowered the illiquidity premia on such securities. Short-term inflation compensation increased over the intermeeting period, consistent with the decline in short-term real yields, while long-term inflation compensation changed little [Exhibit A-4]. 0-5 year inflation compensation rose 30 basis points to 1.62% on

October 27, and is now back to the level it was at prior to the failure of Lehman Brothers. 5-10 year inflation compensation rose two basis points over the intermeeting period to 3.00%, and remains well within its relatively narrow range of the past two years. Equity markets were little changed over the intermeeting period. Equities declined early in the intermeeting period, at least partially due to some weaker-than-expected economic data, but then rose with many stronger-than-expected earnings reports. On net, the S&P 500 declined 0.8% between September 22 and October 27, but remains 57% above its March 2009 lows.

Credit spreads continued to narrow since the last FOMC meeting [Exhibit A-7]. Single-A corporate spreads narrowed a further 11 basis points to 190 basis points as of October 27 and BB corporate spreads narrowed 51 basis points to 523 basis points. Credit spreads of financials also narrowed with BBB spreads, for example, narrowing 56 basis points to 589 basis points.

Amounts outstanding under the Fed's liquidity facilities continued to decline over the intermeeting period as money market conditions were fairly stable [Exhibit A-8]. Outright purchases continued as planned, with the Treasury program reaching its conclusion on October 29 with the last of the $300 billion in purchases under the program [Exhibit A-9].

Foreign Financial Markets

Global funding conditions continued to improve over the inter-meeting period, as LIBOR-OIS spreads in Europe are now close to pre-crisis levels. Excess liquidity in the euro area banking system declined, as financial institutions demanded less funding at ECB open market operations. Likewise, liquidity conditions in emerging markets have improved further with less need for liquidity support for these economies. The Bank of Korea reduced its Federal Reserve swap line outstanding to $3.1 billion, allowing $13.3 billion to roll off since mid-March. On October 27th the Reserve Bank of India withdrew its emergency liquidity facilities, which included, amongst others, repo facilities for both banks and non-banks, foreign exchange swaps for banks and looser prudential bank regulations.

The competition directorate of the EU European Commission has been reviewing bank bail-out operations in a number of EU member states. As a result of this review it came to an agreement with the Dutch government and bank-insurer ING. ING will divest its insurance and investment management activities, as well as shrink its balance sheet by about 45%. Currently, the European Commission is negotiating with the quasi-nationalized British banks Lloyds and RBS about similar divestment agreements. Furthermore, the European Commission approved a split-up deal for the nationalized Northern Rock. Under the terms of this deal the British bank will be split in a 'good' bank that includes Northern Rock's retail deposits and low-risk mortgage lending, and a 'bad' bank that will absorb the remaining parts (in particular its remaining non-performing mortgage assets). The 'good bank' will be privatized, with an estimated market share of less than half of the original Northern Rock, whereas the 'bad bank' will remain under government control to facilitate an orderly liquidation. The split-up is envisioned to be completed by the end of the year.

Disappointing data releases suggesting a slower-than-expected recovery and relatively weak earnings in some sectors resulted in global equity declines in Europe and Japan since the last FOMC meeting. European and Japanese equities were down between 0.3% and 5%, with European financials showing larger declines – for example, Barclays and UBS fell around 8%. Emerging markets equities were also down, albeit at lower magnitudes than seen in Europe and Japan as better-than-expected data in Emerging Asia, especially China, provided a positive counterweight. The robust economic outlook for Emerging Asia drove commodities prices higher, with oil spot prices increasing 8% over the period.

The trade-weighted U.S. dollar index modestly depreciated since the last FOMC meeting, but it displayed considerable volatility. Earlier in the period a number of weaker-than-expected data releases led to decreasing risk appetite, which supported the dollar.

Towards the end of the period, however, the better-than-expected Q3 U.S. GDP growth release on October 29th provided a boost to risk appetite and as a result the dollar depreciated again. Relative to the euro the dollar depreciated 55 basis points over the 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

It has become clearer over the intermeeting period that we are at the beginning of a decoupling in global monetary policies. Developed nation central banks are very likely to maintain the current accommodative stance for a prolonged period of time. In contrast, monetary authorities in emerging markets and commodities-orientated economies are either close to, or have already implemented, a tightening of their policies.

As has been the case since March, the ECB kept its policy rate unchanged at 1.00% at its October meeting. The second round of one-year refinancing operations on September 30th at a 1% target rate further shifted out the maturity of the Bank's overall liquidity operations. The longer-term refinancing outstanding is up to €630 billion, compared to the year-ago level of €447 billion. However, the size of the ECB's balance sheet remained unchanged since the last FOMC meeting. With respect to the purchase of €60 billion in covered bonds that commenced on July 6th, about €20 billion has been bought. This program is set to be completed by next July.

The Bank of England also kept its policy rate unchanged at 0.5%. The Bank is to complete its GBP 175 billion asset purchase program, financed through monetary base expansion, by the end of October. A further expansion of this program seems likely, given that Q3 GDP data suggests the economy is still in a deep recession with persistently tight credit conditions.

Most of the remaining G-20 central banks also kept their policy rates unchanged at historically low levels, like the Bank of Canada, the Bank of Japan, the Reserve Bank of

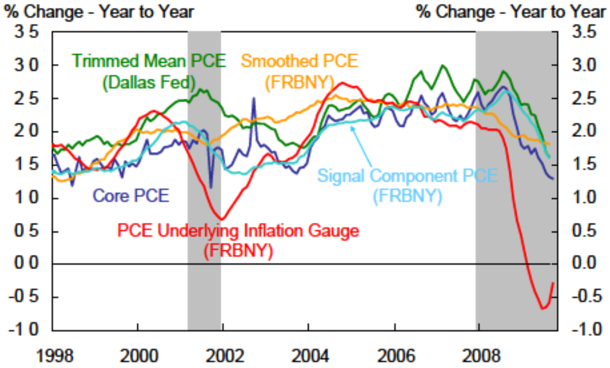
New Zealand, and the Brazilian central bank. However, central banks of two major commodities-orientated economies decided to hike rates: Australia and Norway. On October 6th, the Reserve Bank of Australia decided to raise its policy rate by 25 basis points to 3.25%. The Norges Bank also raised its policy rate by 25 basis points to 1.50% on October 28th. Relatively high global energy and industrial commodities demand, especially from Emerging Asia, meant that activity in these respective economies picked up more rapidly than expected. This compelled these central banks to start to pull back on the historically very accommodative stance of their policies.

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 are set to reach a new record for this year in October, as authorities continued to limit an appreciation of their domestic currencies relative to the dollar. A lot of these moves originated in China and the rest of Emerging Asia, but Brazil, Mexico and Russia also expanded their dollar reserves.

A. Significant Developments

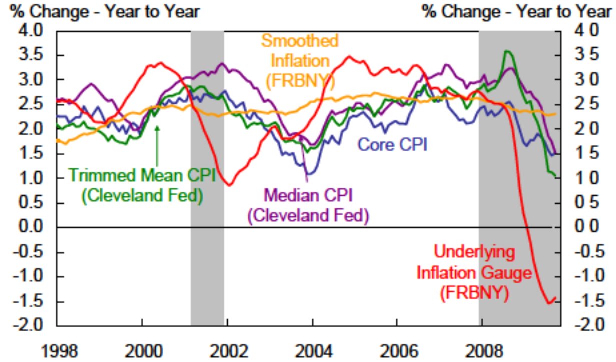
Exhibit A-1:
Measures of Trend Inflation

Alternative Measures of PCE Inflation



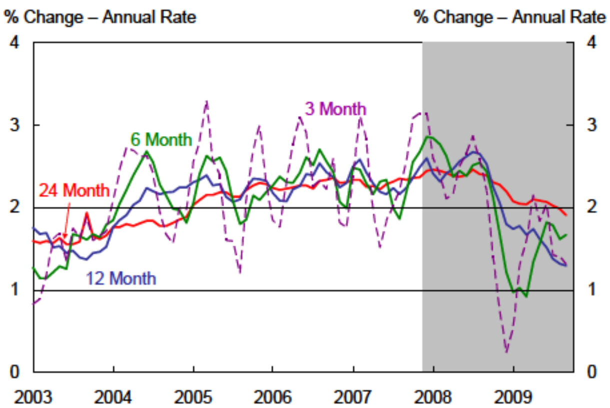
Source: Bureau of Economic Analysis, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Alternative Measures of CPI Inflation



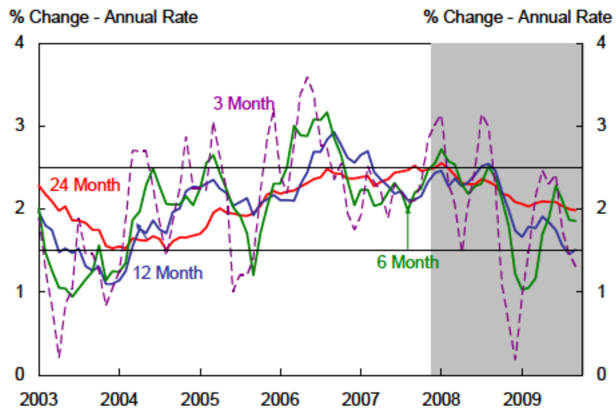
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



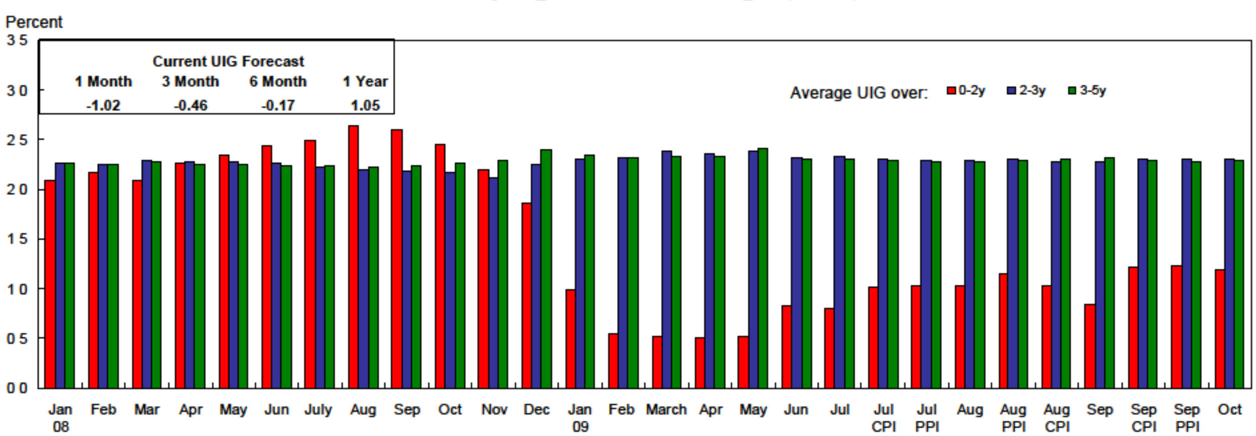
Source: Bureau of Economic Analysis

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

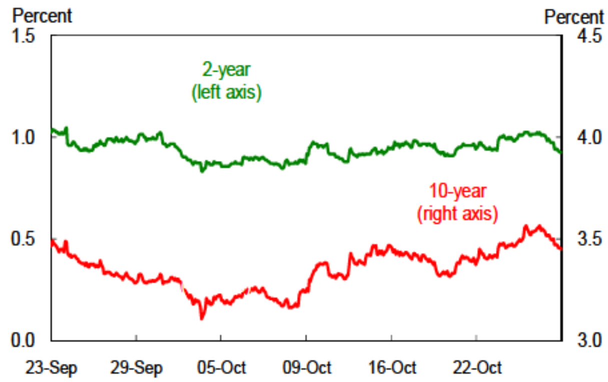
Exhibit A-3:
Treasury Yields

Short- and Long-Term Rates

Source: Bloomberg

Note: Yields of on-the-run securities

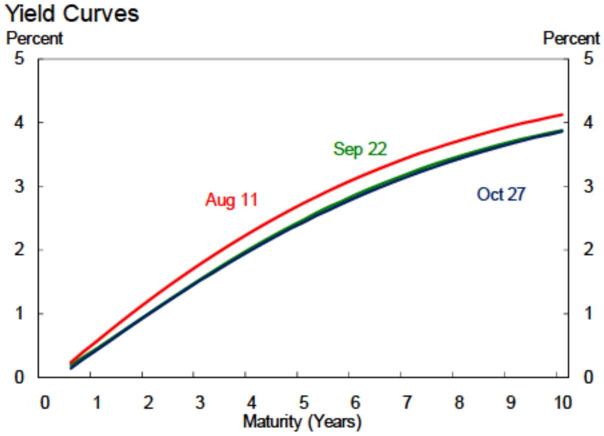
Short- and Long-Term Rates (Intraday)



Source: Bloomberg

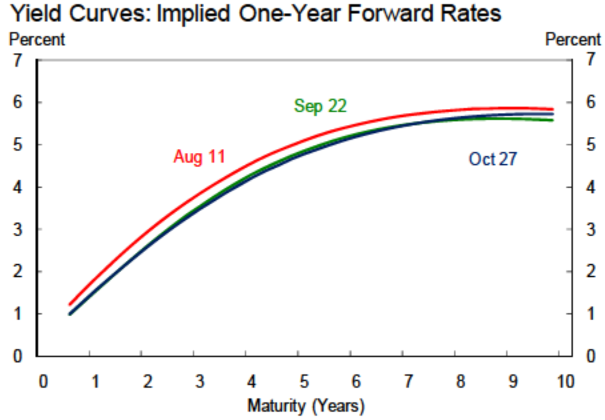
Note: On-the-run securities, 8:00 am to 4:00 pm.

Yield Curves



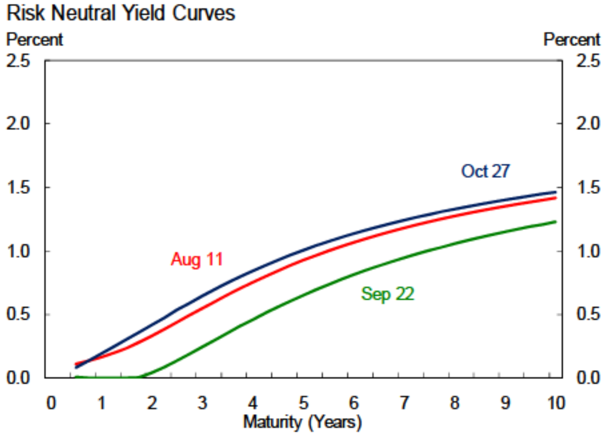
Source: Federal Reserve Board

Yield Curves: Implied One-Year Forward Rates



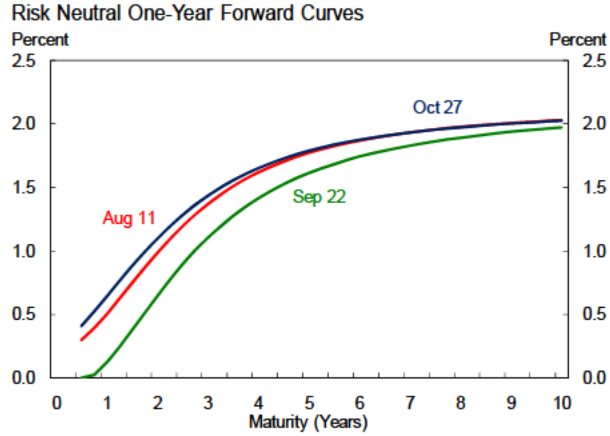
Source: Federal Reserve Board

Risk Neutral Yield Curves



Source: FRBNY calculations

Risk Neutral One-Year Forward Curves



Source: FRBNY calculations

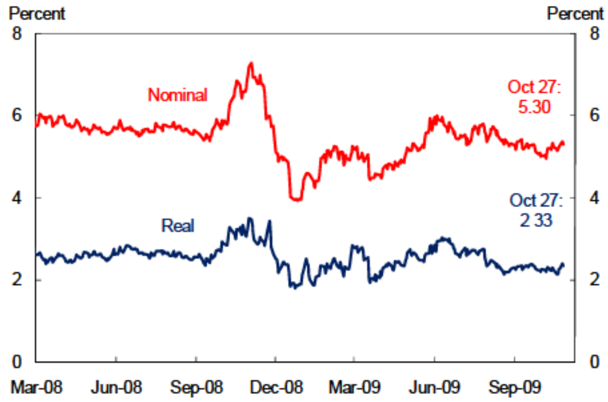
A. Significant Developments

Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate

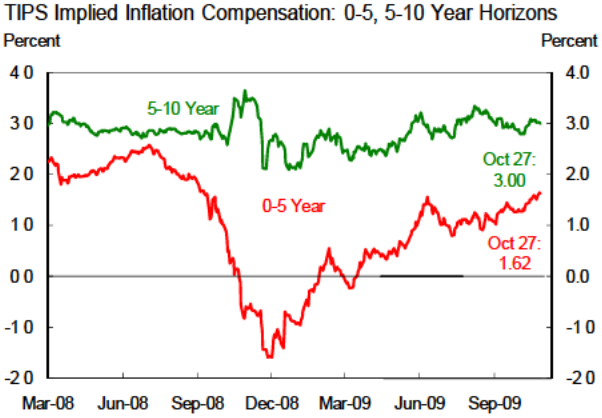
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

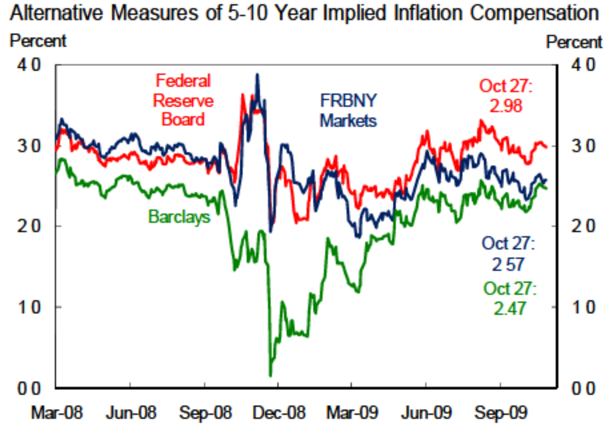
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

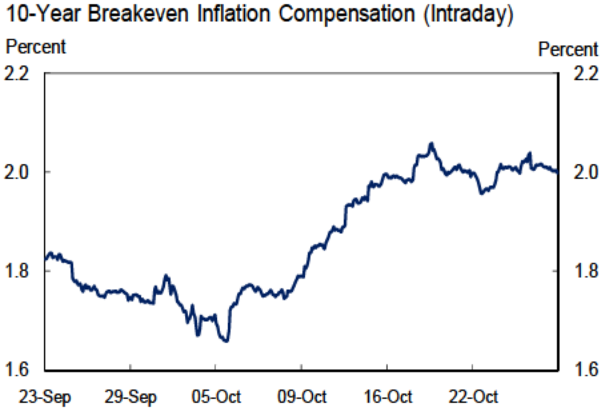
Note: Carry-adjusted

Alternative Measures of 5-10 Year Implied Inflation Compensation



Source: Federal Reserve Board, Barclays, and FRBNY calculations

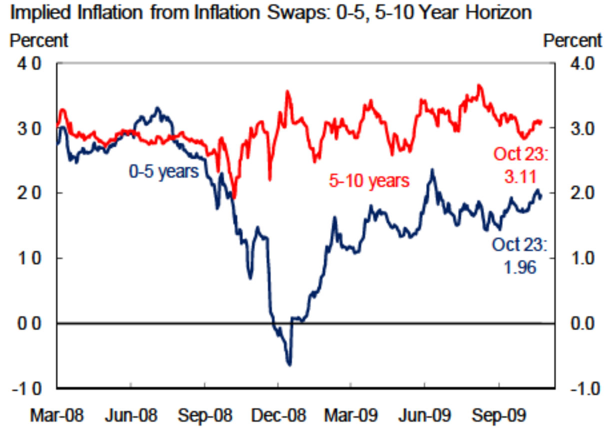
10-Year Breakeven Inflation Compensation (Intraday)



Source: Bloomberg

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

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

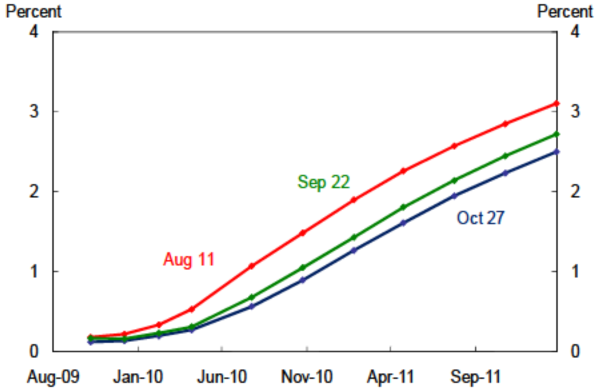


Source: Barclays

A. Significant Developments

Exhibit A-5:
Policy Expectations

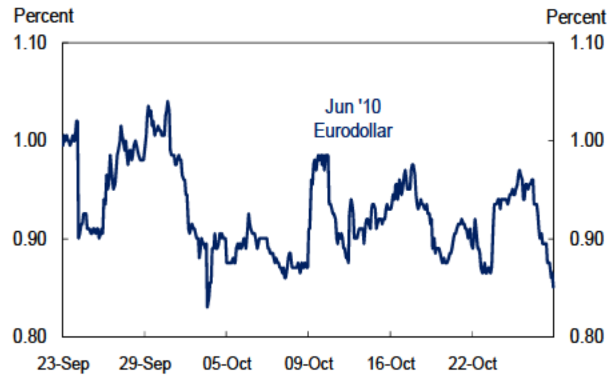
Fed Funds Futures Implied Rates



Source: Federal Reserve Board

Note: Estimated using fed funds and Eurodollar futures.

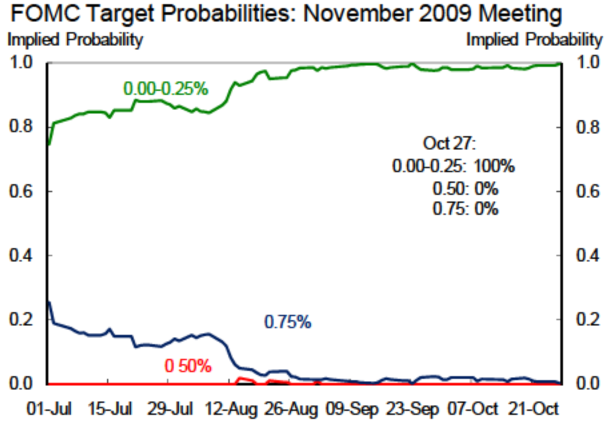
Implied Eurodollar Rates (Intraday)



Source: Bloomberg

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

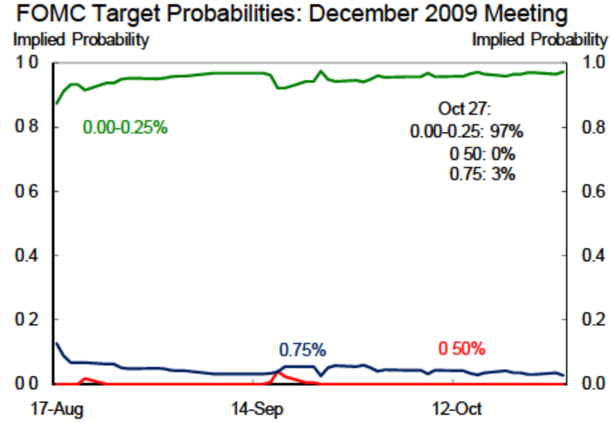
FOMC Target Probabilities: November 2009 Meeting



Source: Cleveland FRB

Note: Estimated using options on fed funds futures.

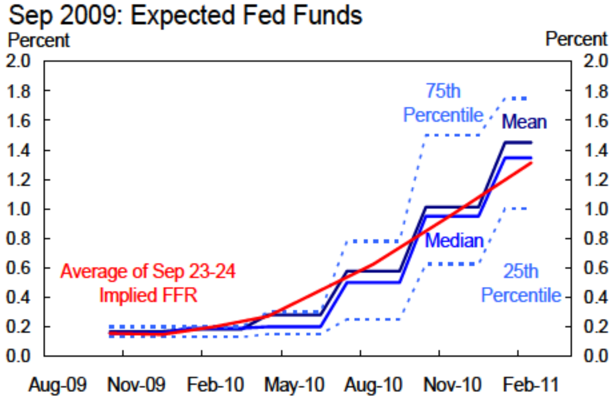
FOMC Target Probabilities: December 2009 Meeting



Source: Cleveland FRB

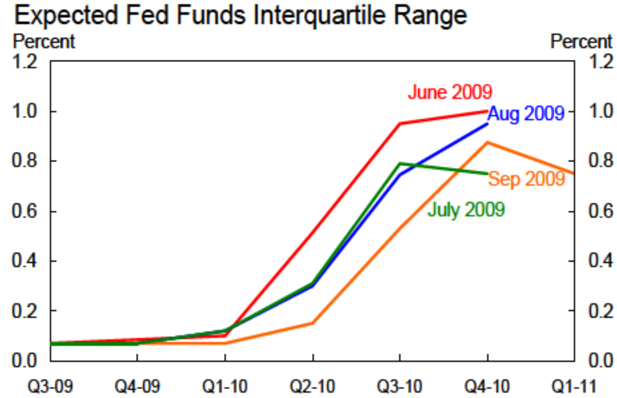
Note: Estimated using options on fed funds futures.

Sep 2009: Expected Fed Funds



Note: Estimated using fed funds and Eurodollar futures.
The BCFF survey was conducted on Sep 23-24.

Expected Fed Funds Interquartile Range



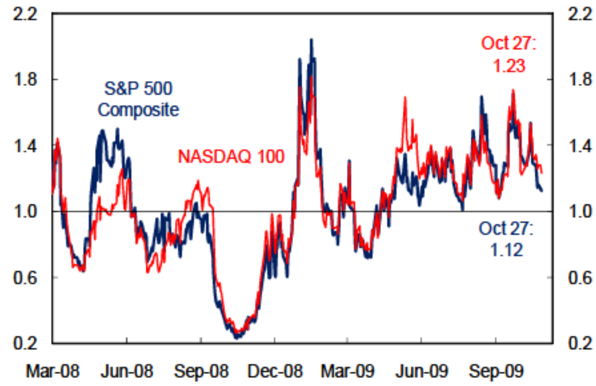
A. Significant Developments

Exhibit A-6:
Implied Volatility

Equity Index Implied Volatility: 1-Month

Source: Datastream

Ratio of Implied to Realized Volatility



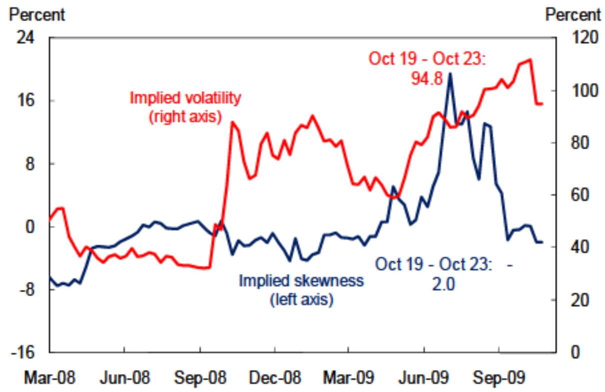
Source: Datastream

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



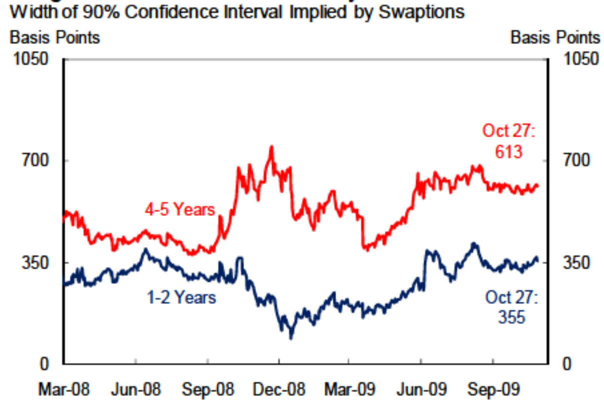
Source: CME and FRBNY calculations

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

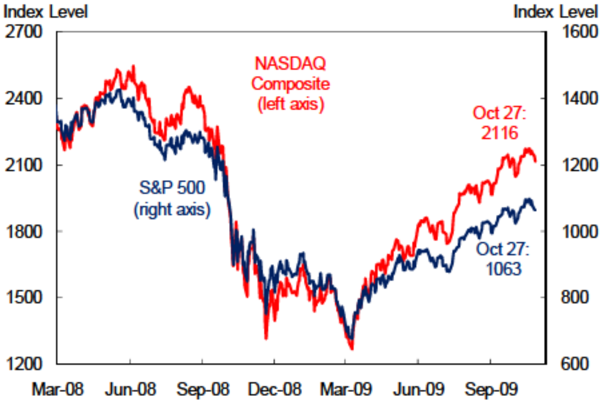


Source: Datastream, FRBNY calculations

A. Significant Developments

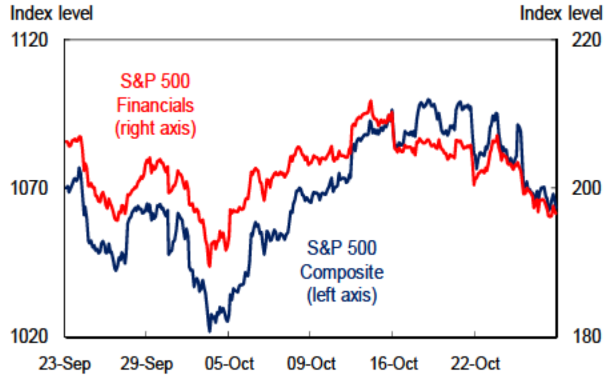
Exhibit A-7:
Equity and Credit

Equity Index Levels



Source: Datastream

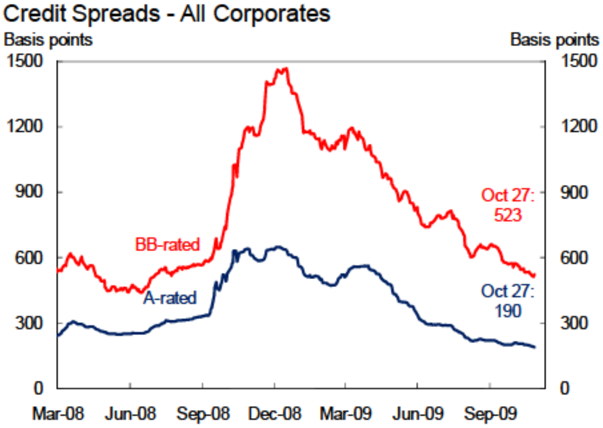
S&P 500 Indices (Intraday)



Source: Bloomberg

Note: 9:30 am to 4 00 pm.

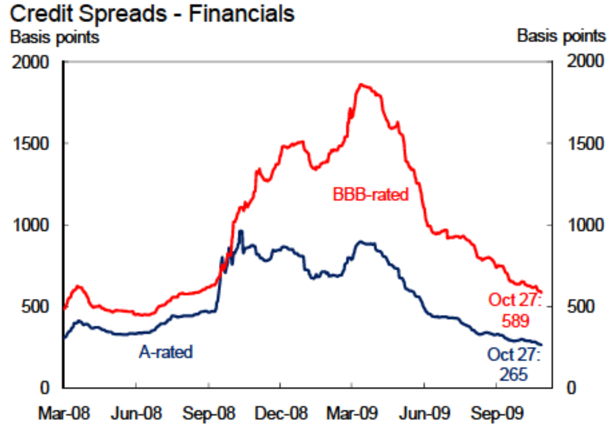
Credit Spreads - All Corporates



Source: Merrill Lynch

Note: Option-adjusted spreads.

Credit Spreads - Financials



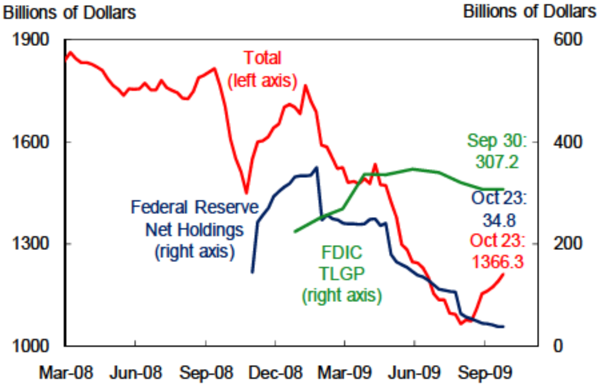
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

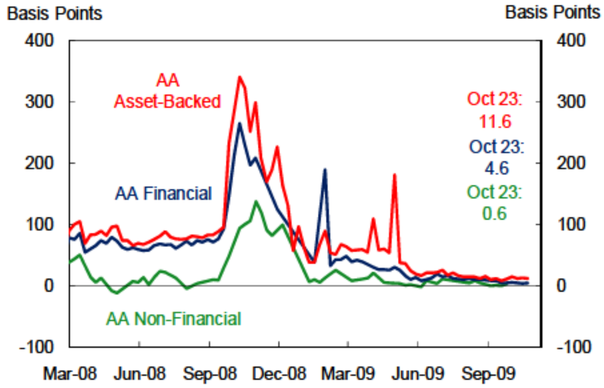
Exhibit A-8:
Liquidity Facilities

CPFF and Commercial Paper Outstanding



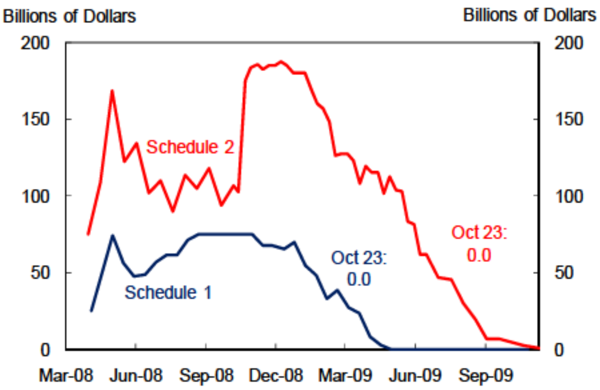
Source: Federal Reserve Board, Haver

3-Month CP Rates over OIS



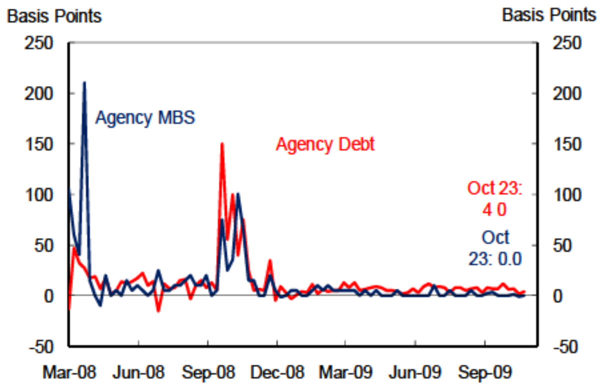
Source: Federal Reserve Board, Haver, Bloomberg

TSLF Outstanding



Source: Federal Reserve Bank of New York

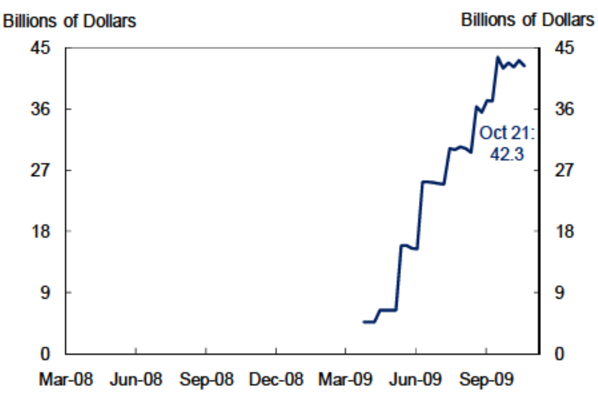
Overnight Financing Spreads



Source: Bloomberg

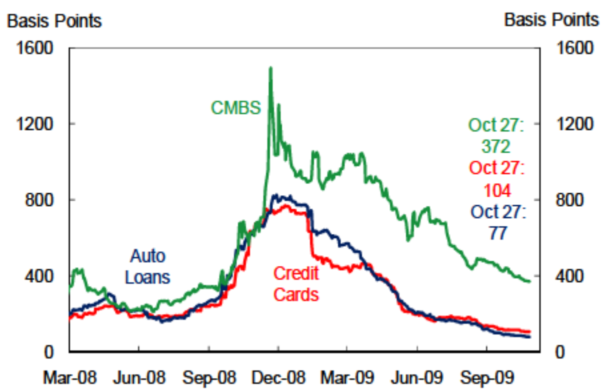
Note: Spreads are between overnight agency debt and MBS and Treasury general collateral repo rates

TALF Outstanding



Source: Federal Reserve Board

AAA-Rated ABS/CMBS Spreads



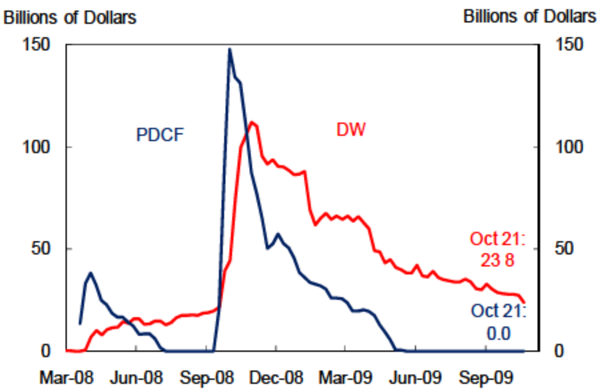
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

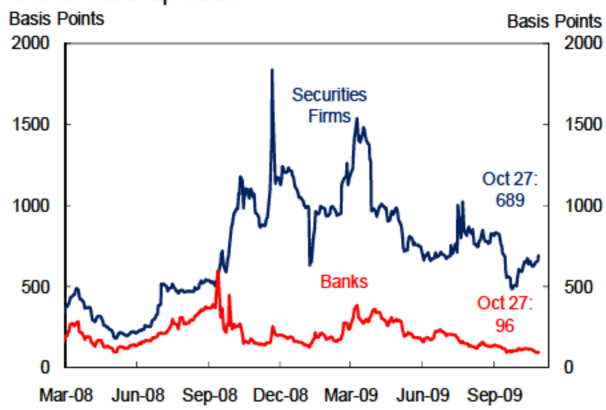
Exhibit A-8:
Liquidity Facilities

Discount Window and PDCF Borrowing



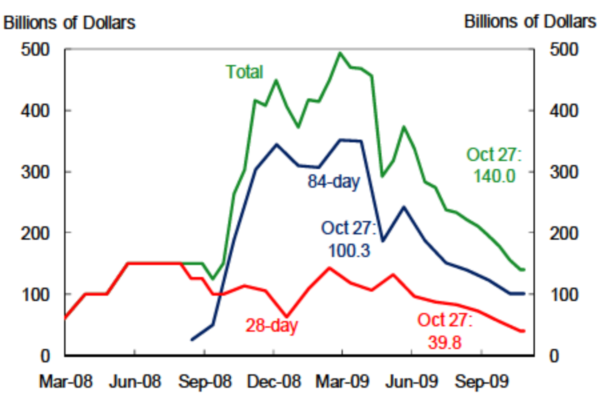
Source: Federal Reserve Board

Sector CDS Spreads



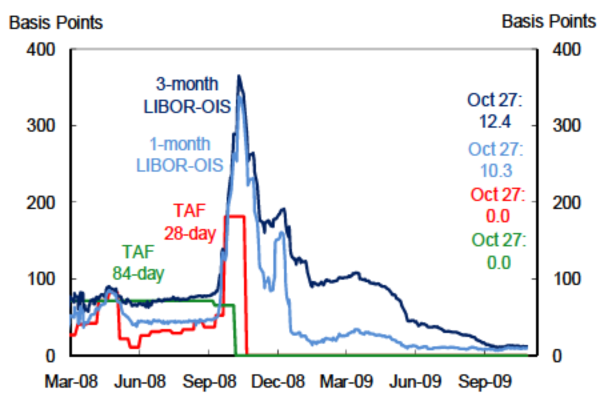
Source: Datastream

TAF Outstanding



Source: Federal Reserve Board

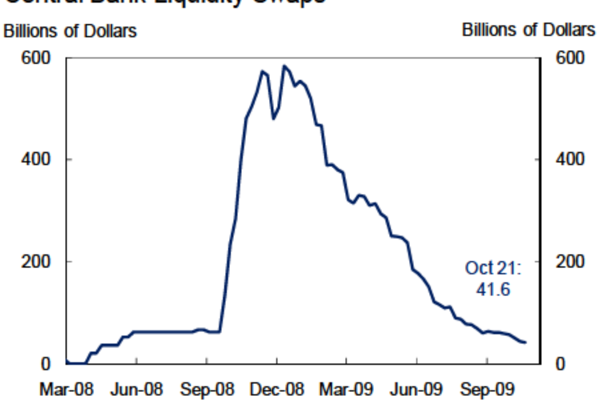
TAF Spreads and Libor to OIS



Source: Federal Reserve Board, Bloomberg

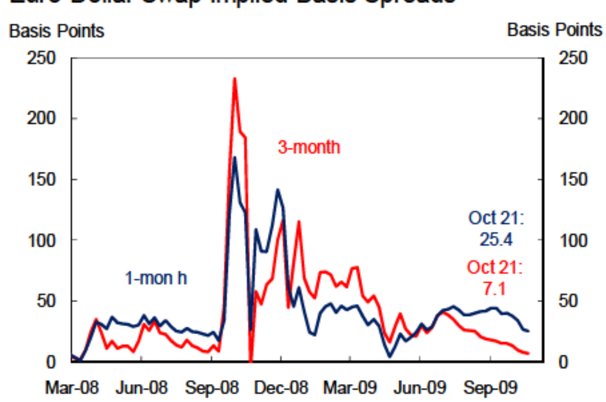
Note: The TAF spread is defined as the stop-out rate less the minimum bid rate.

Central Bank Liquidity Swaps



Source: Federal Reserve Board, Bloomberg

Euro-Dollar Swap Implied Basis Spreads

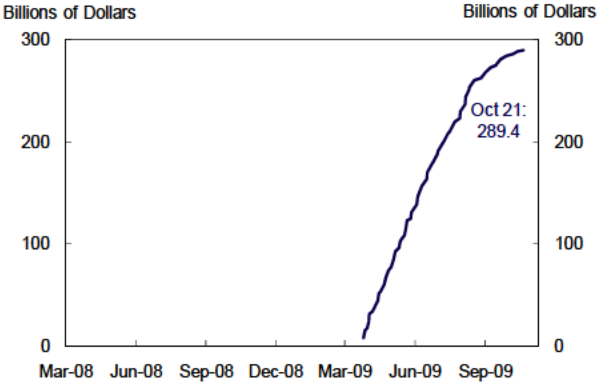


Source: Reuters, Tullett

A. Significant Developments

Exhibit A-9:
Outright Purchase Program

Treasury Outright Purchases

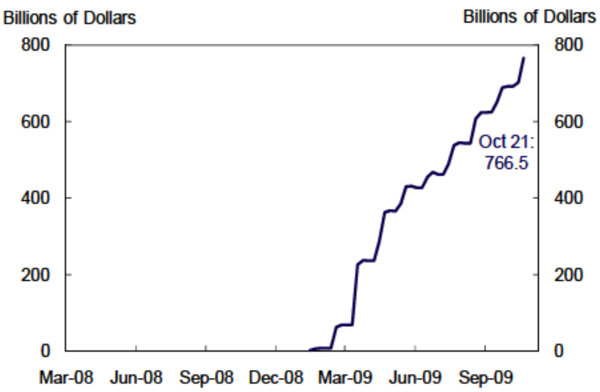


Source: Federal Reserve

Treasury Rates

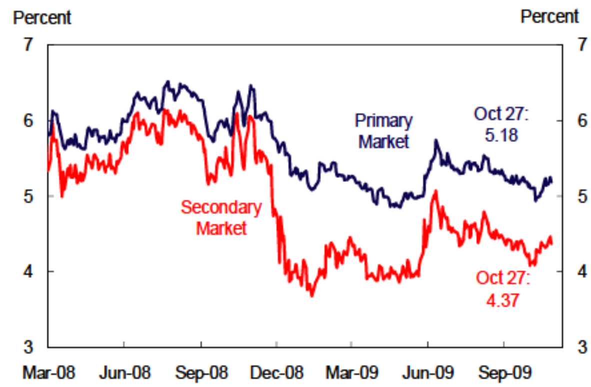
Source: Wall Street Journal, Haver

Agency MBS Net Outright Purchases



Source: Federal Reserve

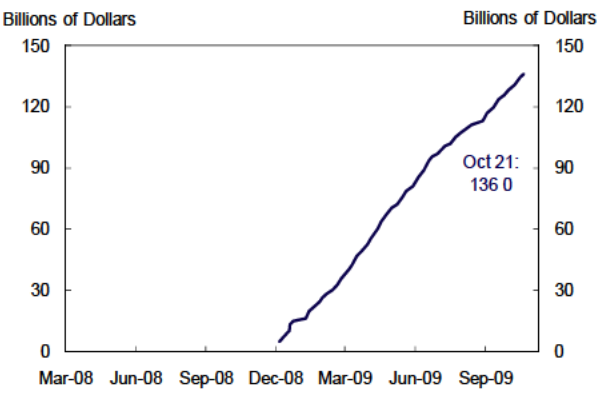
Mortgage Market Rates



Source: Bloomberg

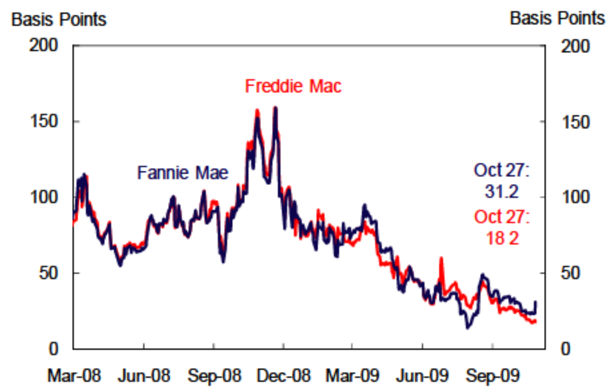
Note: 30-Year Fixed Mortgage rate and Fannie Mae current coupon yield.

Agency Coupon Debt Outright Purchases



Source: Federal Reserve

5-Year Agency Debt Spreads

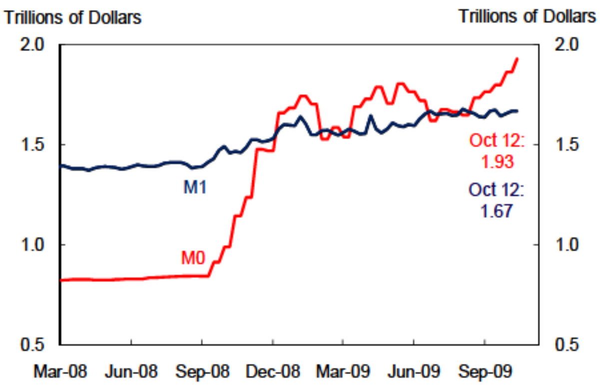


Source: Bloomberg

A. Significant Developments

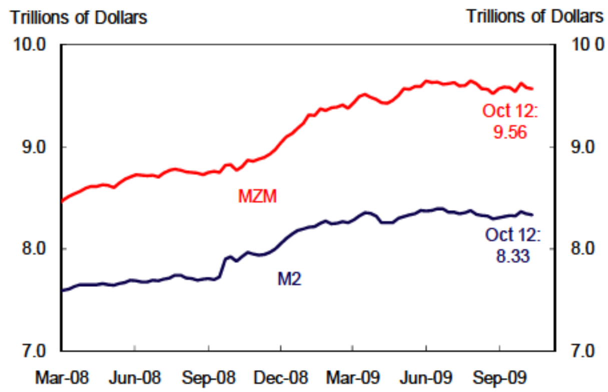
Exhibit A-10:
Money and Banking

Measures of Money Supply: M0, M1



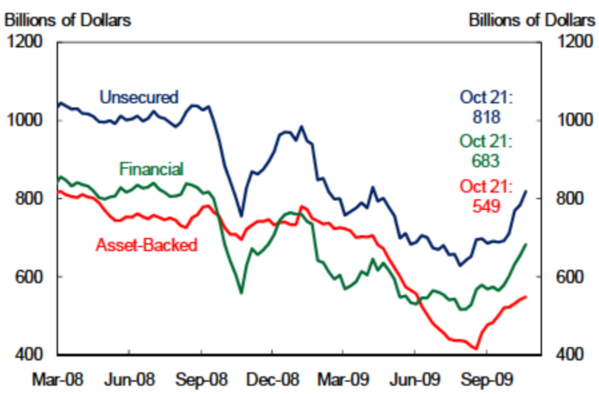
Source: Federal Reserve Board, Haver

Measures of Money Supply: M2, MZM



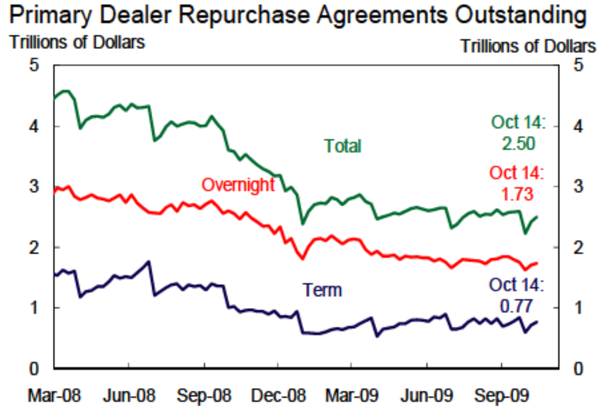
Source: Federal Reserve Board, Haver

Commercial Paper Outstanding



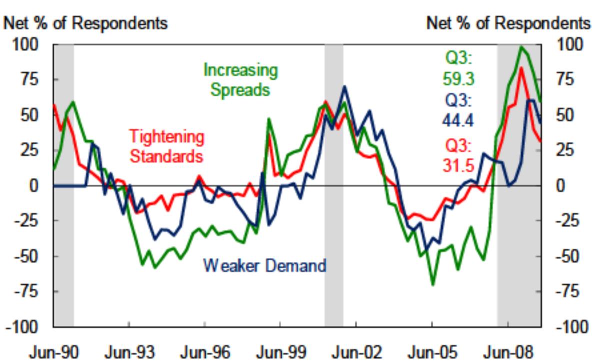
Source: Federal Reserve Board

Primary Dealer Repurchase Agreements Outstanding



Source: Federal Reserve Board

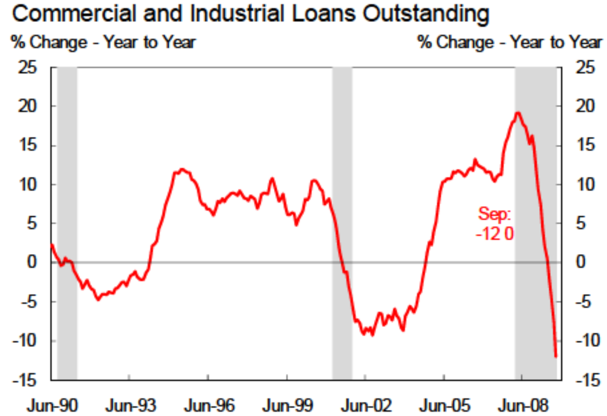
Bank Lending Practices



Source: Federal Reserve Board

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

Commercial and Industrial Loans Outstanding

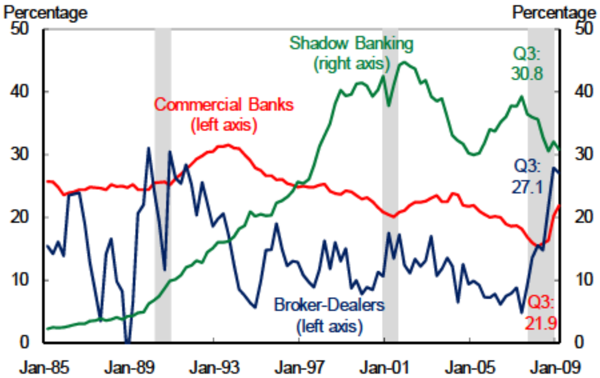


Source: Federal Reserve Board

A. Significant Developments

Exhibit A-10:
Money and Banking

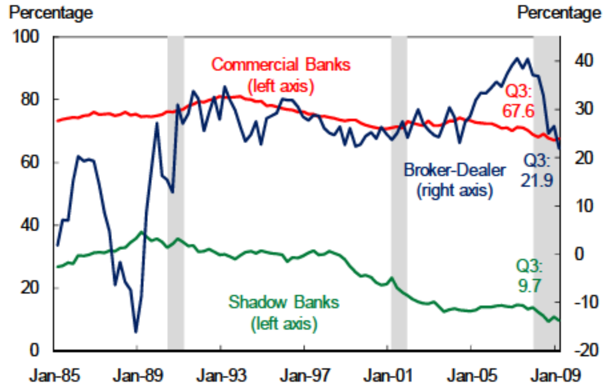
Liquid Assets as a Fraction of Total Assets



Source: Federal Reserve Board

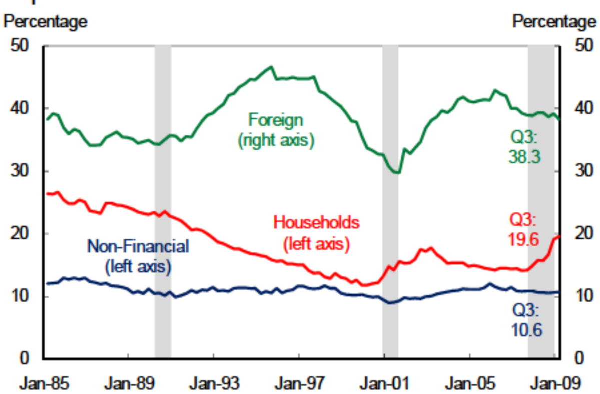
Note Shadow Banks Funding Corporations + Finance Companies

Short-term Debt as a Fraction of Total Assets



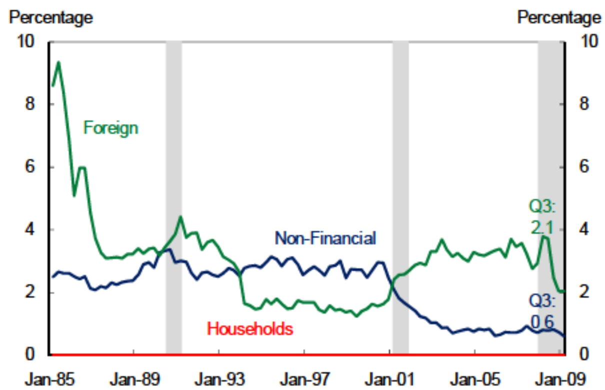
Source: Federal Reserve Board

Liquid Assets as a Fraction of Total Assets



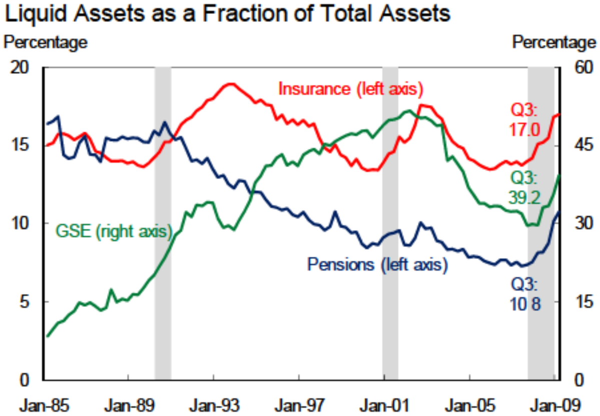
Source: Federal Reserve Board

Short-term Debt as a Fraction of Total Assets



Source: Federal Reserve Board

Liquid Assets as a Fraction of Total Assets



Source: Federal Reserve Board

A. Significant Developments

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

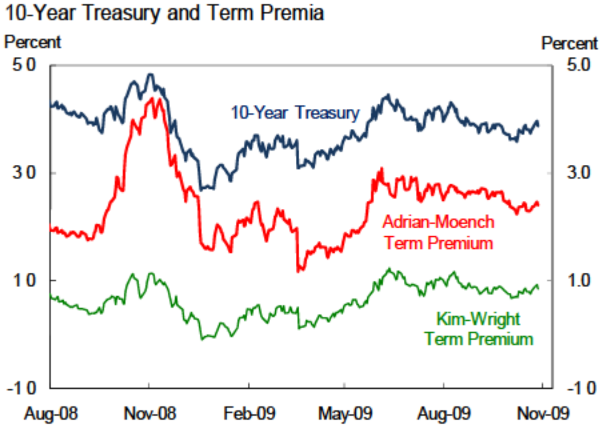
10-Year Treasury

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

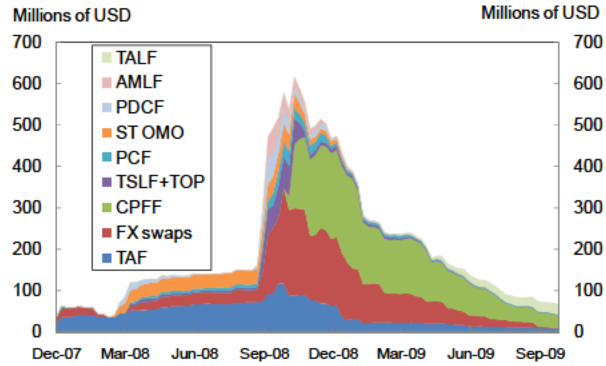
A. Significant Developments

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

Recent Developments

- Total facility interest income over the four weeks ending October 21 was $288mn, down from $336mn over the previous four weeks. The difference is primarily driven by smaller outstanding amounts in the FX swaps.
- 2009 pro-forma income from the liquidity facilities has declined commensurately and is now $8.4bn.
- Pro forma income from all sources going forward is $67.6bn (based on the 10/21/09 balance sheet), with declining income from the facilities more than offset by increased income from securities held outright.

Weekly Income by Facility



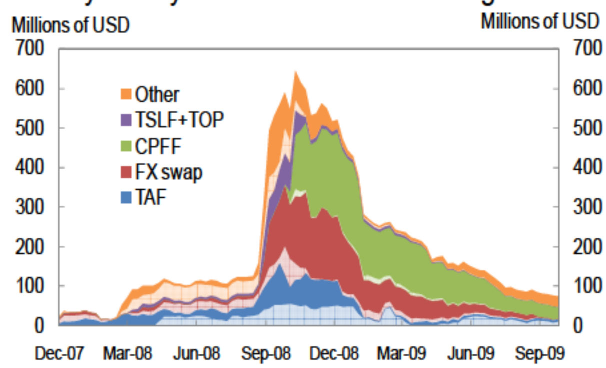
Sources: Federal Reserve, Bloomberg, foreign central banks.

Income Effects of Liquidity Facilities

Period	Interest/Fee Income	Interest Foregone	Difference
2008	11,653	3,664	7,989
2009 YTD	7,700	1,104	6,596
2009 Pro Forma	8,309	1,232	7,077
Last 4 Weeks	288	19	269
Total since 8/8/07	**19,445**	**4,831**	**14,615**

Note: Figures in millions of USD.

Weekly Facility Income and Interest Foregone



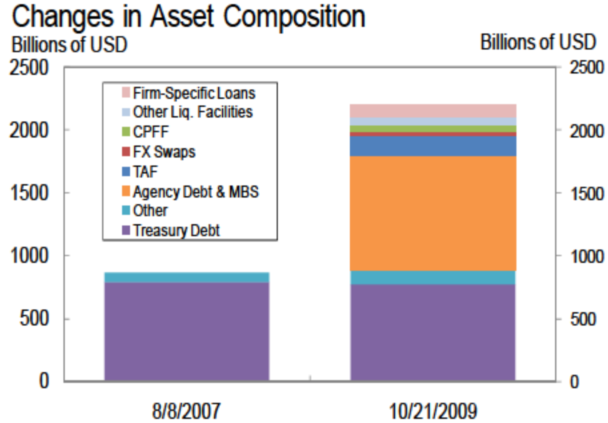
Note: Lighter colors indicate interest foregone.
Sources: Federal Reserve, Bloomberg, foreign central banks.

Pro Forma Income, Next 12 Months

Line Item	Balance Sheet 8/8/07	10/21/09	Difference
Sec. Held Outright	24,022	64,516	40,494
Liquidity Facilities	0	3,087	3,087
Firm-Specific Loans	0	1,916	1,916
Other	809	802	-7
Liabilities	-10	-2,723	-2,713
Net	**24,820**	**67,597**	**42,777**

Note: Estimates based on 8/8/07 and 10/21/09 balance sheets along with common (and current) assumptions about policy and market interest rates. Figures in millions of USD.

Changes in Asset Composition



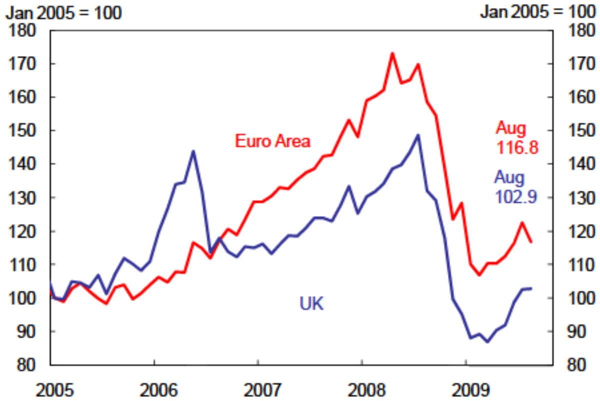
Source: Federal Reserve.

A. Significant Developments

Exhibit A-13: Exports and Industrial Production

Exports

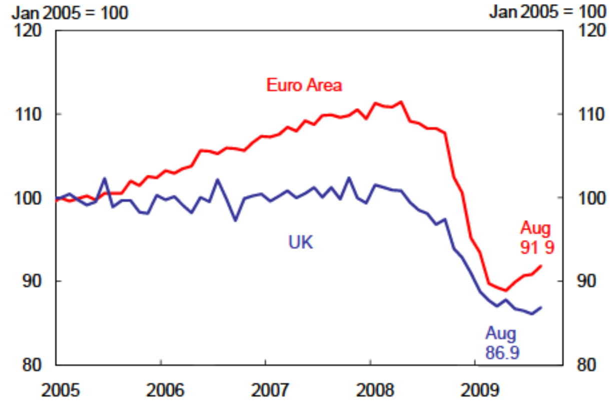
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

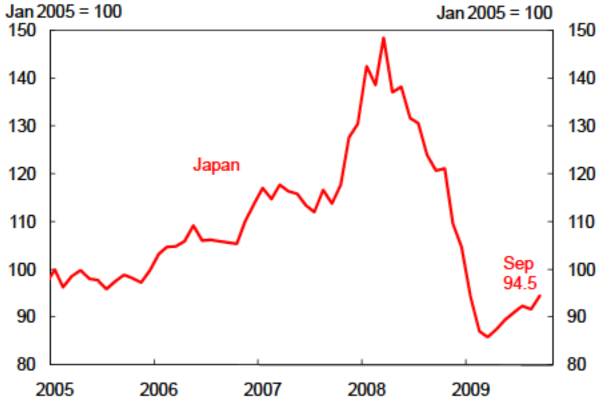
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

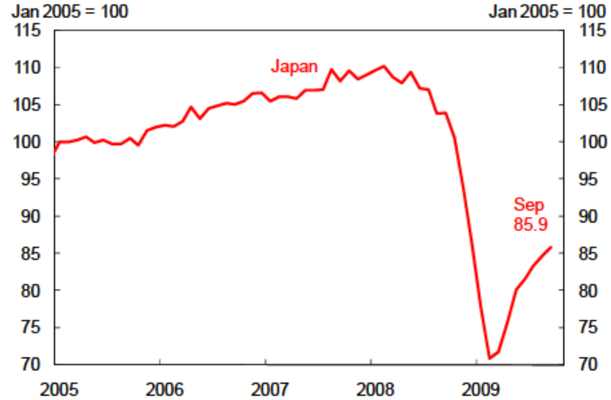
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

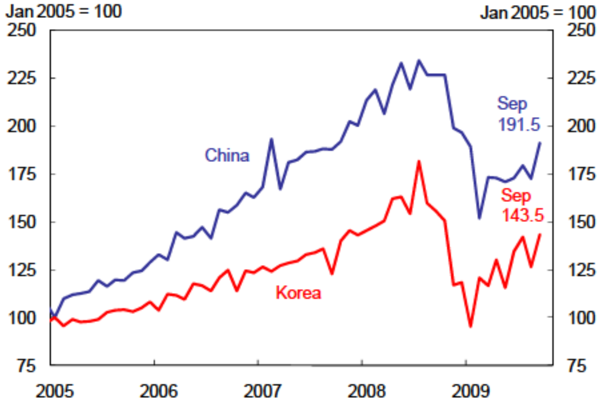
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

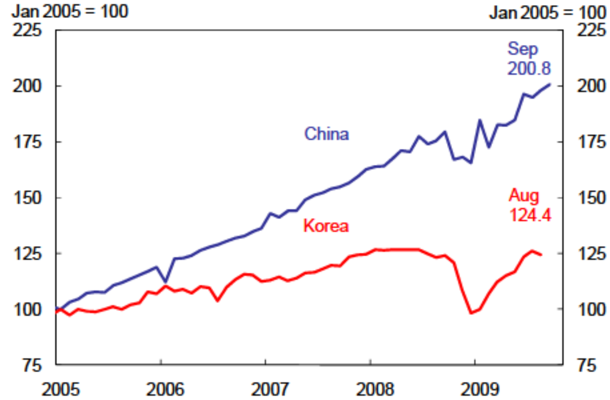
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

Jan 2005 = 100 Jan 2005 = 100

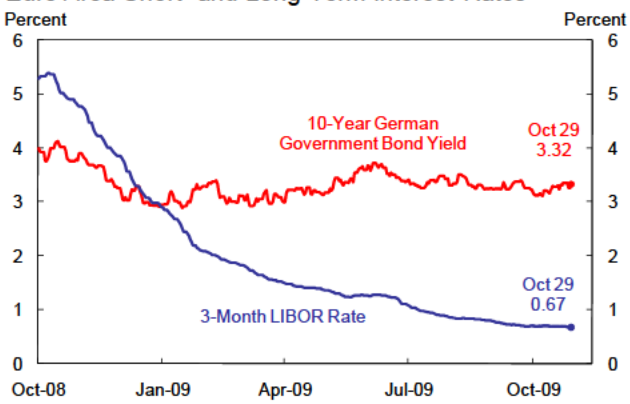


Source: Haver, CEIC

A. Significant Developments

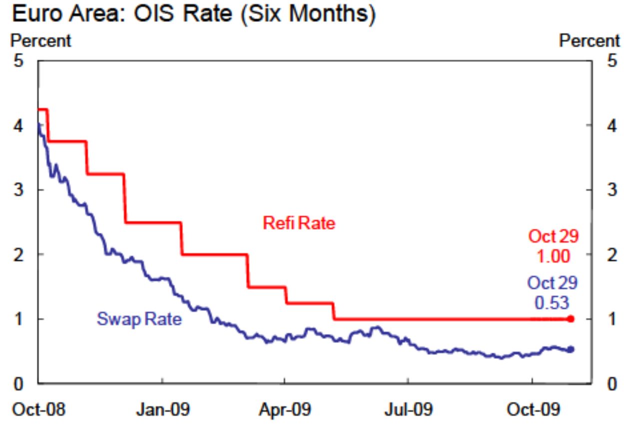
Exhibit A-14:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



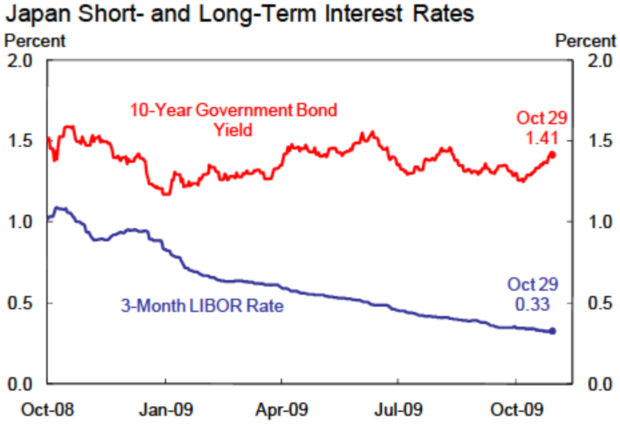
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



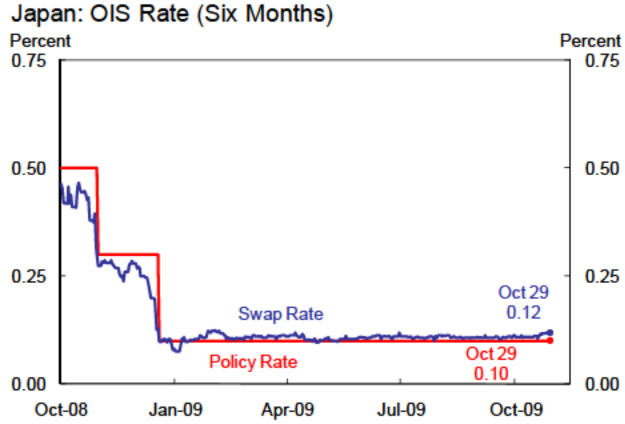
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



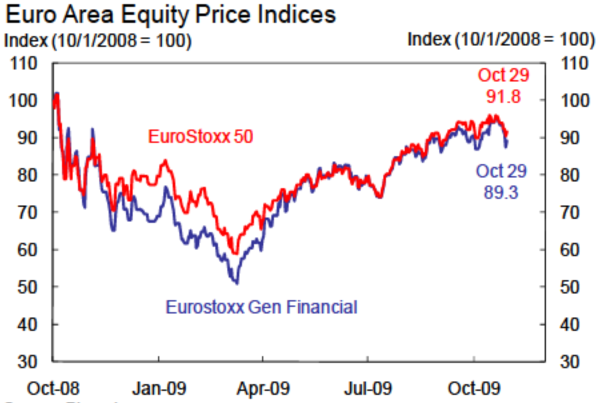
Source: Bloomberg

Japan: OIS Rate (Six Months)



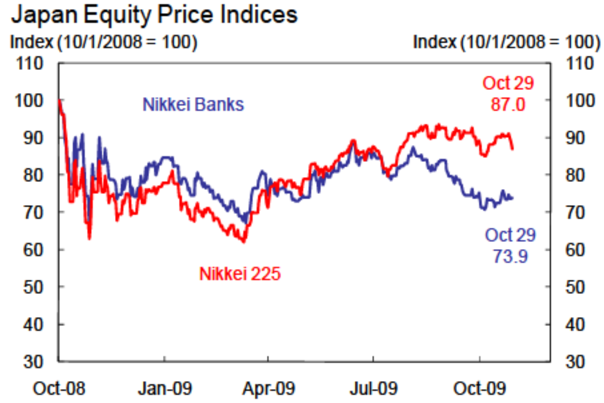
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

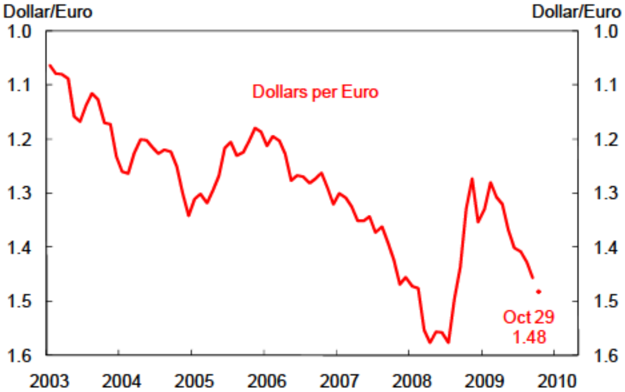


Source: Bloomberg

A. Significant Developments

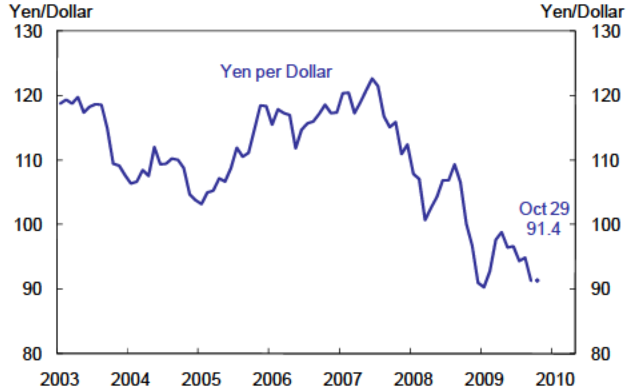
Exhibit A-15:
Exchange Rates

Dollar-Euro Exchange Rate



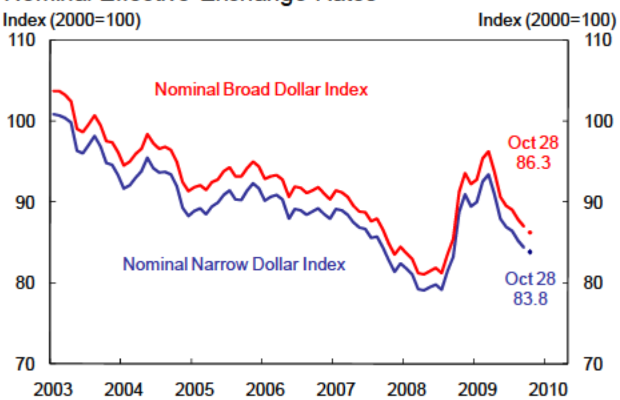
Source: Bloomberg
Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



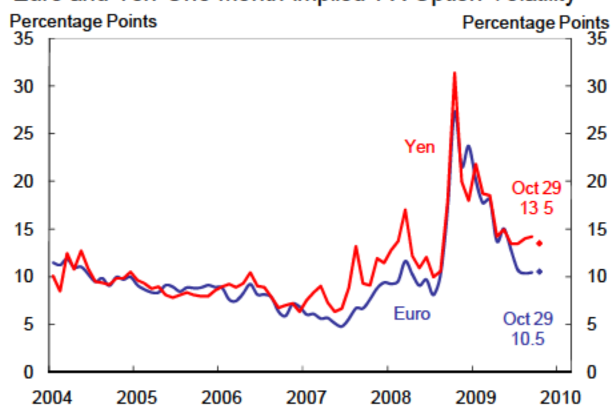
Source: Bloomberg

Nominal Effective Exchange Rates



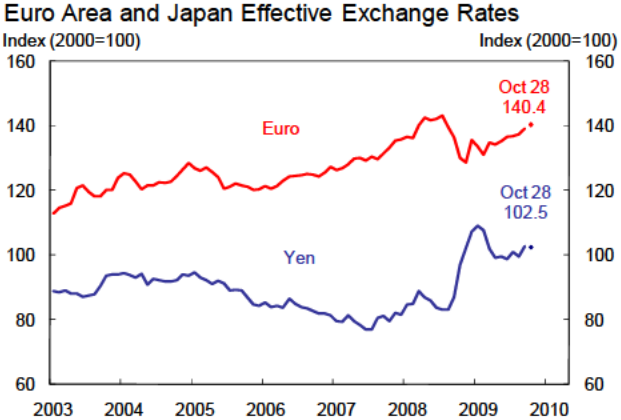
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



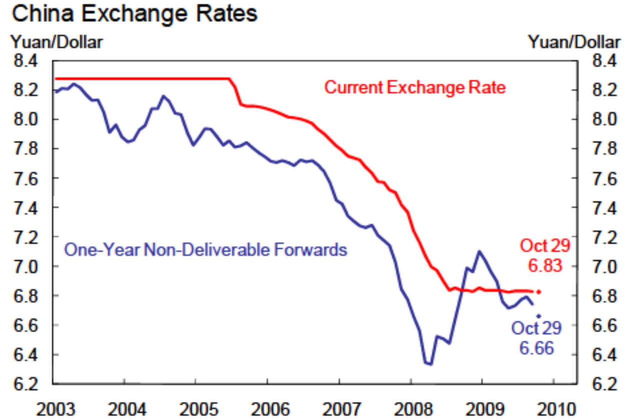
Source: Bloomberg

Euro Area and Japan Effective Exchange Rates



Source: Bloomberg and JPMorgan

China Exchange Rates



Source: Bloomberg

B. FRBNY Forecast Details

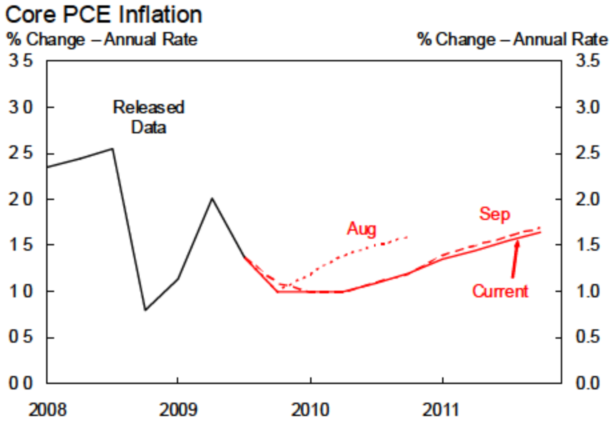
Exhibit B-1: Quarterly and Annual Projections of Key Variables

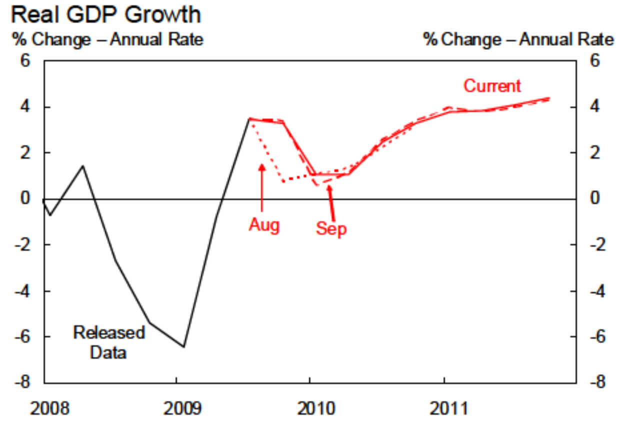
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Aug	Sep	Oct	Aug	Sep	Oct	Aug	Sep	Oct	Aug	Sep	Oct
2009												
Q1	*1.1*	*1.1*	*1.1*	*-6.4*	*-6.4*	*-6.4*	*8.1*	*8.1*	*8.1*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*2.0*	*2.0*	*2.0*	*-1.0*	*-1.0*	*-0.7*	*9.3*	*9.3*	*9.3*	0-0.25	*0-0.25*	*0-0.25*
Q3	1.2	1.4	*1.4*	2.5	3.5	*3.5*	9.6	9.7	*9.6*	0-0.25	0-0.25	*0-0.25*
Q4	1.0	1.1	1.1	0.8	3.4	3.6	10.0	10.0	10.0	0-0.25	0-0.25	0-0.25
2010												
Q1	1.2	1.0	1.0	1.1	0.6	1.2	10.1	10.1	10.2	0-0.25	0-0.25	0-0.25
Q2	1.4	1.0	1.0	1.4	1.2	1.5	10.2	10.2	10.3	0-0.25	0-0.25	0-0.25
Q3	1.5	1.1	1.1	2.3	2.6	2.3	10.2	10.3	10.3	0-0.25	0-0.25	0-0.25
Q4	1.6	1.2	1.2	3.2	3.4	3.1	10.2	10.2	10.2	0-0.25	0-0.25	0-0.25
2011												
Q1	--	1.4	1.4	--	4.0	3.8	--	9.9	9.6	--	0-0.25	0-0.25
Q2	--	1.5	1.5	--	3.8	3.9	--	9.6	9.2	--	0.5	0.5
Q3	--	1.6	1.6	--	4.0	4.1	--	9.4	8.9	--	1.0	1.0
Q4	--	1.7	1.7	--	4.3	4.3	--	9.0	8.6	--	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	1.3	1.4	1.4	-1.1	-0.2	-0.1	3.1	3.1	3.1	0.0	0.0	0.0
2010	1.4	1.1	1.1	2.0	2.0	2.0	0.2	0.2	0.2	0.0	0.0	0.0
2011	--	1.5	1.5	--	4.0	4.0	--	-1.2	-1.6	--	1.3	1.3

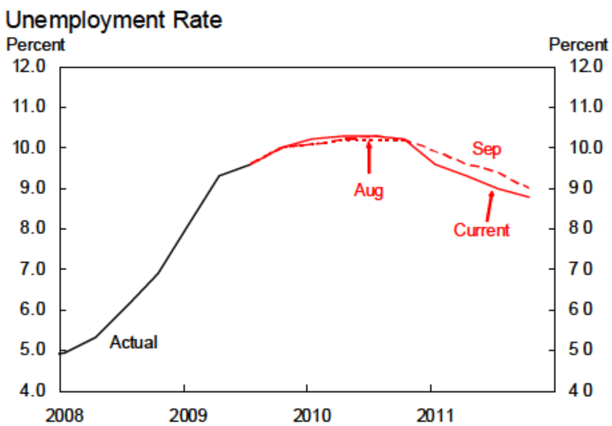
Note: Columns reflect the forecast dates. Numbers in gray are from previous Blackbooks, and numbers in italics are released data.
*Quarterly values are the average rate for the quarter. Yearly values are the difference between Q4 of the previous year and Q4 of the listed year.
**Quarterly values are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

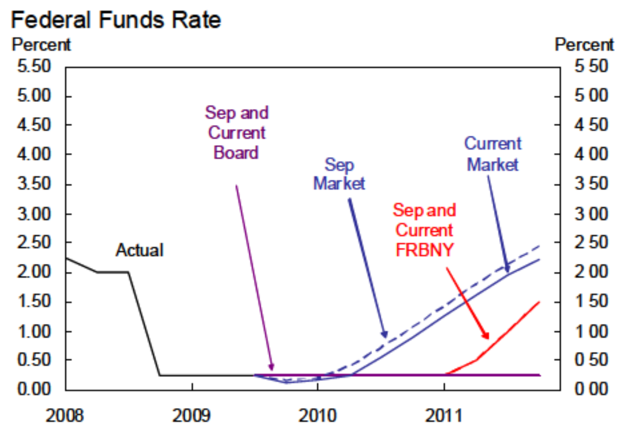
B. FRBNY Forecast Details

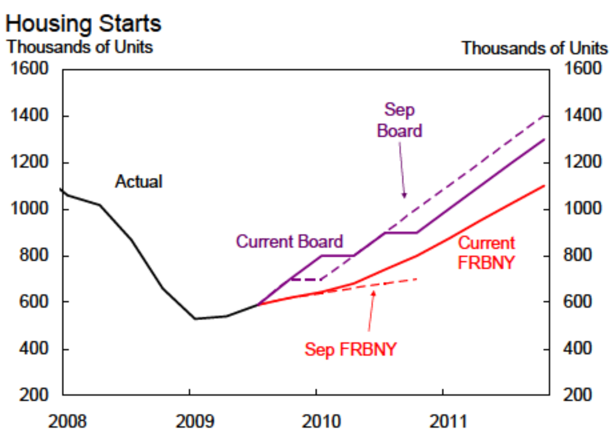
Exhibit B-2: Evolution of Projected Quarterly Paths of Key Indicators and Forecast Assumptions

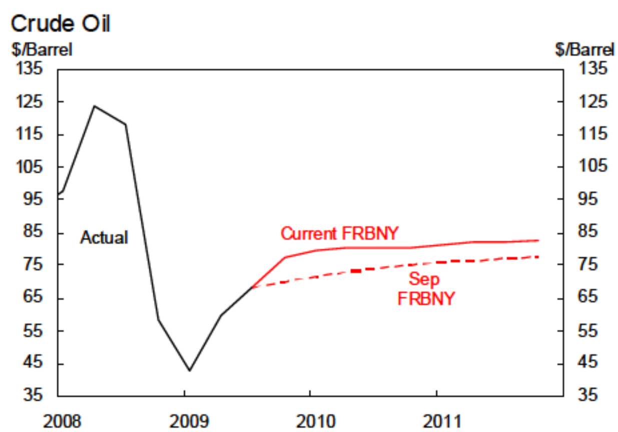












Source: MMS and IR Functions (FRBNY) and Federal Reserve Board

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	3.6	1.2	3.6	1.2
	(3.4)	(0.6)	(3.4)	(0.6)
Final Sales to Domestic Purchasers	0.6	0.0	0.6	0.0
	(-0.2)	(0.6)	(-0.2)	(0.6)
Consumption	1.5	0.7	1.1	0.5
	(0.0)	(0.9)	(0.0)	(0.6)
BFI: Equipment and Software	-5.0	-5.0	-0.3	-0.3
	(-5.0)	(-2.5)	(-0.3)	(-0.2)
BFI: Nonresidential Structures	-15.0	-10.0	-0.5	-0.3
	(-8.0)	(-5.0)	(-0.3)	(-0.2)
Residential Investment	15.0	5.0	0.4	0.1
	(5.0)	(2.5)	(0.1)	(0.1)
Government: Federal	1.5	1.5	0.1	0.1
	(1.5)	(1.5)	(0.1)	(0.1)
Government: State and Local	-1.0	-0.8	-0.1	-0.1
	(1.0)	(0.8)	(0.1)	(0.1)
Inventory Investment	--	--	3.2	1.3
	--	--	(3.9)	(0.1)
Net Exports	--	--	-0.2	-0.1
	--	--	(-0.3)	(-0.1)
INFLATION				
Total PCE Deflator	1.4	1.3		
	(1.3)	(1.3)		
Core PCE Deflator	1.1	1.0		
	(1.1)	(1.0)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	3.5	2.5		
	(2.0)	(2.0)		
Compensation per Hour	1.8	1.5		
	(1.8)	(1.5)		
Unit Labor Costs	-1.8	-1.0		
	(-0.3)	(-0.5)		

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	-0.1	2.0	4.0	-0.1	2.0	4.0
	(-0.2)	(2.0)	(4.0)	(-0.2)	(2.0)	(4.0)
Final Sales to Domestic Purchasers	-1.0	1.2	3.6	-1.0	1.3	3.7
	(-1.6)	(1.7)	(3.7)	(-1.6)	(1.7)	(3.8)
Consumption	1.1	1.1	2.4	0.8	0.8	1.7
	(0.4)	(1.3)	(2.6)	(0.3)	(0.9)	(1.8)
BFI: Equipment and Software	-12.7	2.3	14.2	-0.9	0.1	0.8
	(-12.7)	(3.0)	(14.2)	(-0.9)	(0.2)	(0.9)
BFI: Nonresidential Structures	-22.5	-0.8	9.0	-0.9	0.0	0.3
	(-21.1)	(2.6)	(8.0)	(-0.9)	(0.1)	(0.3)
Residential Investment	-9.4	6.9	18.1	-0.3	0.2	0.5
	(-13.9)	(6.2)	(14.4)	(-0.4)	(0.2)	(0.4)
Government: Federal	3.9	1.5	1.5	0.3	0.1	0.1
	(2.0)	(1.5)	(1.5)	(0.2)	(0.1)	(0.1)
Government: State and Local	0.0	0.3	2.5	0.0	0.0	0.3
	(0.7)	(1.9)	(2.6)	(0.1)	(0.2)	(0.3)
Inventory Investment	--	--	--	0.1	0.7	0.4
	--	--	--	(0.5)	(0.2)	(0.2)
Net Exports	--	--	--	0.9	0.1	0.0
	--	--	--	(1.0)	(0.0)	(0.0)
INFLATION						
Total PCE Deflator	1.0	1.4	1.7			
	(0.9)	(1.4)	(1.8)			
Core PCE Deflator	1.4	1.1	1.5			
	(1.4)	(1.1)	(1.5)			
Total CPI Inflation	1.1	1.5	1.9			
	(1.0)	(1.5)	(1.9)			
Core CPI Inflation	1.7	1.3	1.7			
	(1.6)	(1.3)	(1.7)			
GDP Deflator	0.8	1.3	1.6			
	(1.1)	(1.2)	(1.5)			

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)	3.6	4.0	
	(3.6)	(4.0)	
PRODUCTIVITY AND LABOR COSTS*			
Output	-0.6	2.3	4.8
	(-0.7)	(2.1)	(4.8)
Hours	-4.9	0.4	3.6
	(-4.4)	(0.5)	(3.3)
Output per Hour	4.3	1.8	1.3
	(3.8)	(1.6)	(1.5)
Compensation per Hour	0.0	1.4	1.7
	(-0.2)	(1.4)	(1.7)
Unit Labor Costs	-4.3	-0.4	0.5
	(-4.0)	(-0.3)	(0.2)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	10.0	10.2	8.6
	(10.0)	(10.2)	(9.0)
Participation Rate (Avg. Q4 Level)	65.4	65.4	65.6
	(65.6)	(65.6)	(65.8)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-374	90	351
	(-326)	(67)	(295)
INCOME			
Personal Income	-1.3	3.0	5.6
	(-1.1)	(2.2)	(5.5)
Real Disposable Personal Income	0.7	1.5	3.6
	(1.1)	(0.7)	(3.5)
Corporate Profits Before Taxes	28.5	-1.5	2.6
	(19.3)	(-4.6)	(1.9)

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

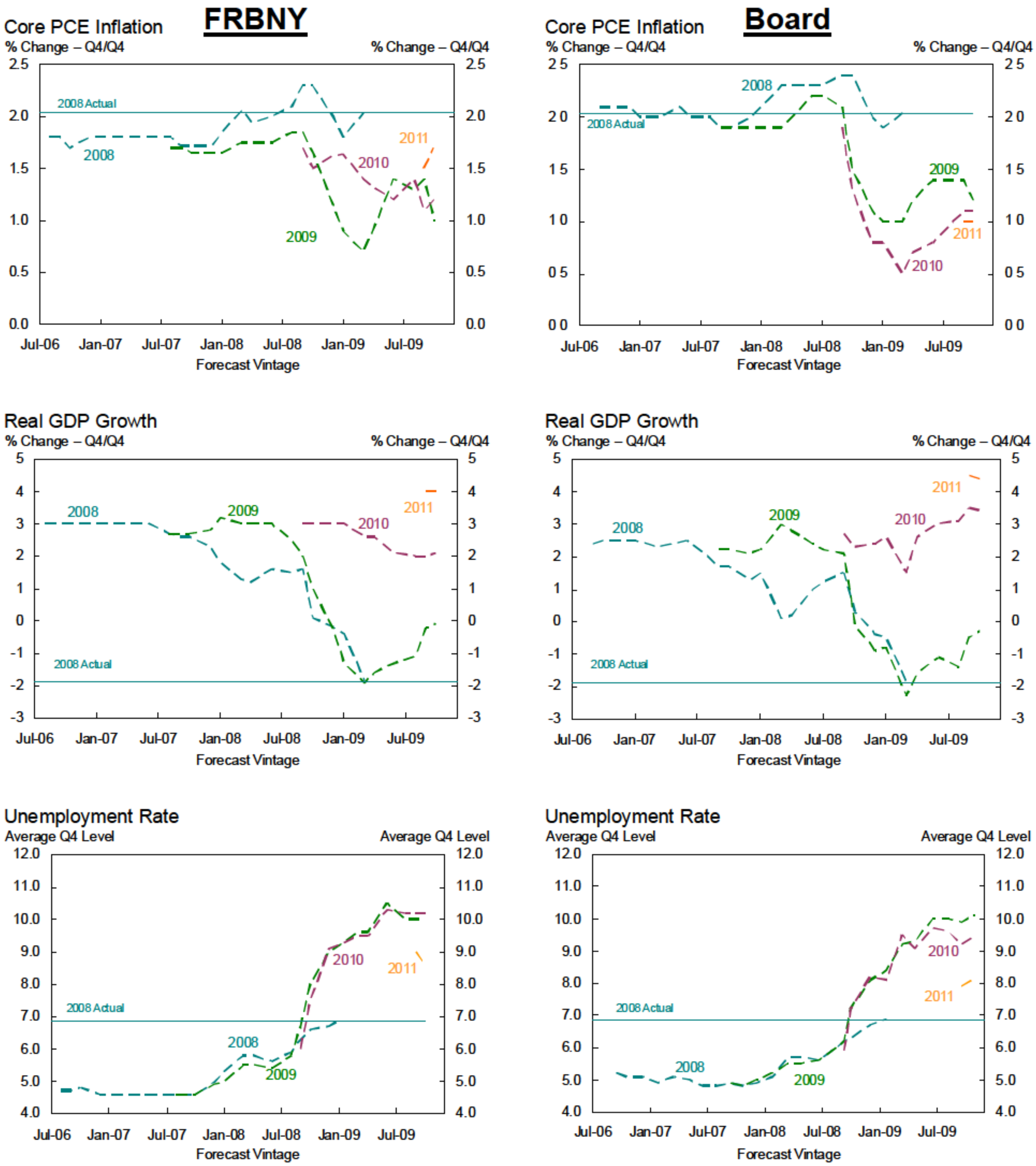
B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Greenbook Forecast Comparison

	FRBNY			Board		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	-0.1	2.0	4.0	-0.3	3.4	4.4
	(-0.2)	(2.0)	(4.0)	(-0.5)	(3.5)	(4.5)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	-1.0	1.3	3.7	-1.1	2.7	4.1
	(-1.6)	(1.7)	(3.8)	(-1.5)	(3.1)	(4.3)
Consumption	0.8	0.8	1.7	0.7	1.7	2.4
	(0.3)	(0.9)	(1.8)	(0.5)	(2.0)	(2.5)
BFI	-1.8	0.1	1.1	-1.8	0.5	0.9
	(-1.8)	(0.3)	(1.1)	(-2.0)	(0.5)	(0.9)
Residential Investment	-0.3	0.2	0.5	-0.4	0.2	0.6
	(-0.4)	(0.2)	(0.4)	(-0.5)	(0.3)	(0.7)
Government	0.3	0.2	0.4	0.4	0.3	0.2
	(0.3)	(0.4)	(0.5)	(0.5)	(0.3)	(0.2)
Inventory Investment	0.1	0.7	0.4	-0.1	0.7	0.5
	(0.5)	(0.2)	(0.2)	(0.0)	(0.6)	(0.4)
Net Exports	0.9	0.1	0.0	1.0	0.0	-0.1
	(1.0)	(0.0)	(0.0)	(1.0)	(-0.2)	(-0.2)
INFLATION						
Total PCE Deflator	1.0	1.4	1.7	1.1	1.4	1.0
	(0.9)	(1.4)	(1.8)	(1.0)	(1.3)	(1.0)
Core PCE Deflator	1.4	1.1	1.5	1.4	1.1	1.0
	(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	0-0.25
	0-0.25	0-0.25	(1.5)	0-0.25	0-0.25	0-0.25
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	4.3	1.8	1.3	4.6	1.1	0.8
	(3.8)	(1.6)	(1.5)	(3.7)	(1.3)	(1.4)
Compensation per Hour	0.0	1.4	1.7	-0.2	1.8	2.1
	(-0.2)	(1.4)	(1.7)	(-0.3)	(1.8)	(2.1)
Unit Labor Costs	-4.3	(0.4)	0.5	-4.7	0.7	1.2
	(-4.0)	(-0.3)	(0.2)	(-3.8)	(0.5)	(0.6)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	10.0	10.2	8.6	10.1	9.5	8.2
	(10.0)	(10.2)	(9.0)	(10.0)	(9.6)	(7.9)
Participation Rate (Avg. Q4 Level)	65.4	65.4	65.6	65.2	65.1	65.0
	(65.6)	(65.6)	(65.8)	(65.5)	(65.4)	(65.3)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-374	90	351	-425	167	325
	(-326)	(67)	(295)	(-383)	(200)	(308)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	620	800	1100	700	900	1300
	(620)	(700)	--	(700)	(1000)	(1400)

B. FRBNY Forecast Details

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



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	10/30/2009	3.6	1.2	-0.1	2 0
		(3.4)	(0.6)	(-0.2)	(2 0)
PSI Model	10/28/2009	1.7	--	--	--
		(2.1)	--	--	--
Blue Chip	10/10/2009	2.4	2.6	-0.4	2.8
		(2.4)	(2.5)	(-0.6)	(2.7)
Median SPF	8/14/2009	2.2	2.5	-0.8	2.7
		(1.7)	(2.5)	(-1.4)	--
Macro Advisers	10/28/2009	3.6	3.8	-0.1	4.1
		(2.7)	(3.4)	(-0.4)	(4.0)

		Core PCE Inflation			
	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	10/30/2009	1.1	1.0	1.4	1.1
		(1.1)	(1.0)	(1.4)	(1.1)
Median SPF	8/14/2009	1.2	1.2	1.3	1.4
		(1.2)	(1.2)	(1.3)	(1.4)
Macro Advisers	10/28/2009	1.0	0.8	1.4	0.8
		(0.9)	(1.0)	(1.3)	(0.9)

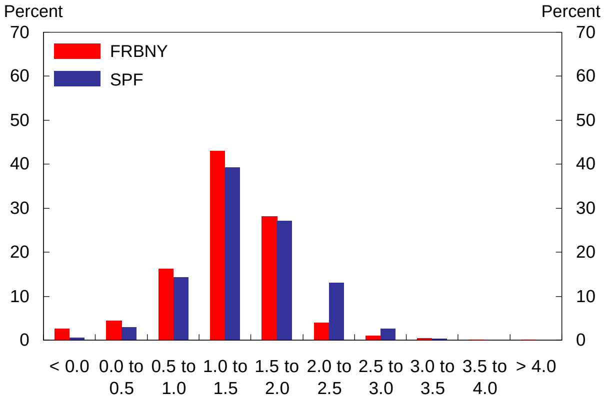
		CPI Inflation			
	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	10/30/2009	2.0	1.3	1.1	1.5
		(1.4)	(1.3)	(1.0)	(1.5)
Blue Chip	10/10/2009	1.7	1.6	0.9	1.8
		(1.8)	(1.6)	(0.8)	(1.8)
Median SPF	8/14/2009	1.8	1.7	0.4	1.8
		(1.8)	(1.7)	(0.4)	(1.8)
Macro Advisers	10/28/2009	0.8	0.8	0.8	0.9
		(1.4)	(1.1)	(0.9)	(1.1)

		Core CPI Inflation			
	Release Date	2009Q4	2010Q1	2009 Q4/Q4	2010 Q4/Q4
FRBNY	10/30/2009	1.3	1.1	1.7	1.3
		(1.2)	(1.1)	(1.6)	(1.3)
Median SPF	8/14/2009	1.3	1.5	1.3	1.4
		(1.3)	(1.5)	(1.3)	(1.4)
Macro Advisers	10/28/2009	0.9	0.9	1.6	0.9
		(0.9)	(1.0)	(1.6)	(0.9)

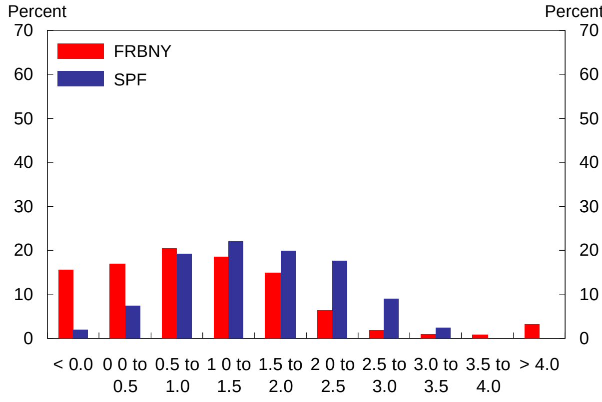
B. FRBNY Forecast Details

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

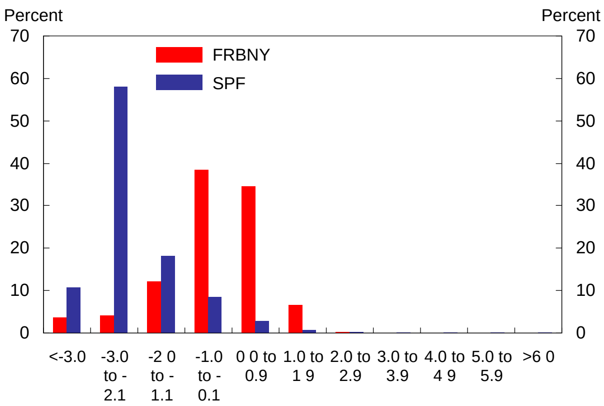
2009Q4/Q4 Core PCE Inflation Probabilities



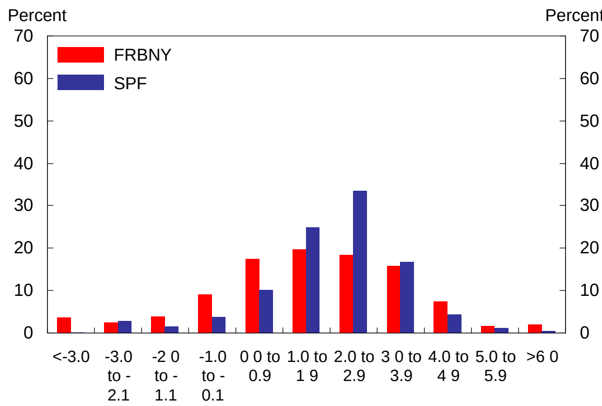
2010Q4/Q4 Core PCE Inflation Probabilities



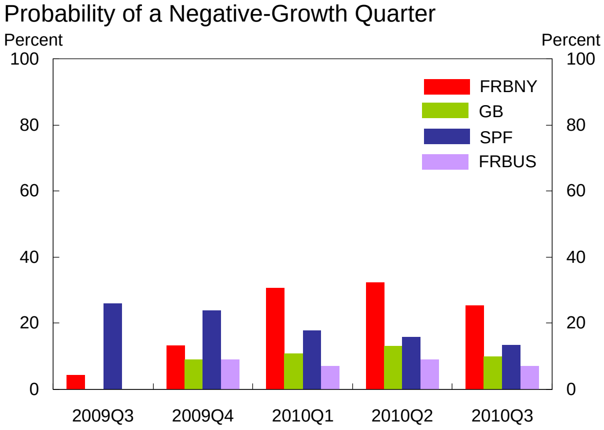
2009/2008 Real GDP Growth Probabilities



2010/2009 Real GDP Growth Probabilities



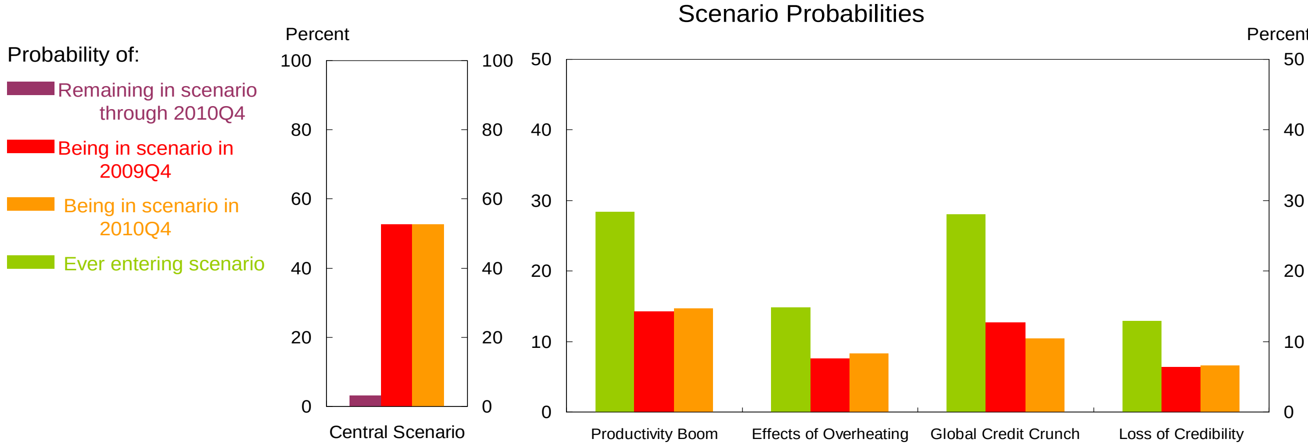
Probability of a Negative-Growth Quarter



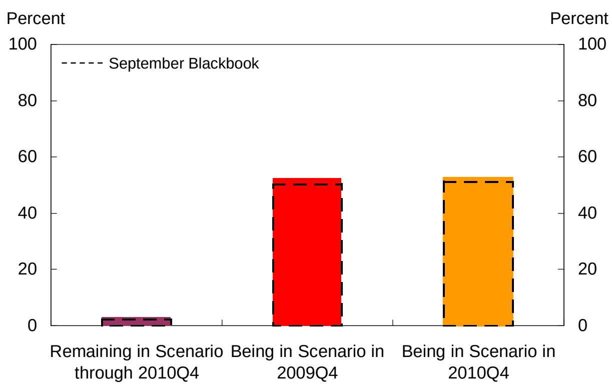
C. FRBNY Forecast Distributions

Exhibit C-1: Risks

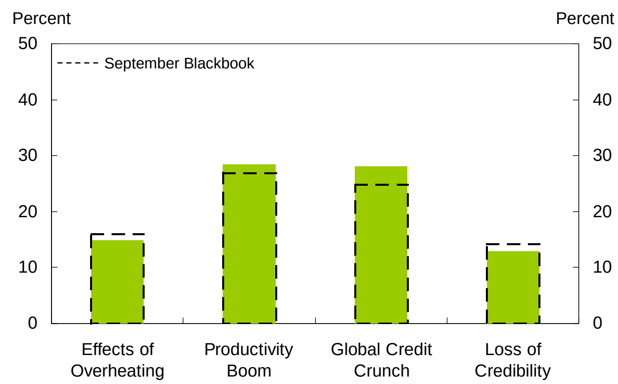
Scenario Probabilities



Change in Central Scenario Probabilities



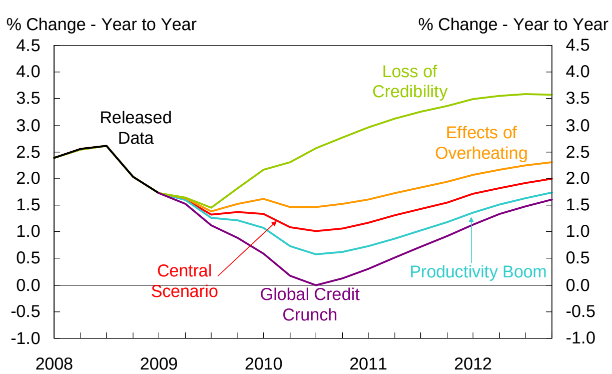
Change in Alternative Scenario Probabilities*



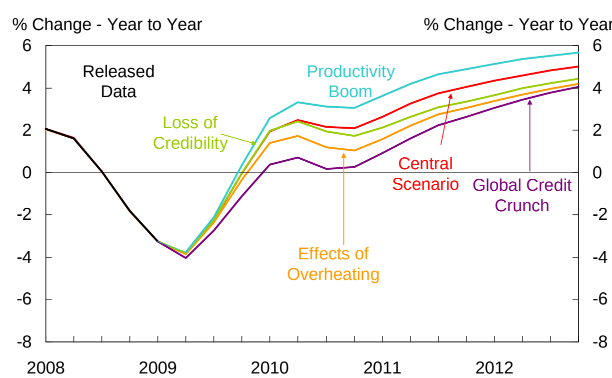
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

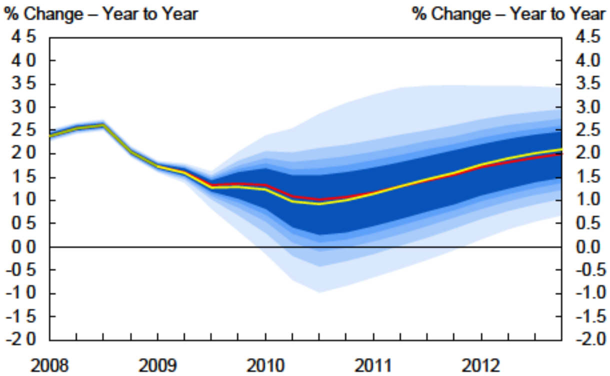


Source: MMS Function (FRBNY)

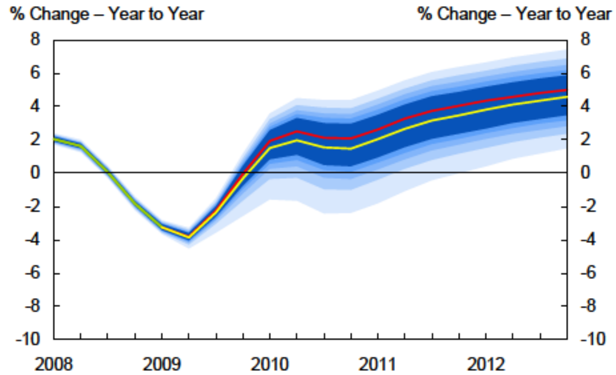
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

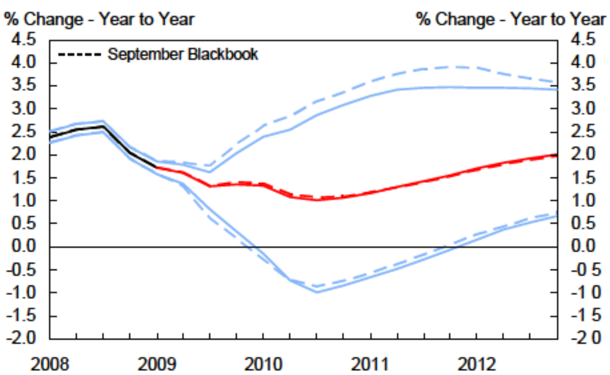


Real GDP Growth Forecast Distribution

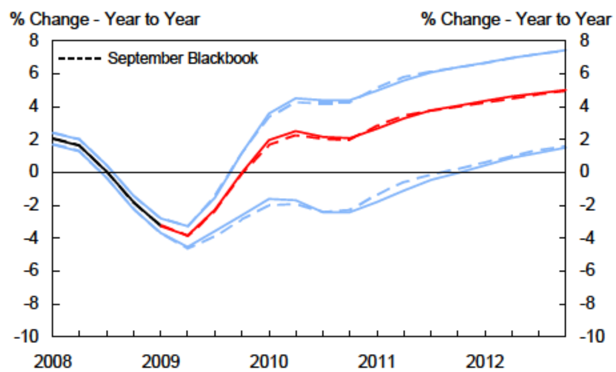


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

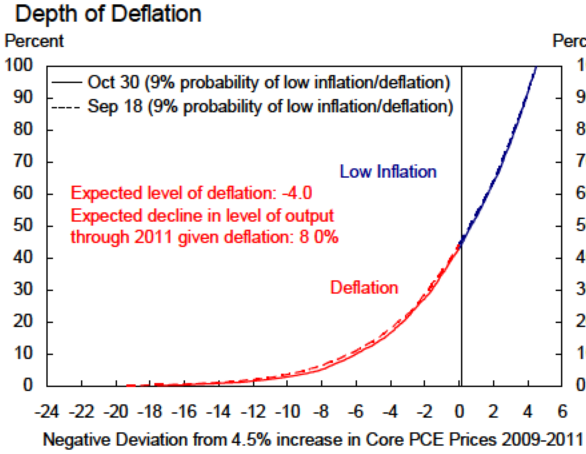


Change in Real GDP Growth Forecast Distribution

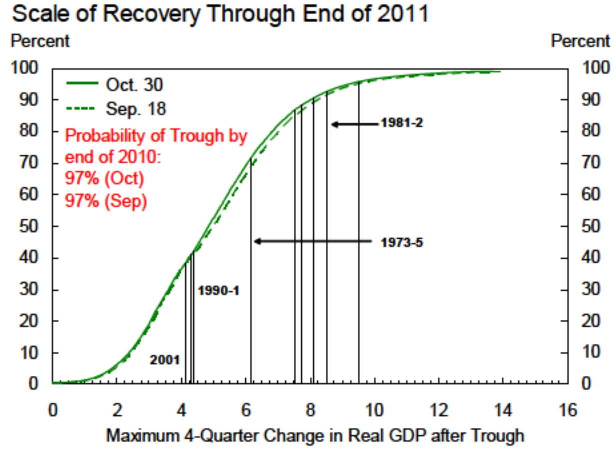


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Depth of Deflation



Scale of Recovery Through End of 2011

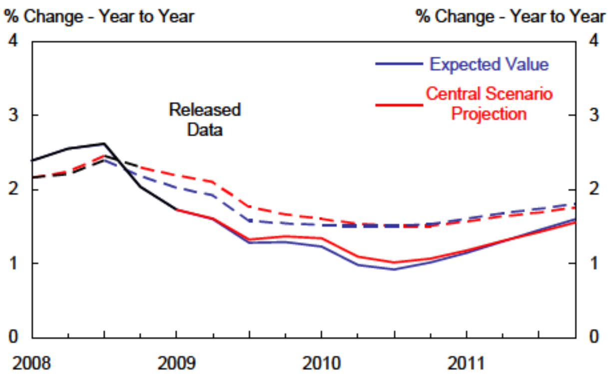


Source: MMS Function (FRBNY)

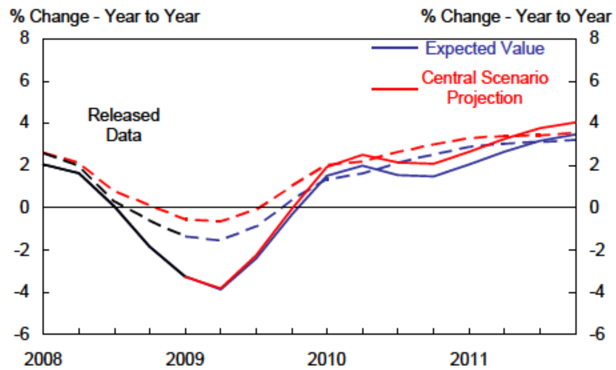
C. FRBNY Forecast Distributions

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

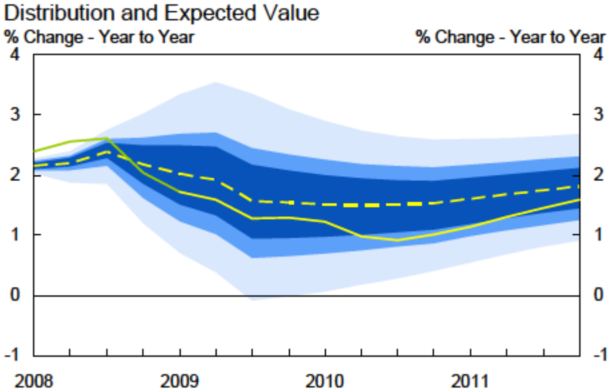
One-Year Comparison of Core PCE Inflation Forecast



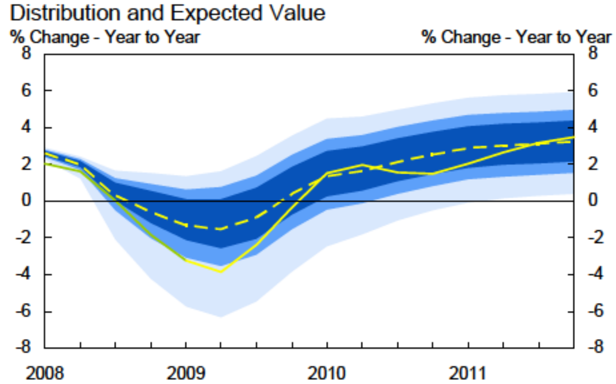
One-Year Comparison of Real GDP Growth Forecast



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



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



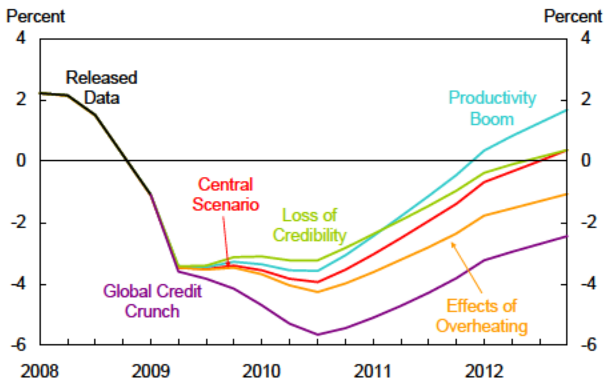
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the **September 2008** expected value. The shading represents the 50, 70 and 90 percent probability intervals from the **September 2008** forecast. The green lines are released data.

Source: MMS Function (FRBNY)

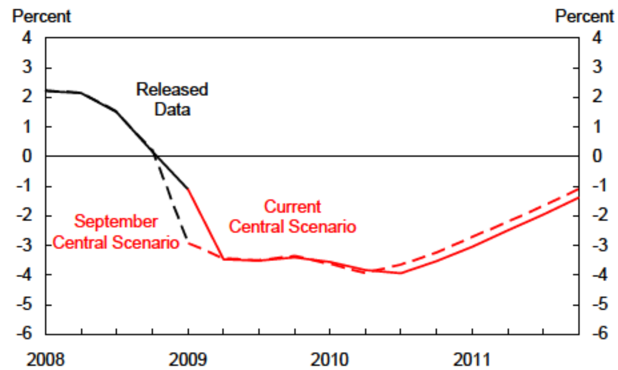
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

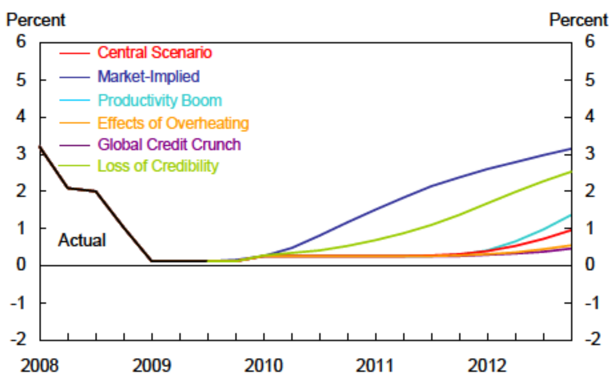
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

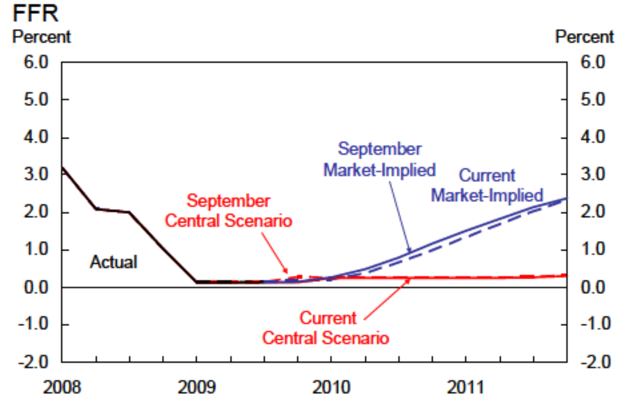
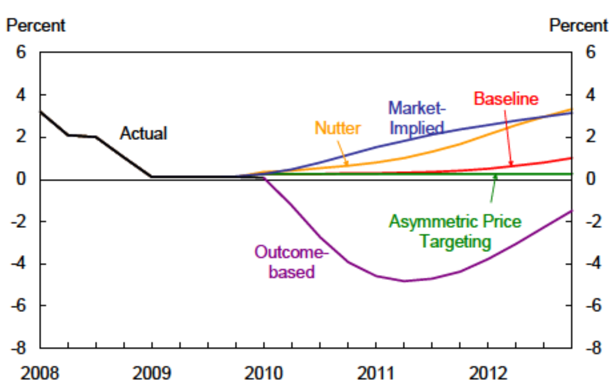


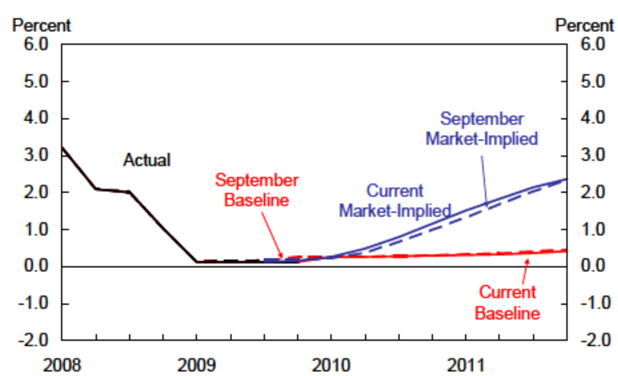
Exhibit D-2: Alternative Policy Rules under Expected Value of Forecast Distribution

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

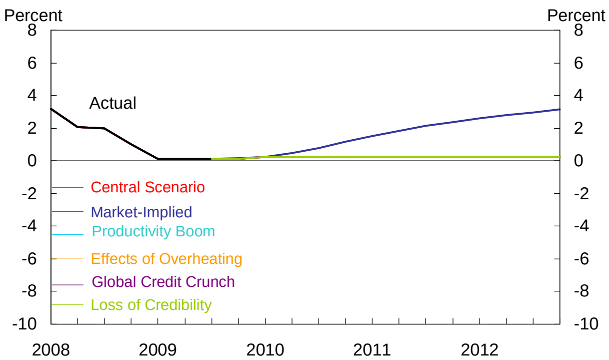
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

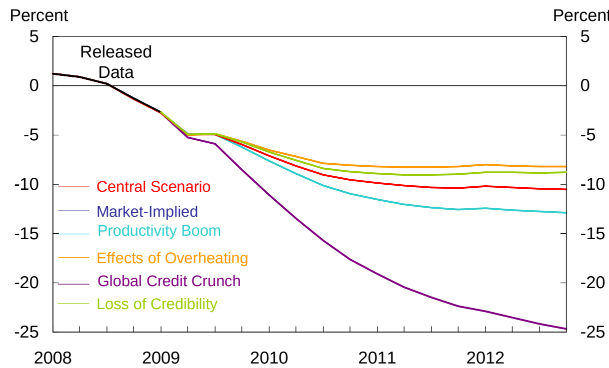
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

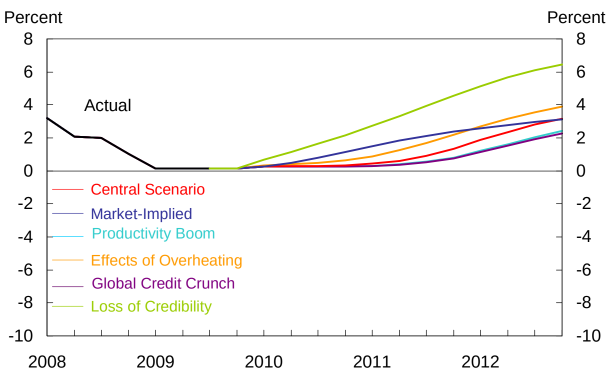


Real FFR under Alternative Scenarios

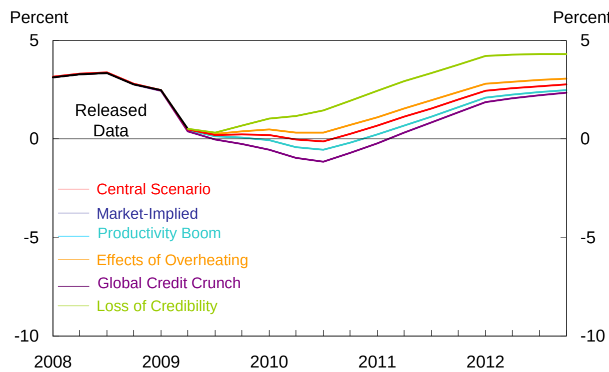


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios

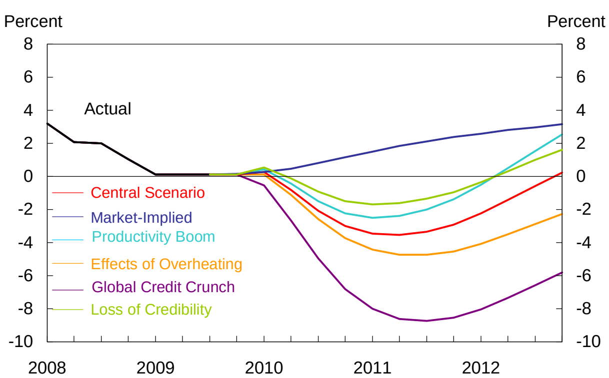


Real FFR under Alternative Scenarios

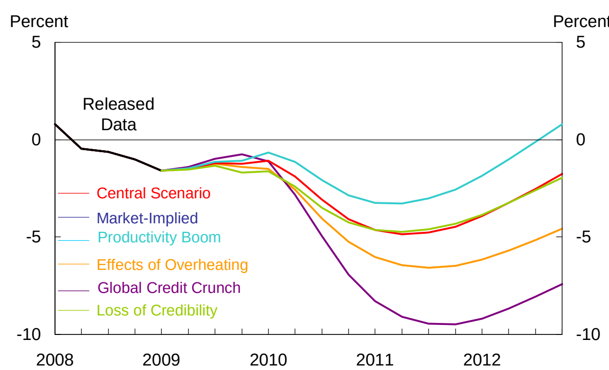


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



Real FFR under Alternative Scenarios



Source: MMS Function (FRBNY)

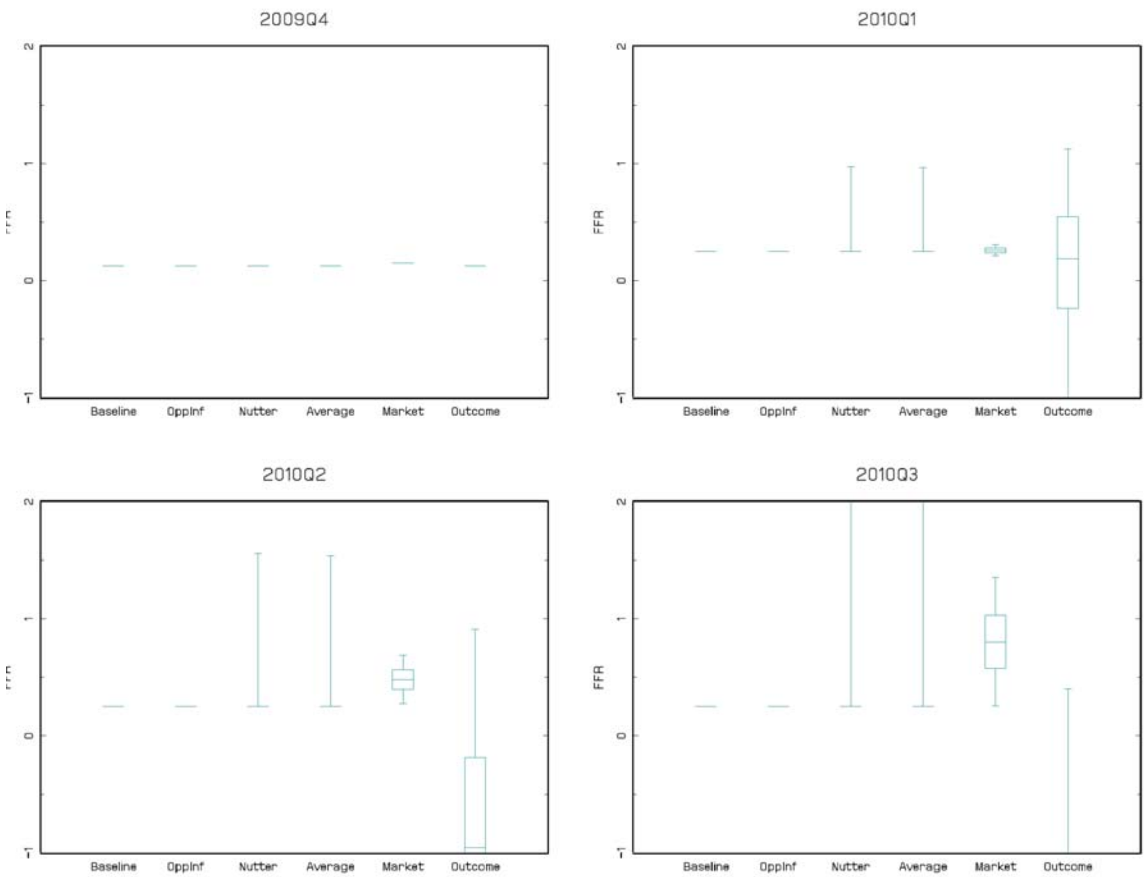
D. FRBNY Fed Funds Rate Projections

Exhibit D-4: Comparison between Market and Policy Rule FFR Expectations: 2009Q3

"Average" Weights:

Rule	Current	Sep Blackbook
Baseline	0.01	0.01
Opportunistic Disinflation	0.01	0.01
Nutter	0.98	0.98

Exhibit D-5: FFR Distributions

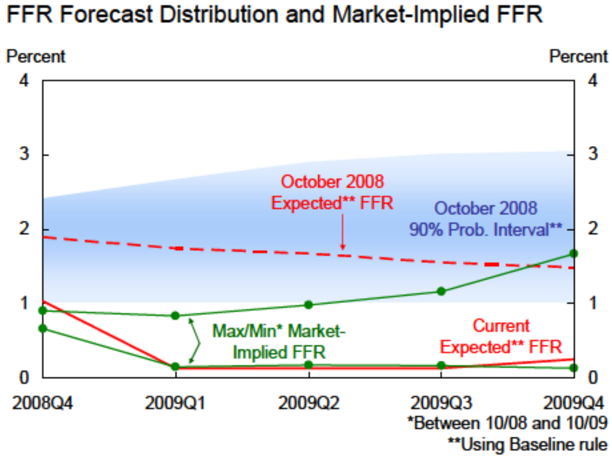


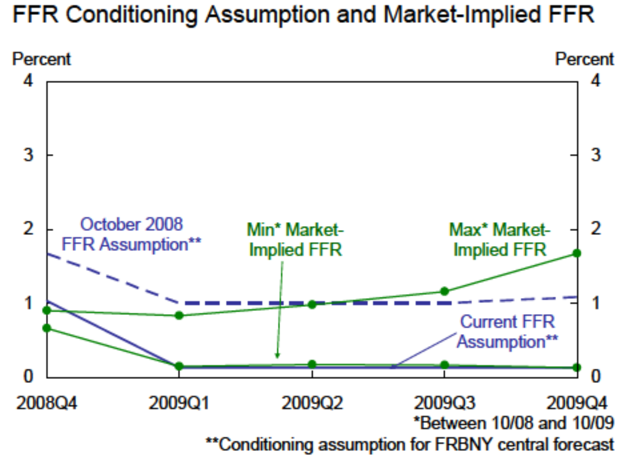
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

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