FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

August 2010

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK

August 2010

CONTENTS

EXHIBITS

EXHIBIT OVERVIEW

1. Policy Recommendation and Rationale

In light of recent developments that suggest a slowdown in the pace of the economic recovery, with considerable slack still remaining, we recommend that the target range for the federal funds rate remain at 0.00-0.25% until the end of 2011Q3, one quarter later than the recommendation in the June Blackbook. Extending by one quarter the period through which the federal funds rate is expected to remain in the 0.00-0.25% range maintains the same duration of the effective zero bound as in the last FOMC meeting. Such policy path is in line with current market expectations.

As in the June Blackbook, we also recommend a change in the Fed's balance sheet policy. The current policy of not reinvesting maturing agency debt and MBS works to reduce the size of the Fed's balance sheet. At this time, such a reduction in the balance sheet is undesirable given our outlook and the downside risks to both our inflation and growth forecasts. We recommend that the proceeds of maturing agency debt and MBS be reinvested instead. Because mortgage rates are very low and primary and secondary mortgage spreads remain tight, the reinvestment strategy should target Treasuries only. The Committee, however, should consider resuming the reinvestment in agency debt and MBS if mortgage spreads start to widen to a level that indicates a significant deterioration of mortgage markets conditions. At the same time, to address concerns about Federal Reserve independence and its ability to tighten policy at the appropriate time, the FOMC statement should communicate that the Committee retains the option to reduce the size and adjust the composition of the balance sheet if economic and financial conditions improve more quickly than expected.

We also recommend the Committee contemplate a modification of the forward guidance implicit in the "extended period" language. This change would provide greater clarity about our policy outlook and communicate our commitment to address deflationary pressures and a consequent rise in the real interest rate.

One possible modification would be to provide more explicit information about the Committee's conditional expectation regarding the likely timing of the policy liftoff.

Under this option, as the Committee's outlook and the expected timing of the policy liftoff evolve, the forward guidance should be altered, and eventually removed, to reflect such changes.

Another option would be to provide more detailed information regarding the Committee's policy reaction function. One approach to this option would be for the FOMC to announce a commitment to refrain from raising the policy rate until the expected gaps between the actual levels of unemployment and inflation and the mandate-consistent levels at some designated horizon have narrowed "substantially." A second approach would be to modify the forward guidance by quantifying the thresholds for the conditioning variables. If it were to adopt this approach, the Committee also would need to decide whether to express the guidance as hinging on one or both conditioning variables passing its threshold. Determining the thresholds might be challenging because participants have diverse assessments about the longer-run sustainable unemployment rate and the mandate-consistent inflation rate as well as the relative importance of each threshold. However, participants might find it easier to reach agreement on these issues than to reach agreement on a date for a time-dependent commitment policy.

The quantitative guideposts for the duration of the zero bound suggested above were made in terms of unemployment and inflation. There may be some advantages to specifying the latter guidepost in terms of the price level instead. In particular, realizations of the price level below the communicated path would automatically be countered by an expectation of a longer period of easing to make up for below-target inflation. In a number of theoretical models, this type of policy displays stabilizing effects.

The Committee also may help avert deflationary expectations from taking hold by stating a clear commitment to use all available tools, including balance sheet expansion, to quell any developing deflationary pressures.

2. Evolution of Outlook and Risks

2.1 Central Forecast

Based on the advance estimate, real GDP grew at a 2.4% annual rate in 2010Q2, somewhat below our estimate of 3.0% finalized just before the release. However, final sales to domestic purchasers grew at a 4.1% annual rate in the second quarter, the fastest rate of growth since the first quarter of 2006 and slightly faster than we expected. While real personal consumption expenditures grew at just a 1.6% annual rate, business fixed investment rose at a robust 17% annual rate, including an unexpected increase in nonresidential structures, and residential investment increased at a 28% annual rate. In addition, the inventory growth contribution was estimated to be 1.1 percentage points whereas we had expected a growth contribution near zero. Offsetting these various sources of strength, net exports were estimated to have had a growth contribution of -2.8 percentage points, a full 2 percentage points more than we expected. Exports grew a very healthy 10.4% (annual rate), in line with expectations. But imports soared, expanding at a 28.8% annual rate. The total and core PCE deflators rose at 0.1% and 1.1% annual rates, respectively, 0.2 percentage points less than we expected in both cases. Finally, with output of the nonfarm business sector up at a 2.6% annual rate while hours worked increased at an estimated 3 1/4 % annual rate, it appears that productivity growth was in the -0.5% to -0.75% annual rate range after rising very rapidly over the past year.

In addition to the advance estimate of 2010Q2 GDP, the recent release by the Bureau of Economic Analysis included revisions of the NIPA data for the past three years. Some of the key features of those revisions relevant for the forecast and assessment of risks are as follows. First, although the path of real GDP over the past few years is not materially different, the level of real GDP in 2010Q1 is about $100 billion or 3/4ths of a percentage point lower. Our estimate of the economy's potential growth rate, derived from an Okun's Law relationship estimated from cyclical peak (2001Q1) to cyclical peak (2007Q4), is unchanged at around 2 ½% (on a GDP basis), implying that the output gap is nearly a percentage point larger than previously thought. Second, the $100 billion decline of 2010Q1 real GDP is more than accounted for by a $134 billion or 1 ½ percent decline of real PCE, with the bulk of that decline is the services component. At the same time, the level of real disposable income in 2010Q1 was revised up by about $85 billion or 0.85%. This net result is that the personal saving rate has moved substantially higher over the past two years and in 2010Q1 is now estimated at 5.5% rather than the previous estimate of 3.5%. While the recent rate of growth of real PCE has been lowered, the higher personal saving rate suggests that the household sector has made more progress in the deleveraging process than previously thought. This in turn suggests that consumer spending in on a more sustainable path. Finally, trend consumer price inflation as measured by the core PCE deflator was revised up over the past few quarters. As of 2010Q1, the four-quarter change of that index is now 1.8% rather than the pre-revision value of 1.4%. This establishes a somewhat higher jumping off point for our forecast of core PCE inflation.

Recent high frequency data have been mixed but, on balance, suggest that the economy was losing some forward momentum going into the third quarter. For example, the annualized three month change of real PCE slowed from 2.7% in April to just 0.7% in June. Housing market activity slowed in May and June following the end of eligibility for the home buyer tax credit with no sign of any pickup in July. On the other hand, light-weight motor vehicle sales in July were reported to be 11.5 million units at an annual rate, up slightly from the 11.3 million unit average pace of 2010Q2. While it edged down somewhat from June, the ISM manufacturing composite index stood at 55.5 in July, a level consistent with moderate growth of manufacturing output. The ISM non-manufacturing composite index edged up ½ point to 54.3 in July, also a level consistent with continued moderate growth. Finally, the employment data for July were disappointing, but private employment and hours worked did continue to increase, albeit at a relatively sluggish pace. At this writing we believe that, given the current 2010Q2 NIPA data, growth of real GDP in the third quarter could be in the 1% to 1 ½% annual rate range. However, as is assumed in the Board forecast, it is quite likely that the Q2 inventory growth contribution will be revised lower, which would then boost the Q3 growth rate. The core PCE deflator is expected to increase at just a 0.9% annual rate in the third quarter, down from 1.1% in 2010Q2. This would lower the four-quarter change to 1.3%, down from 1.5% in 2010Q2.

Conditioning assumptions. As mentioned above, we continue to assume that potential GDP growth is around 2 ½% on a GDP basis. This is composed of 1% trend hours growth and trend productivity growth of around 1 ½% (on a GDP basis, which is equivalent to about 1 3/4% on a nonfarm business sector basis). The Board staff estimates of potential in the August Tealbook are 2.4% for 2010 and 2.5% for 2011, up by 0.1 percentage point from June in both cases.

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 FRBNY outlook for foreign real GDP growth in 2010 is essentially unchanged at 3.5% (Q4/Q4 on a GDP-weighted basis). Growth prospects in the Euro Area, the UK, Canada, and many emerging economies have been marked up somewhat while the growth outlook in China has dimmed slightly. For 2011 the foreign growth outlook is also essentially unchanged at 3.1% with the modest slowing of growth reasonably broad based. The Board staff projection for foreign GDP growth is 3.3% in 2010 and 2.9% in 2011, also essentially unchanged from June.

The projected path of oil prices has been raised slightly, with an expected WTI price of $79 per barrel for 2010Q4 and $82.50 per barrel for 2011Q4. The path for oil prices assumed by the Board staff is about $3 per barrel higher over the remainder of 2010 and about $4 per barrel higher in 2011.

Our core assumptions regarding fiscal policy are the same as that of the Tealbook. For FY2011 it is assumed that something like the President's budget proposal is enacted, in which case most of the 2001 and 2003 tax cuts are extended except for high income taxpayers. Overall, personal income taxes are expected to increase by about $50 billion

(0.3% of GDP). This change in policy is expected to result in federal fiscal policy being essentially neutral for growth in 2011 after providing a boost of about ¾ percentage point to GDP in 2010.

As is our usual practice, our assumptions for equity prices and the real exchange value of the dollar are similar to those of the Tealbook. Equity prices are assumed to increase at a 16% annual rate through the end of 2011 as the equity premium returns to more normal levels. The Board now anticipates an appreciation of 0.6% over the four quarters of 2010 rather than a 4% appreciation assumed in June. For 2011 the dollar is expected to depreciate by 2.5% rather than the previous 4.9%. The 2011Q4 level is roughly comparable to what was assumed in June.

Finally, our assumption regarding the future path of the Loan Performance Home Price Index is also the same as the Board's. Due to recent firming in home prices, that index is assumed to be essentially flat over the forecast horizon. For 2011Q4 that means the index is roughly 3% above the level assumed in June.

The Outlook. In terms of the broad outlines, the performance of the economy in 2010 has been reasonably close to our expectations. Indeed, our current projections for growth of real GDP and for the increase of the core PCE deflator in 2010 are essentially the same as those presented in the March Blackbook. The economy is recovering, albeit grudgingly, with sluggish growth of employment, persistently high unemployment, and downward pressure on core inflation resulting from an unusually large output gap. As the positive impulses to growth from the inventory cycle and the fiscal stimulus package of spring 2009 have begun to wane, there is increased concern about the possibility that the economy will slip back into recession. While that probability is certainly not zero, we believe it to be relatively low. Many of the structural adjustments that must take place before a vigorous recovery can take hold are actually relatively far along. Consumers have boosted their saving and dramatically lowered the share of their after-tax income devoted to long-term financial obligations. As part of that process, the growth of the net stock of consumer durable goods has slowed to a crawl, suggesting that pent up demand is building. The same can be said of housing and business investment in equipment and software. Production of new housing has been at extremely low levels for some time. There are anecdotal reports of increasing tightness in apartment rental markets such that rents are beginning to firm. Business investment in equipment and software has been surprisingly robust for the past three quarters despite relatively low capacity utilization rates. Even in commercial real estate there are encouraging signs as hotel occupancy and room rates are increasing and the office vacancy rate appears to have peaked. The structural adjustment in the state and local government sector is also farther along than one might expect, with employment in that sector down by 300,000 or 1.5% over the past year and a half. Finally, exports continue to grow at a rapid pace while growth prospects for many of our important trading partner among the emerging economies are quite bright.

Going into 2011 we expect the underlying fundamentals of the economy to continue to improve, with growth picking up to around 4%. This is sufficiently above potential that the unemployment rate should begin to decline in a meaningful way. Further forward momentum is likely to be established in 2012, with 5% growth in GDP and a fall in the unemployment rate to around 5 ½% to 6% by the end of the year. Underlying this projection is the expectation that financial market functioning remains normal and that consumer and business confidence and the general appetite for risk continue to recover. With household income and balance sheets improving and credit flowing more normally, the substantial pent-up demand for consumer durables, housing, and business equipment and software will start to be satisfied. Moreover, the structural adjustments of state and local governments and of the commercial real estate sector will likely have run their course by that time.

Barring a significant decline in the level of the economy's potential output or its potential growth rate, this point forecast implies that a large output gap will persist over most of the forecast horizon. Accordingly, we expect core inflation to slow to around 1% (Q4/Q4) in 2010. But by late 2011 and into 2012, as final demand firms within the context of anchored inflation expectations, we expect core inflation to move up to within the “mandate consistent” range.

2.2 Alternative Scenarios and Risks

The risk assessment has become somewhat worse since June. Concerns about lackluster growth originating from the 2010Q2 GDP report and other recent data releases have out-weighted the positive news from European financial markets following the relative success of the stress tests.

Exhibit C-1 shows that the *Productivity Boom* scenario is still the most likely scenario. Its associated probability has declined by a few percentage points however. Although data revisions have confirmed that productivity was strong in recent quarters, the disappointing 2010Q2 GDP figure indicates that a strong productivity-driven rebound is less likely than in June. The likelihood of the *Loss of Credibility* scenario has also decreased slightly following the retrenchment of TIPS breakeven rates and low inflation readings. The increase in the downside risks for output and inflation are captured by a slight increase in the likelihood of the *Global Credit Crunch* scenario. The probabilities associated with all other scenarios are roughly unchanged.

Exhibit C-2 shows the paths associated with the various scenarios. These paths have shifted mainly as a result of the change in the *Central Scenario* (recall that all alternative scenarios are defined relative to the *Central Scenario*). Similarly, the changes in the forecast distributions for core PCE inflation and GDP growth mainly reflect the data from the advanced GDP release. As Exhibit C-3 shows, the decrease in the likelihood of the *Productivity Boom* scenario translates into a downward shift in the 95th band of the forecast distribution for GDP growth. These minor changes in the forecast distribution are reflected in equally small changes in both the “Large Price Level Deviations” and “Scale of Recovery Through End of 2011” charts. The probability of average inflation in 2010-2012 being less than 1.5% is about the same as in June (15%). The likelihood of a sluggish recovery has increased as a consequence of the decreased probability of the *Productivity Boom* scenario. Exhibit C-2 also shows, for comparison, the mean forecasts from the FRBNY DSGE model. The forecasts for inflation are nearly identical to the expected value of the FRBNY forecast distribution. Those for output are close to the *Central Scenario* in the short run. Unlike the *Central Scenario* forecast, however, the DSGE model does not foresee a rebound in output in 2011 and 2012.

Finally, Exhibit C-4 shows the evolution of our forecasts relative to 12 months ago. The actual paths for output and inflation are mostly within the 50% probability bands generated a year before, indicating that in mid-2009 the probability distribution embedded in the forecasts appropriately reflected the risks the U.S. economy was to face in the following 12 months. The beginning of the current year is the main exception, in that the forecasts under-predicted the strength of the recovery in output.

3. Forecast Comparison

3.1 Tealbook Comparison.

The Tealbook and Blackbook forecasts for real GDP growth have been lowered relative to June. The Board's staff's downward revision for 2010 (Q4/Q4) has been more substantial. Their projection for real GDP growth in 2010 now coincides with ours. For 2011, the revisions in the Tealbook and Blackbook forecasts have been of the same magnitude. Therefore, as in June, the Tealbook still projects real GDP growth almost half a percent lower than the Blackbook.

The Tealbook and Blackbook forecasts of core PCE in 2010 have been modestly revised upward and remain aligned. The Board's staff has also increased their forecast of total PCE inflation in 2010 while our projection has remained unchanged. As in June, the Board staff's inflation forecast for 2011 remains lower than ours both for core and total PCE.

Conditioning Assumptions. The Board staff assumes that the start of the renormalization process for the Federal Funds Rate (FFR) will take place in the fall of 2012, one quarter later than in the June Tealbook. Our forecast still features an earlier liftoff, although it now assumes that the average FFR in 2011Q4 will be 0.50%, a half percentage point lower than in June. In terms of non-traditional policy actions, the

Tealbook continues to assume that the Federal Reserve will start selling agency debt and MBS at a gradual pace at the beginning of 2013, implying a smaller balance sheet that will be more concentrated in Treasury securities.

The Tealbook assumes a lower, albeit steeper, path for the 10-year Treasury yield compared to June. This change reflects both the expectation of further substantial debt issuances by the Treasury in coming years and the decrease in the System's holdings of long-term securities. Relative to June, the Board's staff has also shifted down further the projected path of mortgage rates, which are, however, expected to rise with Treasury yields, reaching about 5.25% by the end of 2011. The path of equity prices in the Tealbook is essentially unchanged compared to June.

The Board's staff has introduced minor modifications to their fiscal policy assumptions relative to June. Federal fiscal policy is now expected to provide a touch less impetus to aggregate demand, mostly due to lower transfer payments to the unemployed and lower grants-in-aid to state and local governments.

The Board staff's assumption for foreign growth is essentially unchanged relative to June. The news coming from Europe, both in terms of economic indicators and financial markets' response to the bank stress tests, has been positive. However, GDP growth in China has been softer than anticipated. On balance, these two forces have had offsetting effects on the Tealbook foreign growth outlook. Our forecast also features a similar assumption about foreign growth.

The Board's staff expects that the dollar will remain near its current levels for the rest of the year and that it will depreciate by about 3.5% in 2011. This path is somewhat lower than expected in the June Tealbook and is very close to the assumption in our forecast.

Finally, in response to recent increases, the Tealbook now projects a higher path for oil and other commodities prices, especially in the short run. Our forecast also assumes a higher path for oil prices than in June, although at a slightly lower level than the Tealbook.

Inflation. The Tealbook forecast for core PCE inflation in 2010 (Q4/Q4) is now slightly higher than in June at 1.1% while the Blackbook projection edged up to 1.0%. We continue to disagree with the Board Staff on the core PCE projections for 2011. The Tealbook projects core PCE inflation at 0.9% in 2011 (up from 0.8% in June), while our projection is 1.3% (unchanged since June).

Real Activity. Compared to June, the Tealbook forecast for GDP growth in 2010 (Q4/Q4) decreased by 0.5 percentage points to 2.7% while the Blackbook forecast decreased by 0.3 percentage points to 2.7%. The two forecasts now exactly coincide with some minor differences in the decomposition of the growth contributions.

The Tealbook forecast for GDP growth in 2011 (Q4/Q4) has been decreased by 0.1 percentage points to 3.6% relative to June. The FRBNY forecast has also been decreased by the same amount and is now 4.0%. Our forecast remains higher in spite of a lower growth contribution from consumption. The compensating factors in our forecast that make up for this difference are higher growth contributions from inventory investment and net exports.

The Tealbook and Blackbook projections for unemployment in 2010Q4 are close to each other (9.7% and 9.5% respectively), although these numbers reflect revisions in opposite directions relative to June. For 2011Q4, the Tealbook forecast increased from 8.6% to 8.9% while our forecast moved down from 8.2% to 8.1%.

During the intermeeting period, both the FRBNY and the Board staff projections for payroll employment in 2010 were revised, again in opposite directions. We now forecast payroll employment to increase 1.7 million (compared to 1.3 million in June), while the Tealbook forecast is 1.2 million (compared to 1.6 million in June). For 2011, the

FRBNY staff forecasts an increase of 3.9 million (0.3 million below June) while the Board staff expects an increase of 3.1 million, down by 0.3 million relative to June.

International trade. The trade deficit widened from a revised $40.3 billion in April to $42.3 billion in May. Both export and import volumes increased in May, with an unexpected jump in nonoil imports of 5.6 percent over the previous month. Export volumes rose 2.3 percent, in line with expectations and trend growth. The oil bill was down $2.8 billion over the previous month, mainly due to a fall in oil volumes, with prices only falling marginally. According to the GDP advance release, net exports will subtract 2.8 percentage points from GDP growth in 2010Q2.

Uncertainty around forecasts. Both the Tealbook and Blackbook risk assessments have changed relative to June. As in the last FOMC cycle, the FRBNY forecast continues to have more downside risk to inflation in 2010 as captured by the lower bound on the 70% confidence intervals. The lower bound of the FRBNY forecast for 2011 is slightly below that of the Board. For 2012, the Board forecast continues to assign a higher probability to lower inflation realizations. The Board staff's inflation rate projections for 2011 and 2012 continue to be in the lower half of our inflation forecast distribution, even though there is some convergence relative to June.

Our forecast for real activity continues to have somewhat more downside risk than the Tealbook forecast. Both the FRBNY and Board intervals for real GDP growth narrowed with the upper bounds declining by 0.5 and 1 percentage point, respectively. The Board staff's projection remains balanced (with similar upside and downside risks), while our forecast continues to have substantially more downside risk. As a result, the Tealbook point forecast in 2010 remains in the right tail of our real GDP forecast distribution. The Tealbook relatively more pessimistic point forecasts for 2011 and 2012 are close to the center of our output forecast distribution.

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

	Core PCE Inflation		Real GDP Growth	
	FRBNY	*Board*	*FRBNY*	*Board*
2010	0.3, 1.6 (0.0, 1.4)	0.7, 1.4 (0.3, 1.3)	0.8, 4.0 (0.8, 4.5)	1.9, 3.6 (1.9, 4.5)
2011	0.1, 1.9 (0.2, 1.9)	0.2, 1.6 (0.1, 1.6)	1.2, 5.9 (1.4, 6.0)	1.8, 5.5 (1.8, 5.5)
2012	0.7, 2.3 (0.8, 2.4)	0.0, 2.0 (n/a)	2.3, 6.8 (2.5, 6.8)	2.9, 6.7 (n/a)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2010	60 (55)	53 (58)
2011	48 (43)	48 (47)
2012	29 (22)	51 (50)

Alternative Tealbook forecasting scenarios. The August Tealbook considers seven alternative scenarios. Five of these are similar to scenarios in June. The two new scenarios feature alternative risks arising from the foreign sector, one on a potential double-dip recession in Europe and the other on the further depreciation of the U.S. dollar.

The *Weaker Recovery* scenario considers slower improvements of overall economic conditions, leading households and firms to hold back spending through 2011. In addition, equity prices are assumed to fall about 10 percent relative to the baseline by the end of 2011. In this scenario, real GDP grows only at 1.6 percent in 2010H2, compared to 2.5 percent in the baseline, and unemployment remains above 9.5 percent until the end of 2011. Inflation is little affected by the alternative scenario since the disinflationary effects of greater slack and the higher labor costs due to low productivity offset each other. The liftoff of the FFR is delayed until mid-2013 and the additional stimulus leads to higher GDP growth in 2013-2014.

Another pessimistic scenario is the *Lower Potential*, which assumes that output is only 4 percent below potential rather than 7.8 percent in the baseline. The scenario of higher NAIRU and lower potential output is considered in light of the extremely high level of long-duration unemployment and the consequences of unprecedented disruptions in the financial system. Real GDP grows one percentage point less on average than in the baseline through 2014. Unemployment stays above baseline throughout the forecast horizon and reaches 7.4 percent in 2013-2014, instead of 5.3 percent in the baseline. Prices accelerate faster and core PCE inflation rises to 1.4 percent in 2011 and almost 2.0 percent by 2014. Less slack in the economy and higher inflation imply an earlier liftoff of the FFR in the mid of 2011.

The more optimistic scenario is the *Virtuous Circle*, where spending on consumer durables and capital expenditure bounce back more rapidly driven by optimism and improved financial and labor market conditions. The strong activity reinforces optimism, leading to a rise in equity prices of 12 percent above baseline by the end of 2011. The virtuous circle causes real GDP to grow at 5.3 percent on average in 2011-2012 and unemployment to decline to 8.5 percent by the end of 2011 and to the NAIRU by 2013. Less slack leads to higher inflation, although the upward pressure is moderated by more capital deepening and faster productivity growth, as well as by an earlier beginning of the tightening cycle.

The next two scenarios evaluate opposing risks to inflation. The *Higher Inflation* scenario considers the potential risk of underlying inflation being higher than suggested by recent inflation readings and the possibility of above-trend growth placing upward pressure on inflation. Anticipating core PCE inflation of 1.6 percent in 2011, policy makers respond by increasing the FFR starting in late 2011. Tighter monetary policy leads to slower GDP growth in 2012. The *Great Disinflation* scenario considers the symmetric risk to the inflation outlook and assumes that both expected and actual inflation fall significantly and remain around zero from 2011 through 2014. As a policy response, the FFR remains near zero until the end of 2013, spurring economic growth above baseline.

The last two scenarios consider risks stemming from the foreign sector. The *Double-Dip Recession in Europe* assumes a contraction of European GDP by 0.75 percent in 2011 and 3 percent below baseline by the end of 2011, a reduction in European GDP that is line with recent stress test assumptions. A drop in foreign demand and the associated dollar appreciation decrease GDP growth by 0.5 percentage points and core PCE inflation by 0.2 percentage points below baseline in 2011. The *Dollar Depreciation* scenario assumes that the broad real dollar depreciates 10 percent below baseline by mid-2011, as a result of factors such as faster-than-expected foreign growth and enhanced risk appetite for foreign assets. A rise in net exports leads to higher GDP growth by 4.3 percent in 2011 instead of 3.6 percent in the baseline. Core PCE inflation is also higher, equal to 1.3 percent in 2011 instead of 0.9 percent in the baseline. The FFR is higher than in the baseline in 2012, leading to lower GDP growth in 2013 and 2014.

3.2 Comparison with Private Forecasters[1]

The FRBNY forecast for GDP growth is well below all private forecasts both for 2010Q3 and, to a lesser extent, for 2010 (Q4/Q4). The difference in the 2010Q3 projections is likely a result of the earlier release dates of the private forecasts. Our inflation projections for 2010 are generally consistent with those of private forecasters except for our forecast of CPI inflation in 2010Q3, which is considerably lower than the private forecasters' projections. For 2011 (Q4/Q4), the FRBNY forecasts of all inflation measures remain above Macro Advisers' but close to the other private forecasts (Median SPF and Blue Chip).

GDP Growth. Relative to the last FOMC, all private forecasts for 2010 (Q4/Q4) have been revised downward. The FRBNY forecast is now 2.7%, down from 3.0% in the June

[1] The details of the forecast comparison are in Exhibit B-8. Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (7/10), SPF (5/14), Macro Advisers (7/8), and the PSI Model (8/1). Quarterly numbers are SAAR.

Blackbook, and remains below Blue Chip (2.9%), Median SPF (3.1%) and Macro Advisers (3.2%). Compared to the previous Blackbook, the FRBNY forecast for 2011 (Q4/Q4) has been slightly reduced to 4.0% (down from 4.1%). Our projection remains in line with Macro Advisers (4.0%) but above Blue Chip (3.0%).

Inflation. The FRBNY projection for core PCE in 2010 (Q4/Q4) has been slightly revised upward from 0.9% in the June Blackbook to 1.0%. Our projection is the same as the Macro Advisers and slightly below the Median SPF (1.2%). Our 2011 (Q4/Q4) forecast for core PCE inflation (1.3%, unchanged from the last Blackbook) lies between the Median SPF (1.6%) and Macro Advisers (0.9%). Our forecasts for headline CPI inflation in 2010 (Q4/Q4) is 0.6%, close to Macro Advisors (0.8%) but well below both the Median SPF (1.6%) and Blue Chip (1.0%). The FRBNY projection for core CPI in 2010 (Q4/Q4) is 0.9%, close to the Median SPF (1.0%) but higher than Macro Advisers (0.6%).

4. Robustness of Policy Recommendation

4.1 Sensitivity to Alternative Scenarios and Policy Rules

Our current policy recommendation is to maintain the target range for the federal funds rate at 0–0.25% until the end of 2011Q3 – one quarter later than in the June Blackbook. This recommendation is consistent with the *Baseline* policy rule under all but the *Loss of Credibility* scenario [Exhibit D-1], as well as under the expected value of the forecast distribution [Exhibit D-2]. Under the *Loss of Credibility* scenario the FFR renormalization starts in 2011Q1, which is when inflation rises above target under this scenario. Under all other scenarios the FFR starts increasing no earlier than 2012.

Exhibit D-3 shows the prescriptions from alternative policy rules. Not surprisingly, under the *Loss of Credibility* scenario the *Nutter* rule, which entails a strong response to inflation and no response to the output gap, prescribes the first rate increase in the current quarter. all other FFR paths do not differ significantly from our policy recommendation. The *Asymmetric Price Targeting* rule results in FFR paths close to zero until the end of the forecast horizon for all scenarios. For the *Outcome-based* rule we show the implied nominal FFR ignoring the zero bound. Under the expected value of the forecast distribution the unconstrained nominal FFR is about -4% by 2011Q4 and remains below -2% through the end of the forecast horizon [Exhibit D-2].

Exhibit D-1 shows the real FFR rates implied by the baseline rule under the various scenarios ignoring the zero bound constraint. The *Baseline* rule under the *Central* scenario implies a real rate of about -4% in the current quarter. Exhibit D-3 shows the real rate (under alternative scenarios) for *Asymmetric Price Targeting*, the *Nutter*, and the *Outcome-based* rules.

We also use the DSGE model to assess the current stance of monetary policy. We perform a counterfactual exercise by eliminating current and past policy shocks. We find that the DSGE model \ predicts a counterfactual FFR for the current quarter roughly in line with the policy rate.

4.2 Comparison to Market Expectations

The market-implied FFR path shifted down during the intermeeting period and now implies a start of the renormalization process in late 2011 (using the Board's assumptions concerning term premia), consistent with our policy recommendation. The distribution of responses from the primary dealers survey about the timing of the FFR lift-off shifted considerably toward later dates, mirroring the evolution of the market-implied FFR path. The mode of the distribution is now 2011Q3, and only a minority of respondents currently believes that the start of the renormalization will occur before the second half of 2011.

Special Topic

The Annual NIPA Revision

Charles Steindel Redacted

The new NIPA numbers suggest that the recession was deeper, and that consumers have been retrenching more aggressively, than had been earlier seen.

The annual mid-year revision of the National Income and Product Accounts (NIPA) did not fundamentally change our assessment of the economy, though some significant details of the recent past were altered. Most notably, the new numbers suggest that the recession was deeper, and that consumers have been retrenching more aggressively, than had been earlier seen. The revisions also seem to support recent calls to pay greater attention to initial estimates of Gross Domestic Income (GDI), though this argument can be overstated.

Output, Inflation, and Potential

The new numbers on real GDP growth show that the economy grew less over the course of 2007 and 2008, but a tad more during 2009 (Figure 1). The recession—which we date as starting in 2007:Q4 and ending in 2009:Q2—shows a somewhat larger peak to trough loss of output (Figure 2), but the first three quarters of recovery (2009:Q3 to 2010:Q1) was, on average, little changed (quarterly output growth was reduced in the second half of 2009 but boosted in 2010:Q1).

Looking at the whole period from the end of 2006 on (the revised data start in 2007:Q1), cumulative growth in real GDP was reduced by approximately 1 percentage point (Figure 3). This reduction in the path of real output will alter the productivity path. Figure 4 compares the current productivity numbers with our expectations for the revised figures (which will be released on August 10). It appears as if there will be a large downgrade to 2008 productivity growth, but only minor changes before or since.

On balance, there was little in the revisions to change our view of inflation. While core PCE price growth was boosted modestly for recent quarters, these increases were concentrated in the "non-market" components—market-based core was little-changed (Figure 5 and 6). The combination of a reduced real output path with no change in inflation could imply that estimates of the output gap should be little changed.

Consumer Spending and Saving

One of the most striking details in the revision was a significant cut in the growth of real consumer spending since the start of 2009 (Figure 7). The new figures show real consumption has risen less than 2 percent since mid-2009.

The lower path for consumption, coupled with noticeably higher figures for disposable income (in large part reflecting higher estimates for dividends) have resulted in dramatically higher figures for, and a much sharper rebound in, the personal saving rate (Figure 8). The saving rate is estimated to have averaged about 5 3/4% in the first half of 2010, compared to the 2007 reading of roughly 2%.

The implications of the new household sector data for the outlook are unclear. The first impression is that households may be on a path to pushing the saving rate to even higher levels. If so, gains in consumer spending could be very limited, especially if federal support to household income is reduced or reversed by possible tax increases associated with the expiration of the Bush tax cuts. The counter argument, though, would be that consumers now appear to have greater means to ramp up spending growth, while still sustaining higher saving rates.

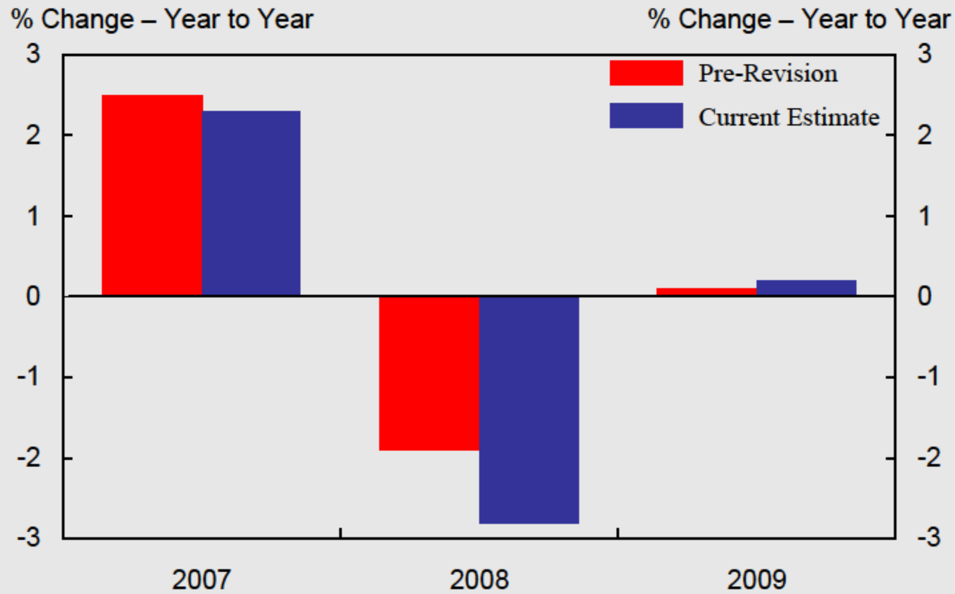
GDI vs. GDP

Some recent analysis has argued that Gross Domestic Income (GDI) may be a more reliable indicator of aggregate activity than GDP.[1] Prior to this revision, it had been observed that GDI estimates since the middle of 2007 were noticeably smaller than those for GDP (Figure 9). The argument was advanced that the shortfall of GDI relative to GDP suggested that GDP had been overstated and would be revised down. Advocates of this view will likely find vindication in the downward revision in GDP, and it will surely be the case that, going forward, greater attention will be paid to GDI.

Nonetheless, the revision does not prove that preliminary estimates of GDI are more reliable than preliminary estimates of GDP. Most importantly, there were downward revisions in GDI in line with those in GDP—the statistical discrepancy (the difference between nominal GDP and nominal GDI; a positive value means the level of GDP is higher than the level of GDI) was only moderately changed (Figure 10).

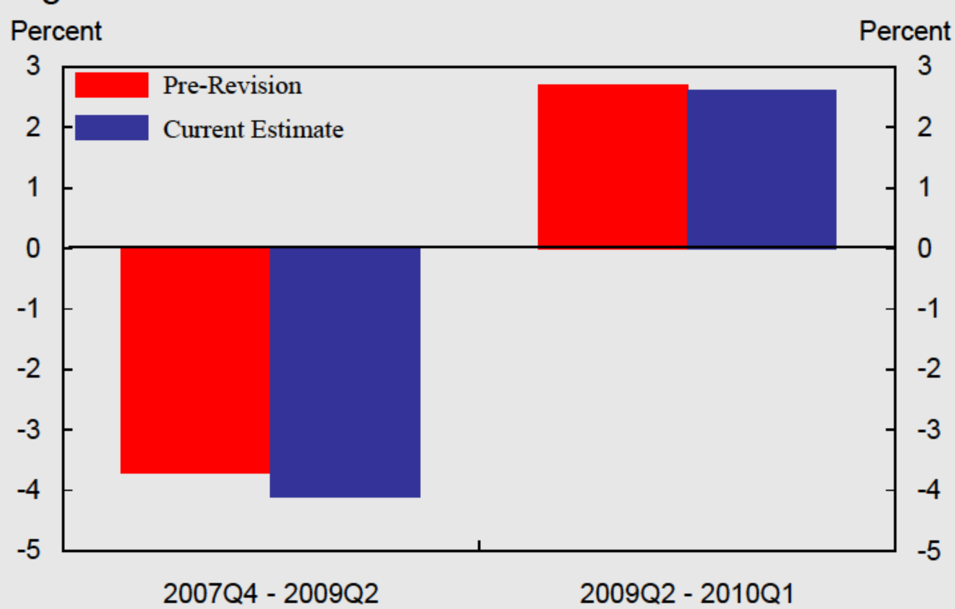
[1] For instance, Jeremy J. Nalewaik, "The Income- and Expenditure-Side Estimates of U.S. Output Growth," *Brookings Papers on Economic Activity,* Spring 2010.

Figure 1: Real GDP Growth



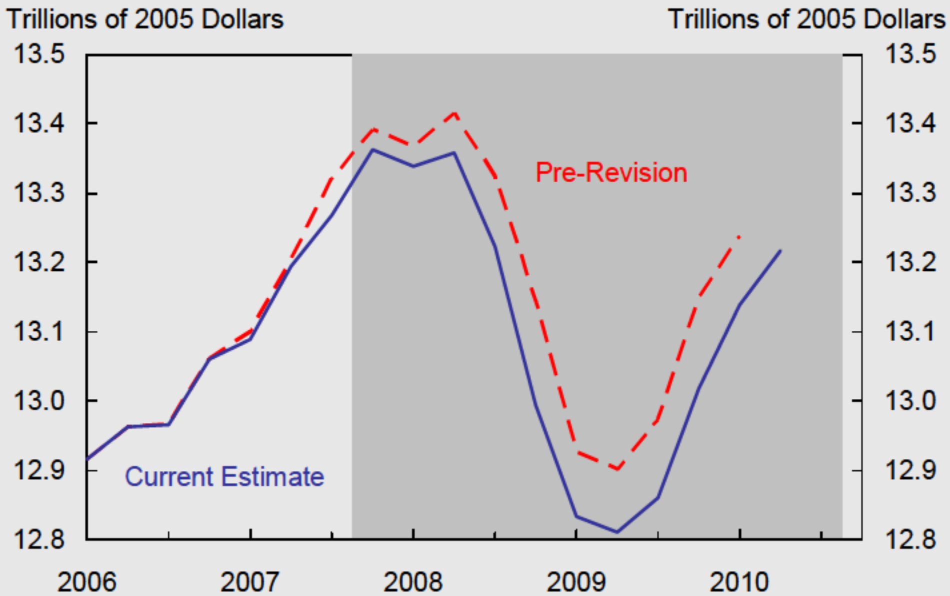
Source: Bureau of Economic Analysis

Figure 2: Real GDP Growth



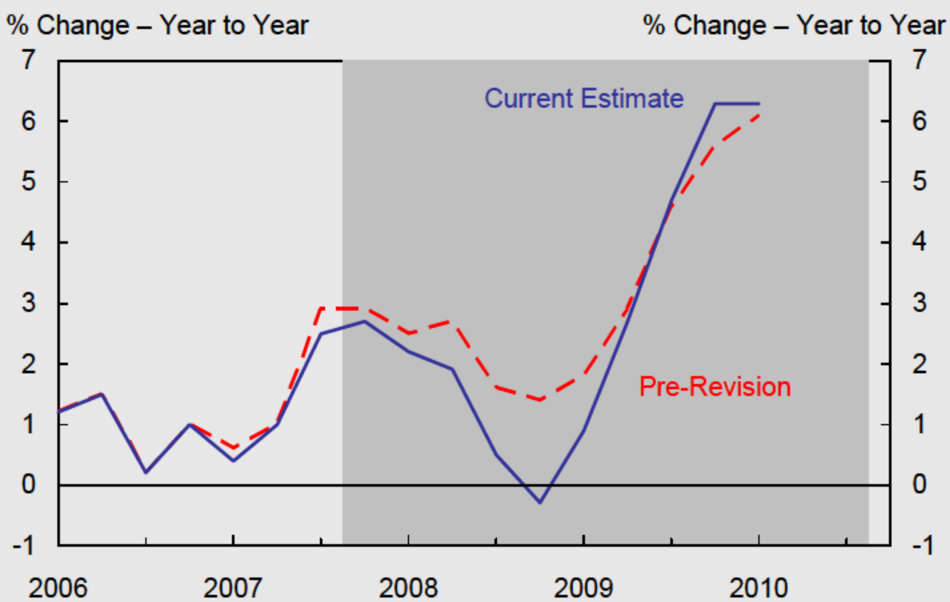
Source: Bureau of Economic Analysis

Figure 3: Real Gross Domestic Product



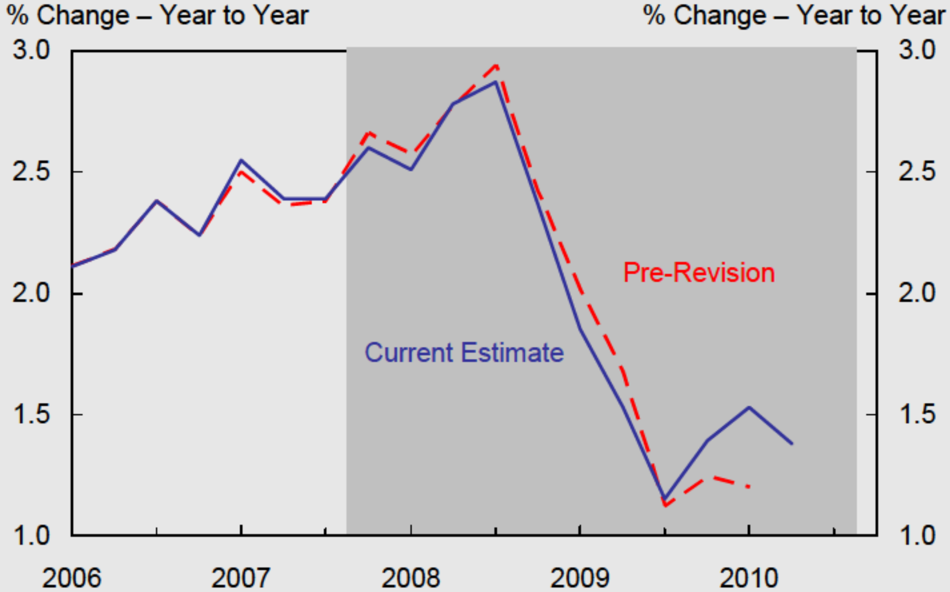
Source: Bureau of Economic Analysis

Figure 4: Nonfarm Productivity



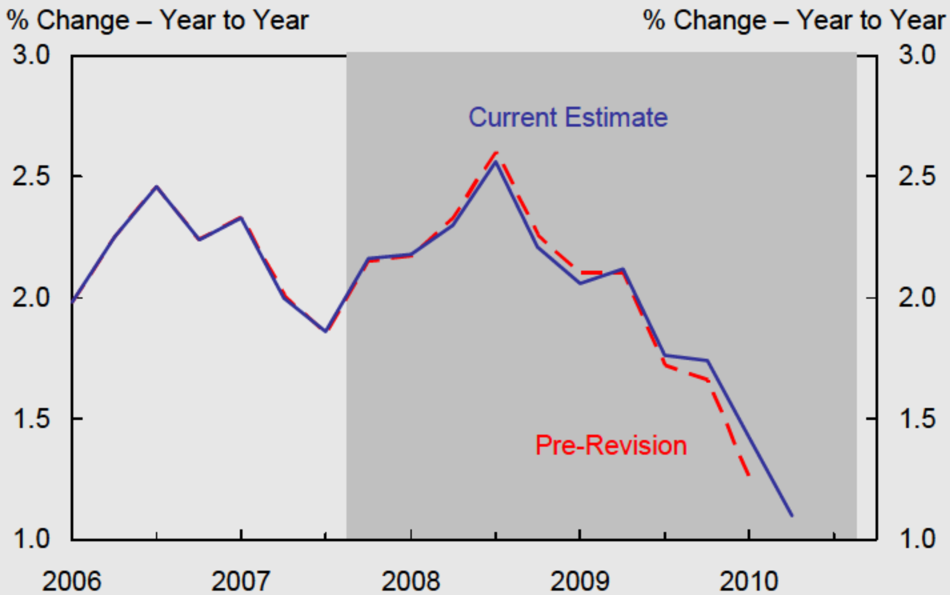
Source: Bureau of Labor Statistics and FRBNY

Figure 5: Core PCE



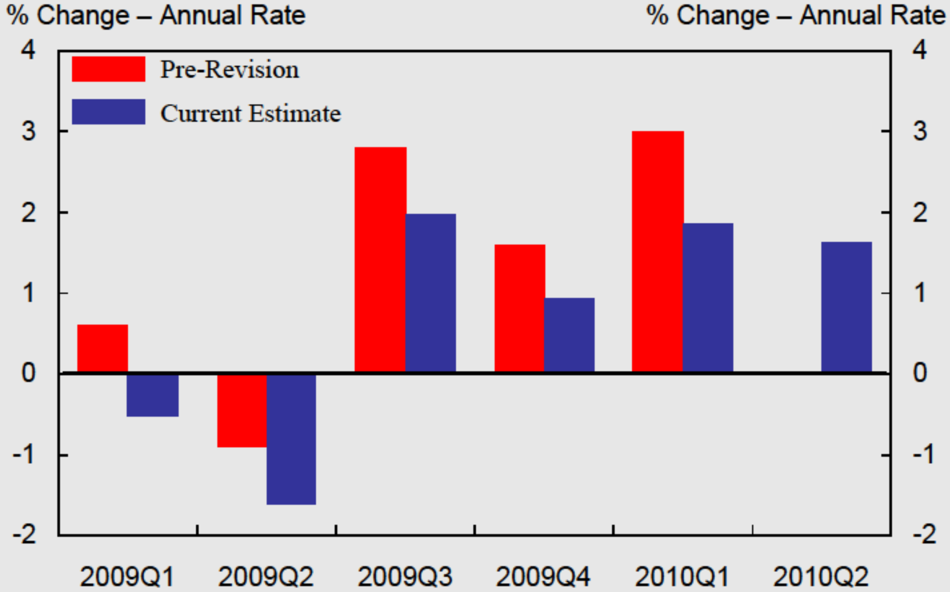
Source: Bureau of Economic Analysis

Figure 6: Core Market-Based PCE



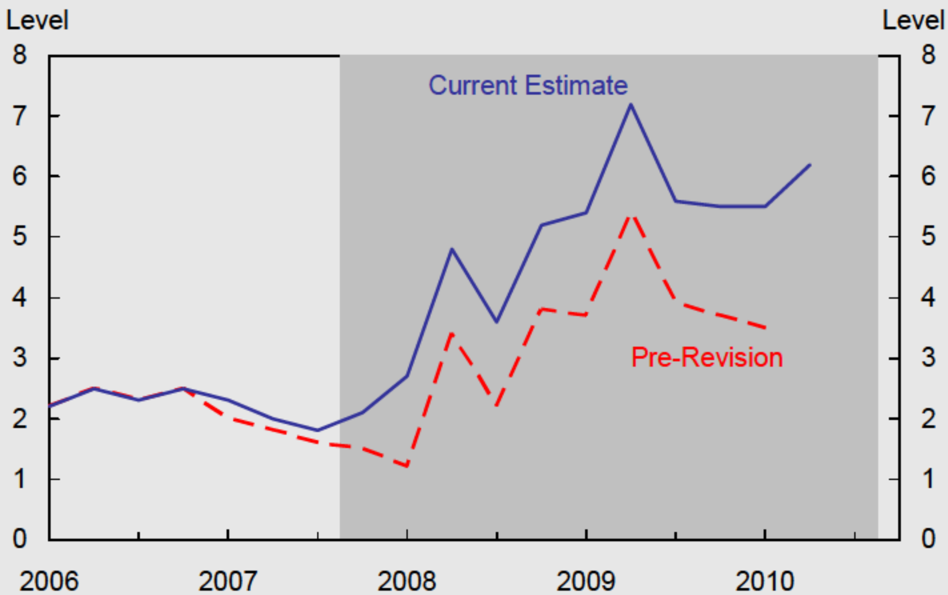
Source: Bureau of Economic Analysis

Figure 7: Real PCE Growth



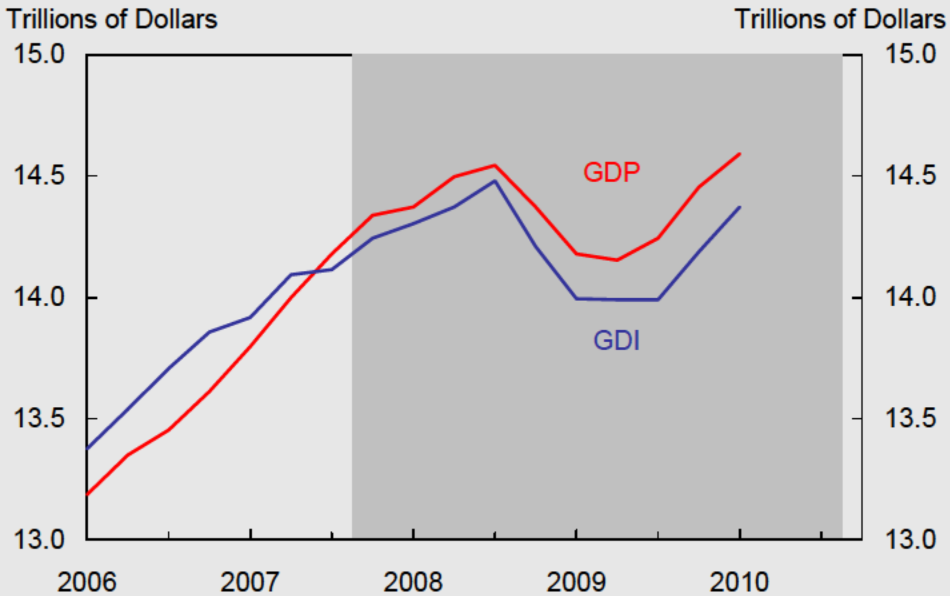
Source: Bureau of Economic Analysis

Figure 8: Personal Saving Rate



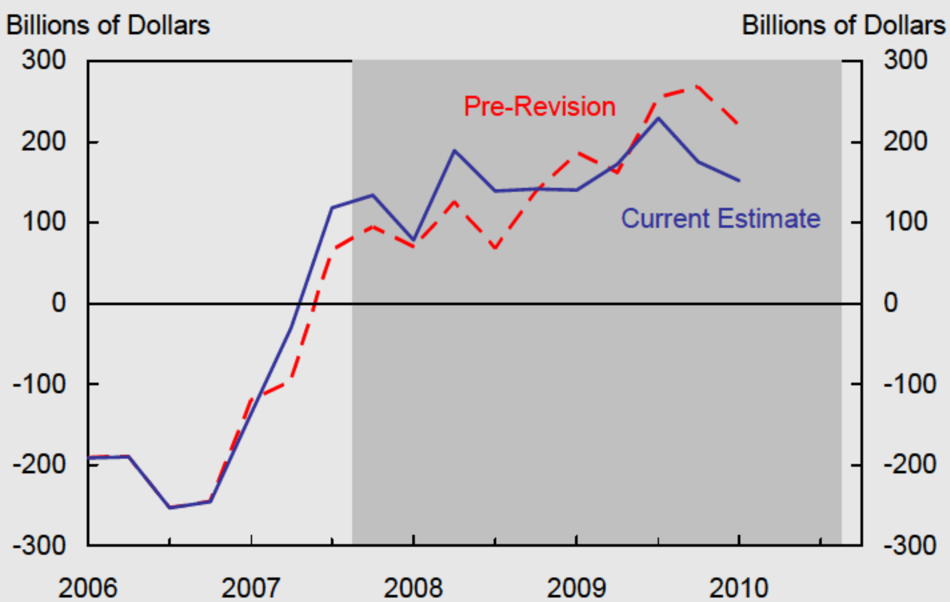
Source: Bureau of Economic Analysis

Figure 9: GDP and GDI Pre-Revision



Source: Bureau of Economic Analysis

Figure 10: Statistical Discrepancy



Source: Bureau of Economic Analysis

5. Significant Developments

5.1 Economic Developments

Real Activity. *GDP*: Real GDP grew 2.4% in Q2. Consumer spending was lackluster while private fixed investment was strong. Federal spending and residential investment were also strong, but not likely to be sustained. Surging imports caused net exports to take 2.8 percentage points off growth.

Production: Manufacturing output dropped 0.4%, its largest decline since May 2009. Increases in the production in machinery and computers were more than offset by declines in nondurable goods and autos.

Orders and Shipments: New orders for manufactured goods decreased 1.2% in June while orders excluding transportation were down 1.1%. Shipments of nondefense capital goods increased 0.5%, suggesting some modest near-term momentum in capital spending.

ISM: The manufacturing index dropped to 55.5 in July, putting it near the low end of its recent range. It is down roughly 5 points from its April peak. The employment index edged up to 58.6, near the middle of its recent range.

PCE: Real personal consumption expenditures were up 0.1% in June, but lost momentum over the quarter. Light motor vehicle sales reached an annual rate of 11.52 million in July, up from 11.34 in Q2.

Inventories: Manufacturers' inventories decreased 0.1% in June after falling 0.4% in May. The inventories-shipment ratio was unchanged at 1.26, somewhat above the levels that prevailed during the mid-2000s.

Home sales/starts: New single-family homes were sold at a low 330,000 annual rate in June. Inventories now stand at 210,000 units, the lowest level since September 1968. Existing home sales fell 5.1% to an annual rate of 5.37 million. This level is 7.2% below the recent April peak. Total housing starts fell 5.0% in June to an annual rate of 549,000 units.

Labor Market: Nonfarm payrolls decreased by 131,000 in July as private employment increased 71,000 and government payrolls declined 202,000. Key contributors to private employment were the auto and health care industries. There was a substantial downward revision to the June numbers. So far in 2010, private employment has increased 630,000, with most of the gain in March and April. The unemployment rate was unchanged at 9.5%, with the participation rate dropping from 64.7% to 64.6%.

Prices and Income: *CPI*: The consumer price index fell 0.1% in June while the core measure increased 0.2 percent. Over year-ago levels, the core index was up 1.0%, about equal to that of the past two months.

PCE deflator: The PCE fell 0.1% in June, for the second straight month, behind weakness in both goods and services prices. Core PCE was unchanged. Over the year, core prices were up 1.4% while "market-based" core prices were up 1.1%.

Employment Cost Index: The ECI rose 0.5% in Q2 and the 12-month change was 1.8%. Wages and salaries were up 1.6% over the year and benefits were up 2.5%. The increase in benefits reflects higher health care costs.

Personal income: Personal income was unchanged in June, with declines in wages and proprietors' income offset by interest and dividend income and transfer payments. The stagnation of income follows three months of healthy gains. The personal saving rate increased from 5.4% in March to 6.4% in June.

Home Prices: The 20-city Case-Shiller home price index was up 4.6% over the year in May while the FHFA purchase-only index was down 1.2%.

Foreign Data Releases. The data out of Europe were favorable over the intermeeting period, boosting the forecast for the region, while China appears to be cooling sooner than expected.

Europe: Euro area GDP data for Q2 are not yet available, but the expectation is that output increased 3.0 percent (saar), with contributions from exports and consumption. Data through May suggest production jumped around 20 percent (saar) in Q2 after increasing 17 percent in Q1. Exports have been a key driver, although the May reading was soft. Business confidence measures continued to improve through July, with the strongest responses from Germany. The consumer confidence index fell in May during the debt crisis, but has since recovered. The unemployment rate held steady at 10.0 percent in June, with the increase in the number of unemployed slowing considerably in recent months.

U.K.GDP grew 4.5 percent (saar) in Q2, much stronger than expected. Construction, government services, and business services and finance were the main drivers of growth. Business surveys are well above long-term averages indicating solid GDP growth in Q3.

Asia: Japanese production fell in June, the first decrease in five months and a producer survey suggests that production was unchanged in July. Export volumes experienced a small drop in June. The unemployment rate rose again to 5.3 percent in June and machinery orders were substantially weaker-than-expected.

China's GDP growth slowed in Q2 to close to 8.0 percent (saar), widely regarded as the politically acceptable minimum. The latest PMI readings raise the possibility that growth could slow further. The property sector shows signs of cooling since administrative steps to stem speculation were introduced in April. Credit growth, meanwhile, has been slowing and is on track to hit the government's 2010 growth target of roughly 18 percent.

Q2 GDP data were quite strong for Korea and Singapore.

Latin America: Mexico's economy apparently posted a strong rebound in Q2 after the modest contraction in Q1. Although the recovery remains fragile and dependent on continued expansion in manufactured exports, recent data confirm a pick-up in consumer activity as labor conditions and confidence improve. In Brazil, indicators suggest that economic growth decelerated in Q2 from its breakneck pace of recent quarters. Part of the softening is payback from surging activity in March in advance of the expiration of consumer tax incentives in April.

5.2 Financial Markets

Domestic Financial Markets

Financial market news were somewhat mixed over the intermeeting period. While Treasury yields and policy expectations continued to decline on increased concerns about the economic outlook, equity markets edged up mainly due to positive earnings news. Strains in short-term funding markets eased somewhat.

Nominal Interest Rates. Consistent with higher downside risks to inflation and real activity, the yield curve has further flattened since the June FOMC meeting. The 10-year Treasury note is currently at about 2.95% and hence back to a level last observed in April 2009. The yield on the 2-year note, driven more by near- and medium-term policy expectations, has also continued to decline and reached several new historical lows during the intermeeting period. It currently stands at .56%, 12 basis points lower than its June 22nd level.

Option implied yield volatility in Treasury and swap markets as measured by the 3-month MOVE and SMOVE indices has also fallen a few points over the last few weeks from levels of 93 and 92 respectively on the day of the June FOMC to levels of 87 and 86 on August 4th. Such levels have last been observed in early August 2007. Hence, options prices seem to suggest that Treasury yield volatility is expected to be fairly muted going forward. (Exhibit A-3: Treasury Yields)

Inflation Compensation. At the front end of the curve, real yields have declined during the intermeeting period while they were largely unchanged at longer maturities. With nominal yields falling even more, however, implied inflation expectations have further edged down. In particular, the 0-5 year inflation compensation, has declined from 1.65% around the time of the last FOMC meeting to currently 1.45%. Over the same period, the 5-10 year measure, has fallen from 2.8% to a current level of 2.63%.
The recent decline in market-based measures of inflation expectations is in line with low inflation readings and increased concerns about the global growth outlook. It also indicates that inflation expectations remain well anchored despite the extraordinary monetary policy interventions and especially the large expansion of the Federal Reserve's balance sheet since the onset of the financial crisis. If, however, inflation expectations continue to decline at such a rapid pace, deflationary concerns might become more relevant. (Exhibit A-4: Real Yields and Implied Inflation)

Expected Policy Rate Path. The expected path of the fed funds rate as inferred from futures markets has shifted further down since the June FOMC meeting. Market expectations currently suggest that the target fed funds rate will remain unchanged through 2010 and much of 2011, then rise to about 0.5% in early 2012 and about 1% at the end of 2012. This is more than 40 basis points lower than the expectation around the June FOMC meeting. Professional forecasters have also revised down their fed funds expectations since June. The median expectation from the Blue Chip Financial Forecasts survey for the second quarter of 2011 was 0.3% in July, down from 0.6% in June. The median expectation for the third quarter of 2011 fell to 0.75% in July, from 1% in June. Consistent with the behavior in recent months, futures-implied policy expectations were in line with the lower range of the Blue Chip forecast distribution. (Exhibit A-5: Policy Expectations).

Equity Markets. Equity prices fell during the first two weeks after the June FOMC meeting, but then rose substantially on mostly positive second quarter earnings announcements, and ended the intermeeting period about 3% higher.

Implied equity volatility as measured by the VIX declined somewhat over the same time period, indicating lower expected future equity volatility. The VIX currently stands at 23% and is thus back to levels seen in April of this year, before the European sovereign credit crisis had sent it temporarily higher to levels of around 45%. (Exhibit A-6 Equity).

Credit Spreads. While credit spreads had ticked up a little during the last FOMC cycle, they have somewhat reversed course since the June FOMC meeting. The spreads on A-rated financials and all corporate bonds decreased from levels of 276 and 187 basis points on June 22nd, respectively, to now 243 and 170 basis points on August 4th. At the same time, BBB-rated spreads on financials and all corporate bonds fell by 30 and 17 basis points, respectively. These declines are consistent with the broadly positive corporate earnings news reported for the second quarter of 2010. (Exhibit A-7: Credit)

Money Markets. Money market functioning has improved mildly over the intermeeting period. While measures of money market stress had ticked up in May associated with funding concerns mainly for European peripheral institutions, these indicators have retrenched somewhat since the June FOMC meeting. At 25 basis points, the 3-month LIBOR-OIS spread is currently below its levels seen from May through July, but still considerably above the average level of 10 basis points observed from September 2009 through April 2010. (Exhibit A-8: Money Markets).

Foreign Financial Markets

Since the last FOMC meeting, the severity of the sovereign debt crisis in peripheral euro area nations appears to have dissipated. Spreads for peripheral euro area sovereign debt decreased substantially over the period, with the Greek sovereign CDS spreads falling about 109 points. Peripheral sovereign debt issuance conditions also improved substantially with well-received Greek, Irish, Portuguese and Spanish public debt auctions, albeit that in many cases these auctions stopped out at yields that were higher than before the debt crisis. Key to these developments was a significant decrease in the tail risk of a European sovereign default and banking sector crisis, but also the positive outcome of the European bank stress tests. In a coordinated effort, EU governments released on July 23rd to the public the outcome of bank stress tests. Overall, these stress results were better than expected, as only 7 out of 91 banks tested did not meet a 6% Tier 1 capital ratio. However, there remained concerns about the regional variation in the underlying assumptions of the different national stress tests and about the bulk of the banks who were only just capitalized (i.e., whose Tier 1 ratios were within the 6-8% range) appeared to be of German, Italian and Spanish origin.

As the peripheral euro area sovereign debt crisis lost its momentum, global liquidity conditions stabilized over the intermeeting period with European and Japanese LIBOR-OIS spreads remaining essentially unchanged. In Japan, the large amounts of liquidity present in the domestic money market prompted the Bank of Japan to suspend some of its usual funding operations although the Bank continued to provide additional liquidity at longer tenors through its collateral-based fixed rate funding facilities. The ECB did not renew its 1-year refinancing operation, and with this operation maturing on July 1st,excess liquidity within the euro area banking sector declined. Nonetheless, the ECB's 3-month refinancing operation on July 28th was unexpectedly oversubscribed, which suggests that there is still a potential for heightened funding stress in the euro area. In particular credit tiering remains a key feature of money markets in this region, with weaker banks seemingly to be heavily reliant on ECB open market operations for their funding.

Less anxiety about the peripheral euro area crisis brought with it an improved global risk appetite, and, consequently, inflows to emerging market bond and equity funds increased over the intermeeting period. This resulted in increases across all Emerging market asset classes. Emerging Market local debt issuances have been strong, which was supported by a narrowing of emerging market sovereign debt spreads over the period.

Weaker-than-expected U.S. economic data releases led investors to downgrade their U.S. growth outlook and this weighted heavily on the U.S. dollar relative to other major foreign currencies. As a consequence, the trade-weighted U.S. dollar index fell about 6% since the last FOMC meeting. The dollar depreciated about 80 basis points against the

Chinese yuan over the period after the reintroduction of a managed flexible exchange rate regime in June.

5.3 Global Economic Policy

Central banks in the euro area, Japan, the U.K. and the U.S. kept their policy stance very accommodative over the intermeeting period. Elsewhere, monetary tightening has become the *modus operandi* but the pace of this tightening is likely to become more gradual.

The ECB kept its policy rate unchanged at 1.0% at its July and August meetings, with a balanced risk outlook for their 2011 growth projections where the degree of uncertainty changed from "unusually high" in June to just "uncertain" in August. The size of the ECB's balance sheet shrank from €2.1 trillion to €2.0 trillion since the last FOMC meeting, as its 1-year refinancing operation matured on July 1st. The pace of sovereign bond purchases under the "Securities Markets Program" (SMP) slowed significantly, with the ECB accumulating €60 billion in assets. Also, the covered bond purchase program, which commenced last summer, ended in July, and this added €60 billion to the ECB's balance sheet.

The Bank of Japan is keeping its policy rate close to the zero-bound, at 0.10%. In its battle to stop prolonged deflation, the Bank is providing up to ¥20 trillion in liquidity to banks under its 3-month fixed-rate funding facility introduced in December 2009. Starting in August, the Bank is implementing a ¥3 trillion lending program under which banks can each borrow up to ¥150 billion for one year at the current policy rate conditional on using the funds to finance firms' investments. The small size of these facilities relative to the Bank's ¥120 trillion balance sheet, however, raises doubts about their effectiveness in battling structural deflation. The prospect of persistent consumer price deflation and yen strengthening might force the Bank of Japan to pursue more aggressive options. These include a further expansion of current funding facilities, a duration commitment for a near-zero policy rate combined with an inflation target, currency interventions, and an increase in its outright purchases of government bonds.

Since January, China has initiated a number of monetary tightening measures such as increased reserve requirements and higher managed interest rates. In June, Chinese monetary authorities restarted a crawling appreciation of the yuan exchange rate *vis-à-vis* the U.S. dollar. However, both GDP growth and CPI inflation slowed in Q2 whereas subsequent higher frequency data releases point to a possibly more substantial growth and inflation slowdown beyond Q2. Consequently, the authorities' appetite for more monetary tightening has become less, with the yuan remaining steady relative to the dollar since July. Forward contracts suggest only modest yuan strengthening against the dollar over the next twelve months. Going forward, further rate and reserve requirement hikes are only back in the cards again if growth acceleration resumes; if not, some form of policy loosening appears to be more likely.

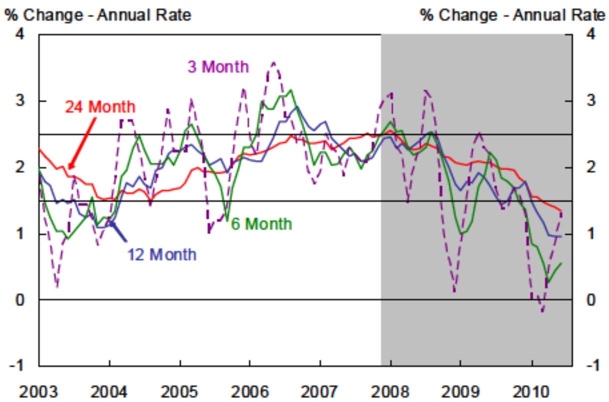
In the rest of Emerging Asia gradual monetary tightening continues to be the main theme. The central banks of India, Korea, Pakistan and Thailand hiked their rates in July by 25 basis points (Pakistan: 50 basis points), and the monetary authorities in Indonesia and the Philippines are likely to begin tightening in the very near future. External growth risks and favorable inflation readings, except in India, will likely dampen the pace of tightening in this region going forward. Improved global risk appetite over the period led to a pickup in capital flows to Emerging Asia, resulting in stronger Asian reserve accumulation outside of China.

Demand from Emerging Asia is driving a robust economic recovery in commodities-orientated economies. The Reserve Bank of New Zealand and the Bank of Canada raised their policy rates further in July by 25 basis points to, respectively, 3% and 0.75%. As in June, the Australian central bank kept the policy rate unchanged in July, on account of an uncertain growth outlook due to financial market volatility and the prospect of slowing external demand. The Swedish Riskbank decided on a 25 basis points rate increase in July, but also signaled that a downgrade in the outlook of the growth pace of external demand will likely result in more gradual future tightening than originally anticipated. In Brazil, the central bank hiked the policy rate by 50 basis points, which brings it, after 75 basis points hikes in April and June, to a level of 10.75%. The July hike was lower than expected and investors now only expect one more 50 basis points hike by end-2010. Expectations of policy rate increases in Mexico have been pushed back, with surveys suggesting that an initial hike will not occur before March 2011. Some 150 basis points in total tightening for Mexico are expected by the end of 2011. The remaining central banks, like the Bank of England and the Swiss National Bank, kept their policy rates unchanged at historically low levels.

A. Significant Developments

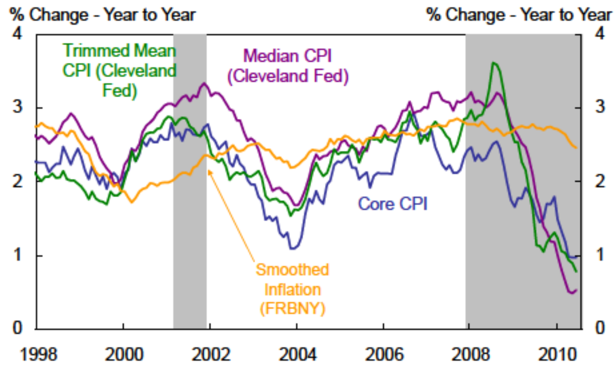
Exhibit A-1: Measures of Trend Inflation

Core CPI Inflation over Various Horizons



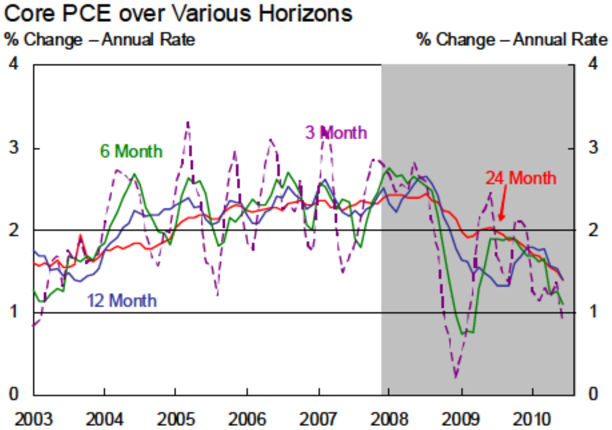
Source: Bureau of Labor Statistics

Alternative Measures of CPI Inflation



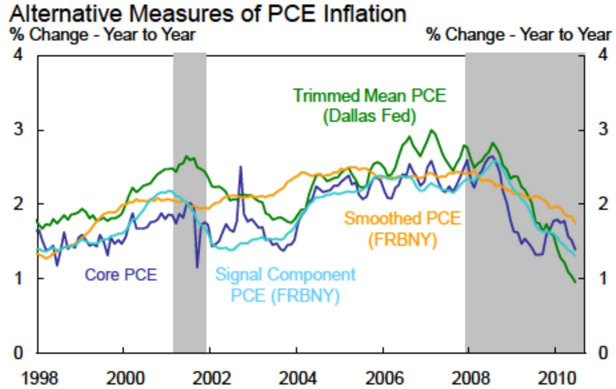
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



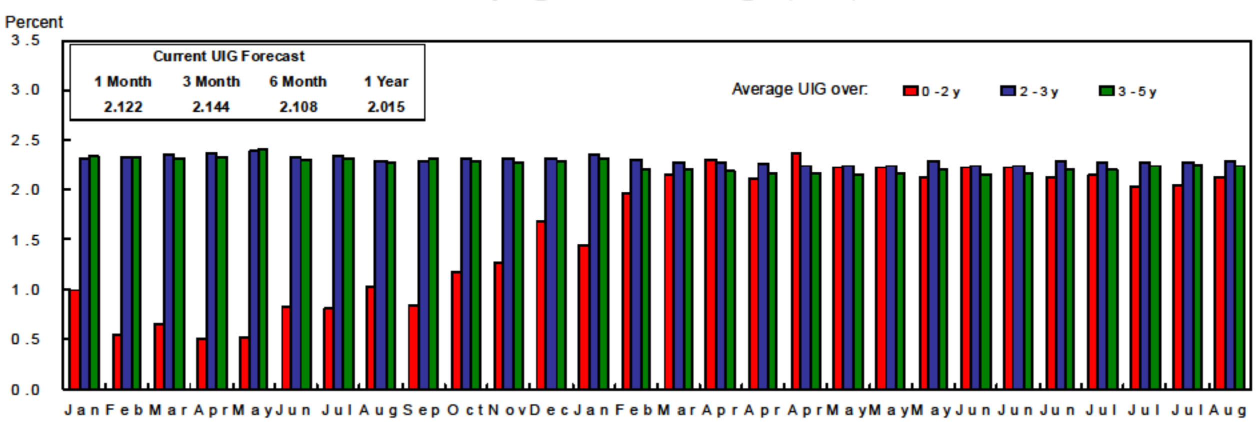
Source: Bureau of Economic Analysis

Alternative Measures of PCE Inflation



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

Exhibit A-2: Underlying Inflation Gauge (UIG)

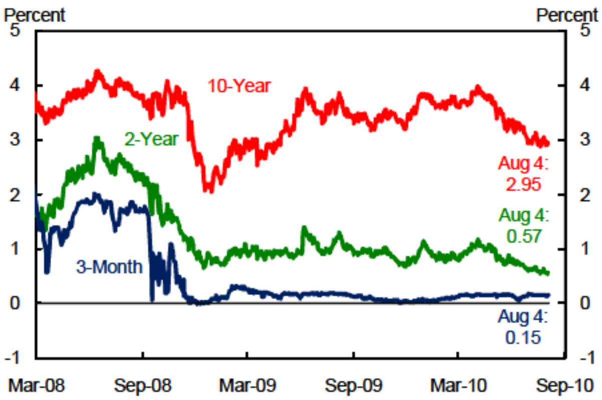


Source: MMS Function (FRBNY) and Swiss National Bank

A. Significant Developments

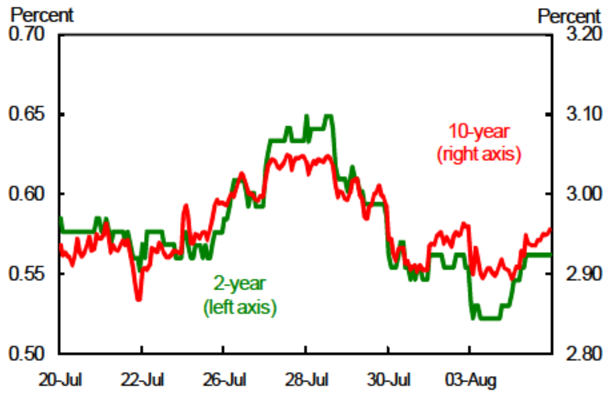
Exhibit A-3:
Treasury Yields

Short- and Long-Term Rates



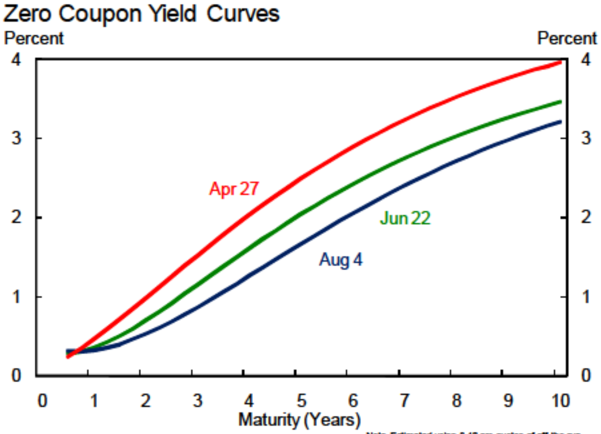
Source: Bloomberg
Note: Yields of on-the-run securities.

Short- and Long-Term Rates (Intraday)



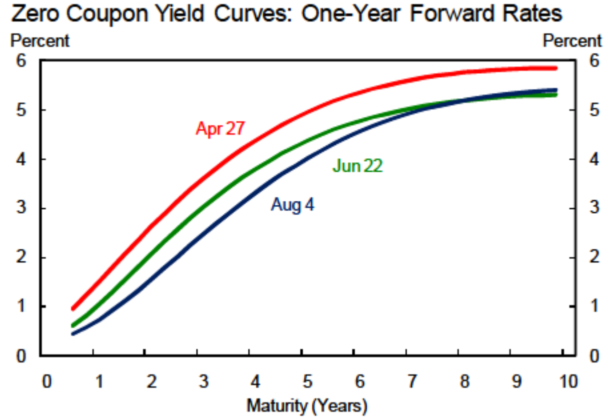
Source: Bloomberg
Note: On-the-run securities, 8:00 am to 4:00 pm.

Zero Coupon Yield Curves



Source: Federal Reserve Board
Note Estimated using 8 40 am quotes of off-the-run securities.

Zero Coupon Yield Curves: One-Year Forward Rates



Source: Federal Reserve Board

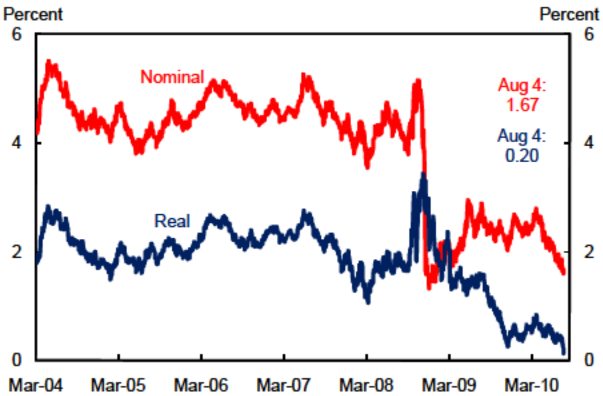
Option and Swaption Volatility Expectations

Source: Merrill Lynch, Haver

A. Significant Developments

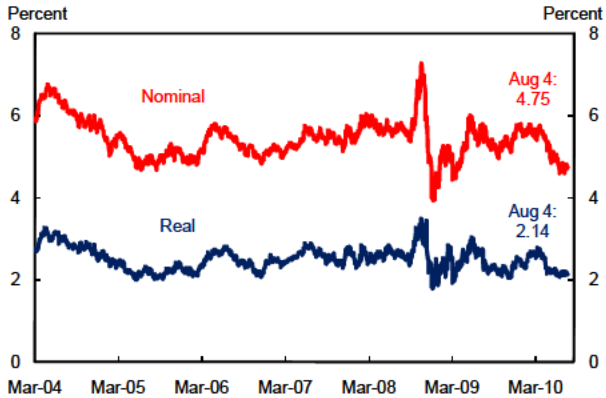
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



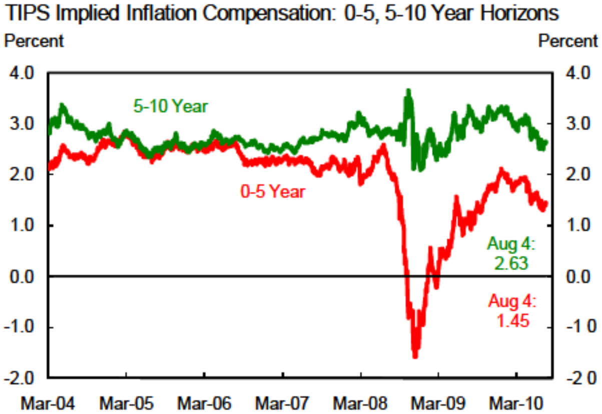
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

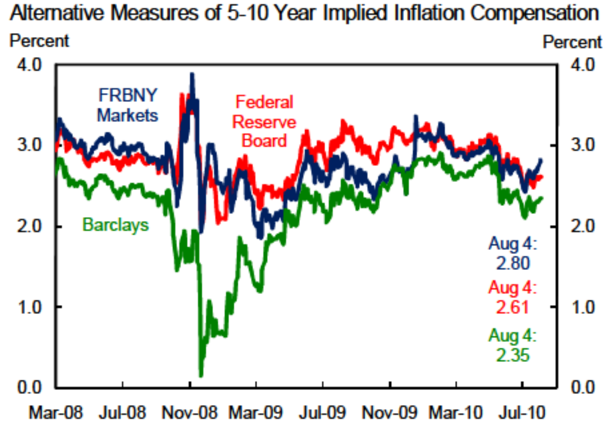
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

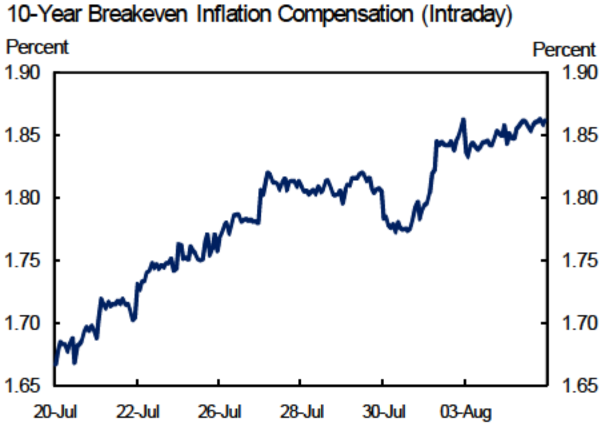
Note: Carry-adjusted.

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.

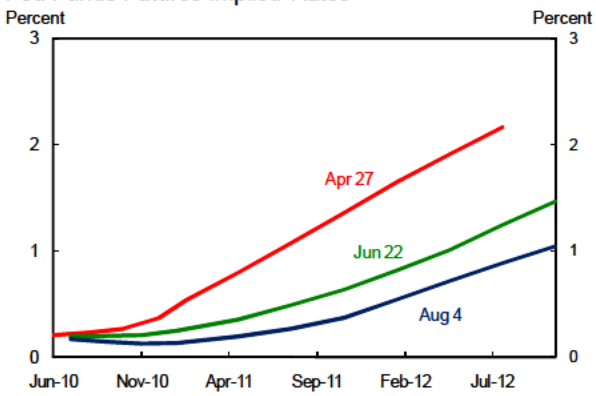
Implied Inflation from Inflation Swaps: 0-5, 5-10 Year Horizon

Source: Barclays

A. Significant Developments

Exhibit A-5:
Policy Expectations

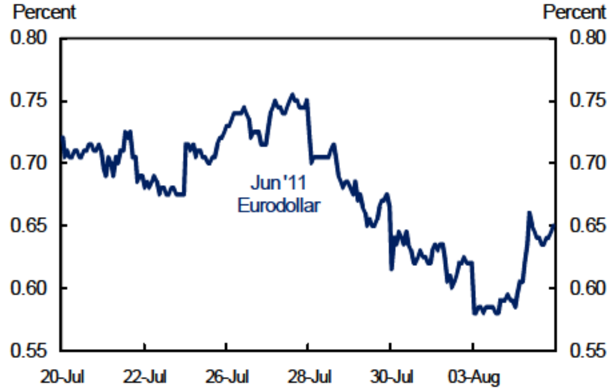
Fed Funds Futures Implied Rates



Source: Federal Reserve Board

Note: Estimated using fed funds and Eurodollar futures.

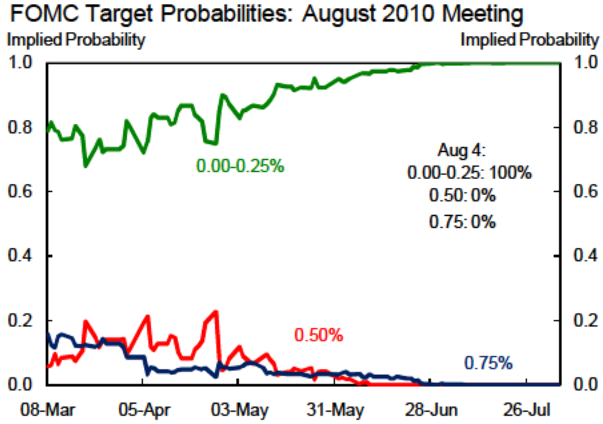
Implied Eurodollar Rates (Intraday)



Source: Bloomberg

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

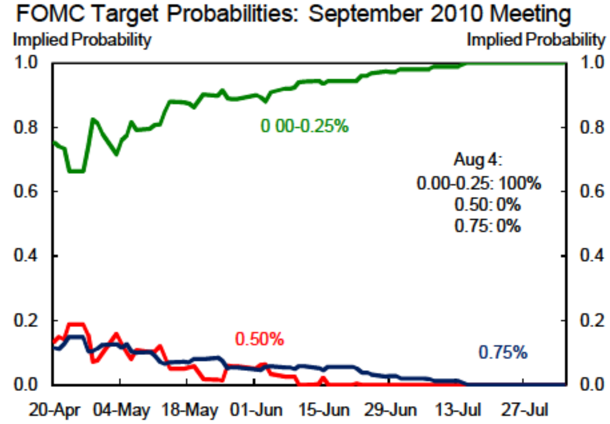
FOMC Target Probabilities: August 2010 Meeting



Source: Cleveland FRB

Note: Estimated using options on fed funds futures.

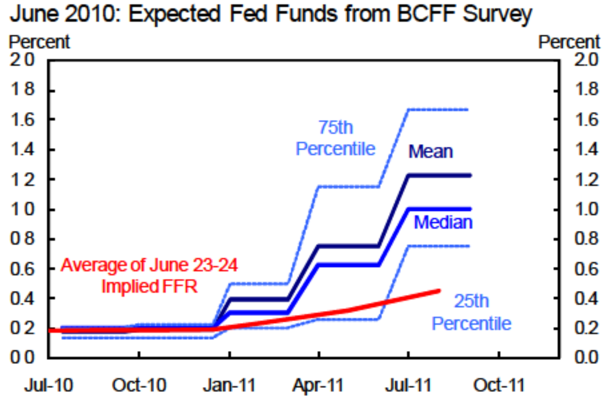
FOMC Target Probabilities: September 2010 Meeting



Source: Cleveland FRB

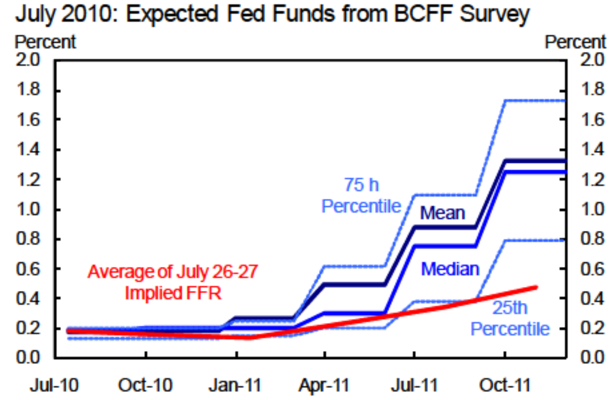
Note: Estimated using options on fed funds futures.

June 2010: Expected Fed Funds from BCFF Survey



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

July 2010: Expected Fed Funds from BCFF Survey

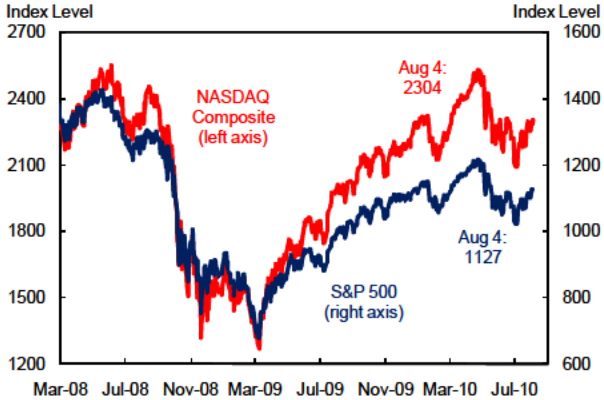


Note: Implied FFR are from fed funds and Eurodollar futures.
The BCFF survey was conducted on June 26-27.

A. Significant Developments

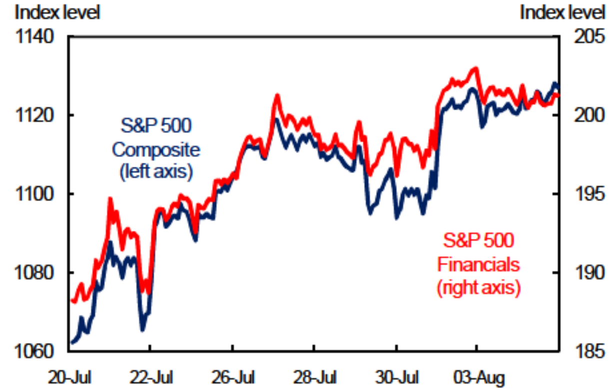
Exhibit A-6:
Equity

Equity Index Levels



Source: Datastream

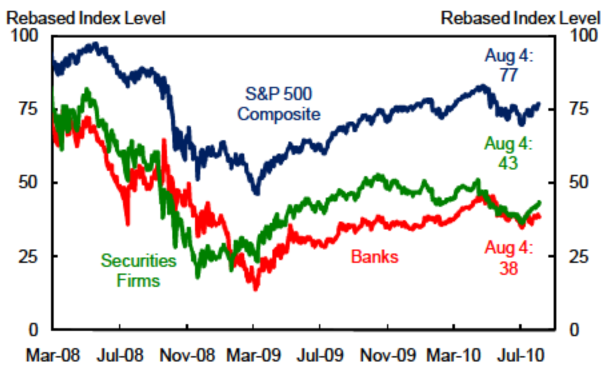
S&P 500 Indices (Intraday)



Source: Bloomberg

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

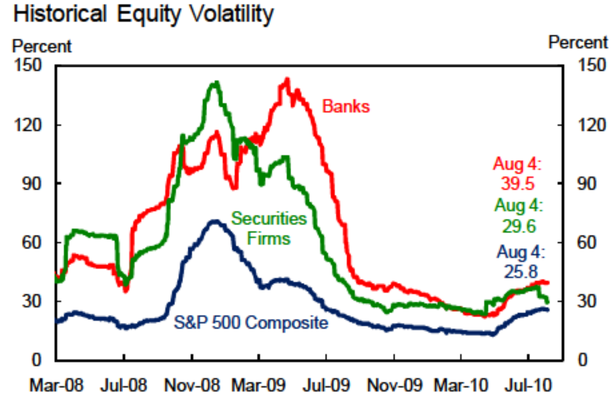
Equity Performance



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

Source: Datastream

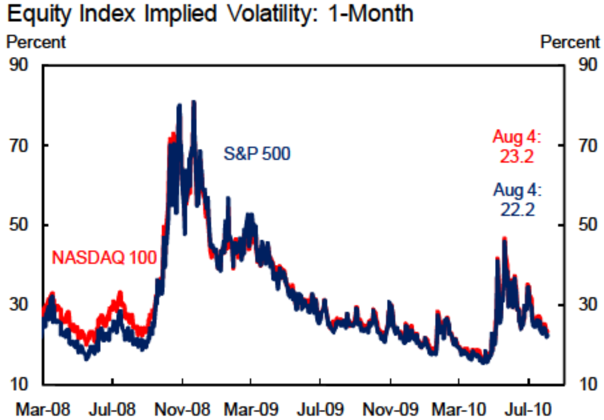
Historical Equity Volatility



Source: Datastream

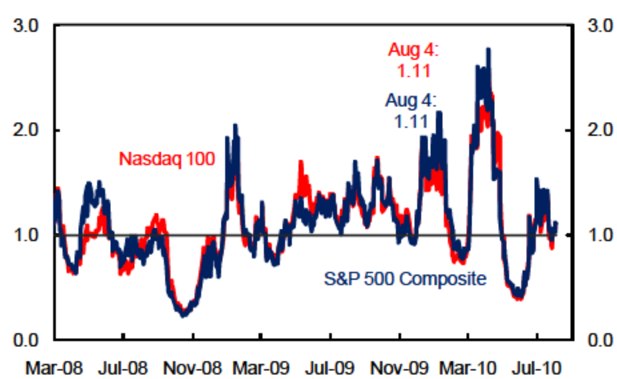
Note: Annualized rolling 3-month standard deviation of da ly returns. Banks series is S&P 500 Banks index. Securities Firms series is S&P 500 Investment Banks and Brokerages index.

Equity Index Implied Volatility: 1-Month



Source: Datastream

Ratio of Implied to Realized Volatility



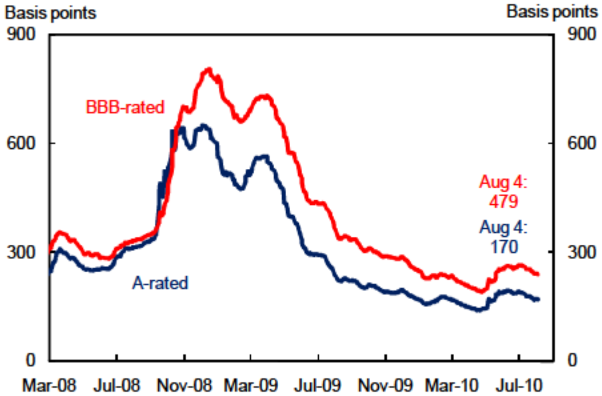
Source: Datastream

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

A. Significant Developments

Exhibit A-7:
Credit

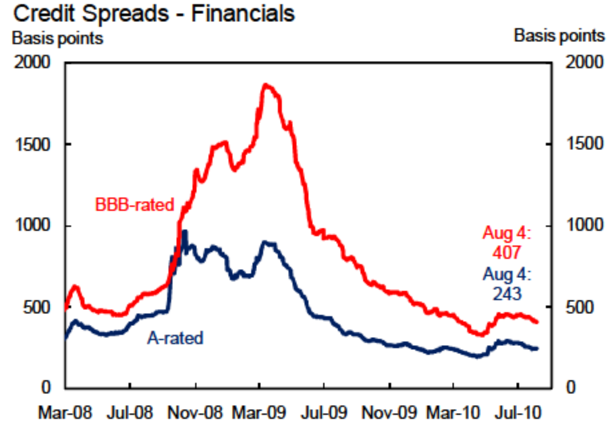
Credit Spreads - All Corporates



Source: Merrill Lynch

Note: Option-adjusted spreads.

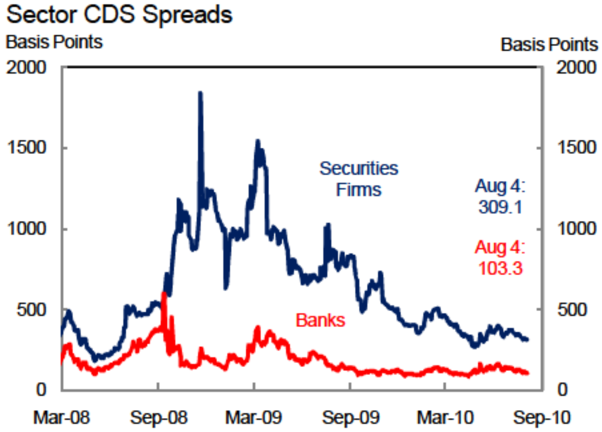
Credit Spreads - Financials



Source: Merrill Lynch

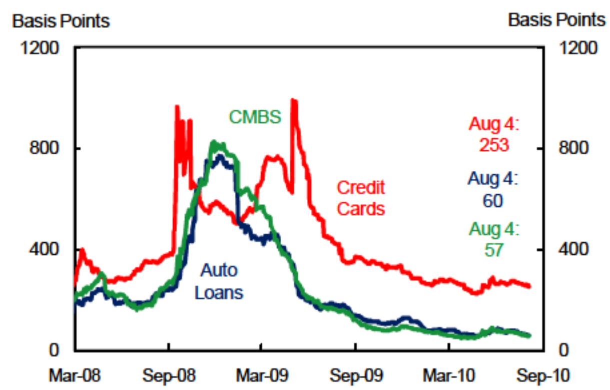
Note: Op ion-adjusted spreads.

Sector CDS Spreads



Source: CMA

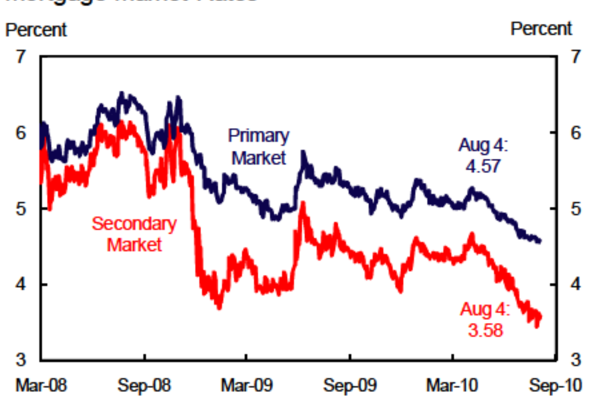
AAA-Rated ABS/CMBS Spreads



Source: Merrill Lynch

Note: Option-adjusted spreads.

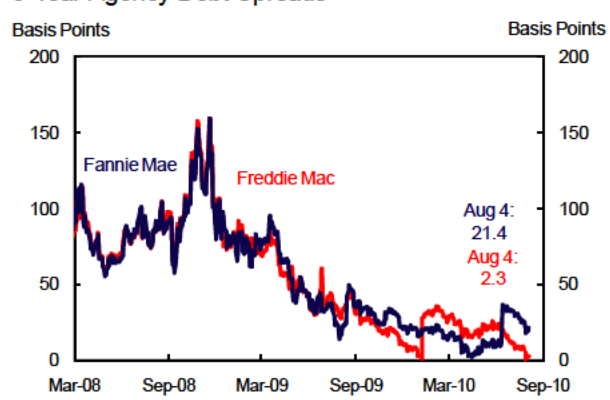
Mortgage Market Rates



Source: Bloomberg

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

5-Year Agency Debt Spreads

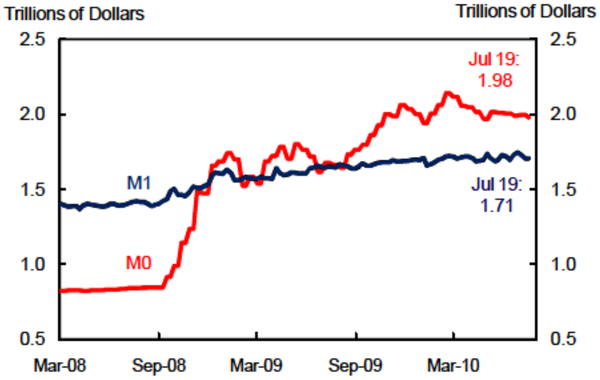


Source: Bloomberg

A. Significant Developments

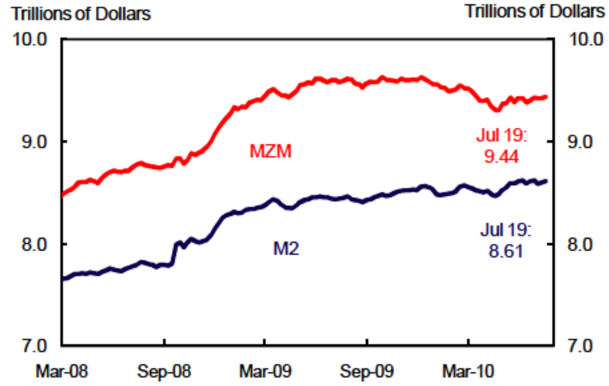
Exhibit A-8:
Money and Banking

Measures of Money Supply: M0, M1



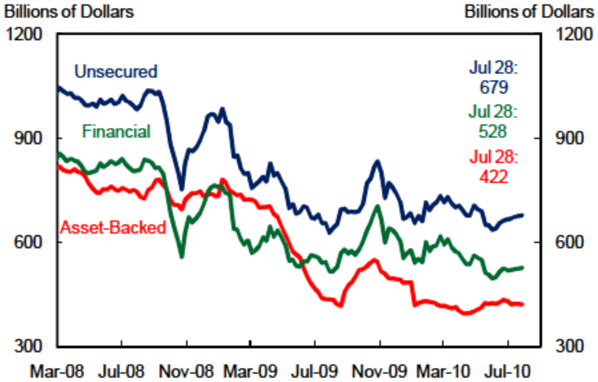
Source: Federal Reserve Board, Haver

Measures of Money Supply: M2, MZM



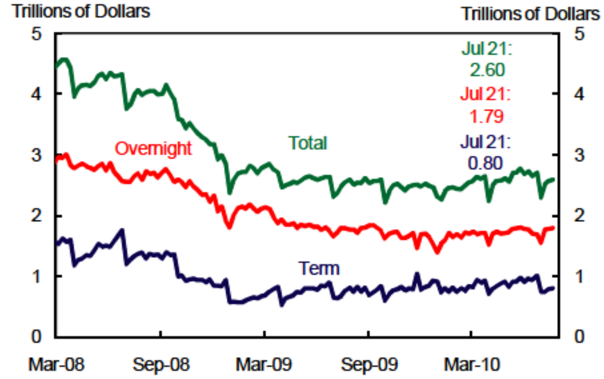
Source: Federal Reserve Board, Haver

Commercial Paper Outstanding



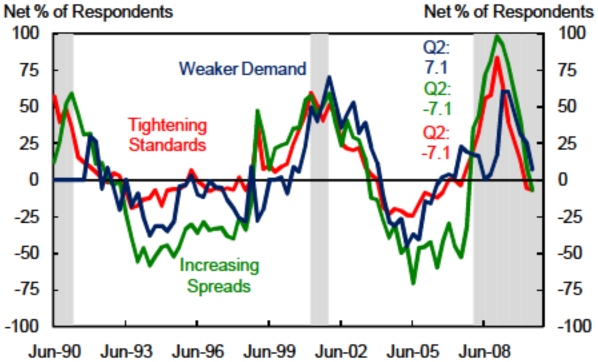
Source: Federal Reserve Board

Primary Dealer Repurchase Agreements Outstanding



Source: Federal Reserve Board

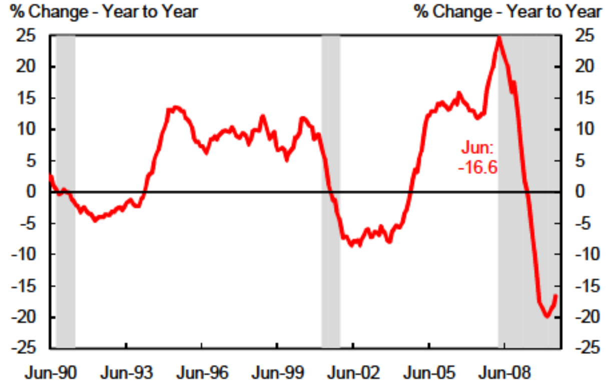
Bank Lending Practices



Source: Federal Reserve Board

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

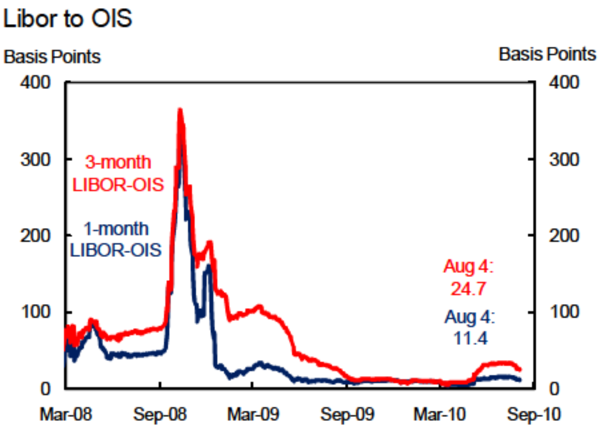
Commercial and Industrial Loans Outstanding



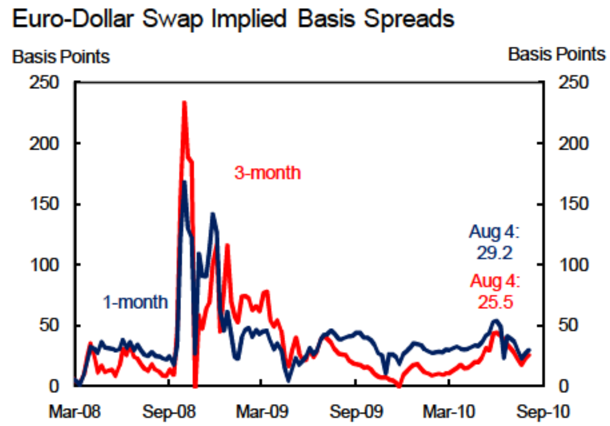
Source: Federal Reserve Board

A. Significant Developments

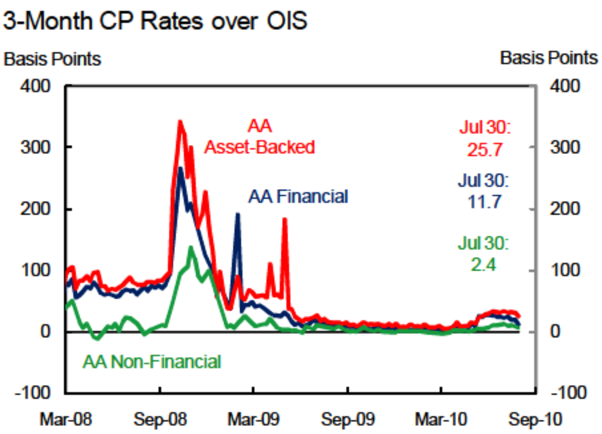
Exhibit A-9:
Money Markets



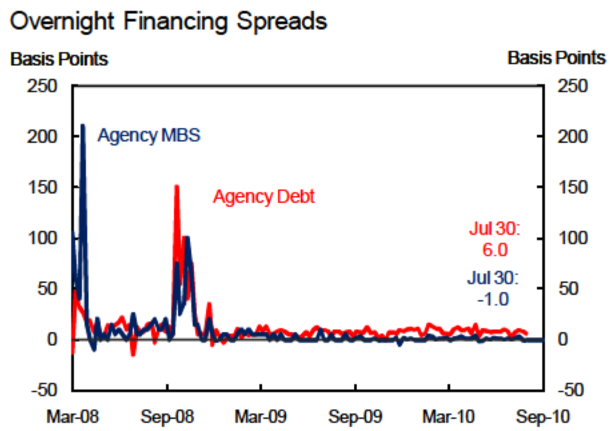
Source: Federal Reserve Board, Bloomberg



Source: Reuters, Tullett

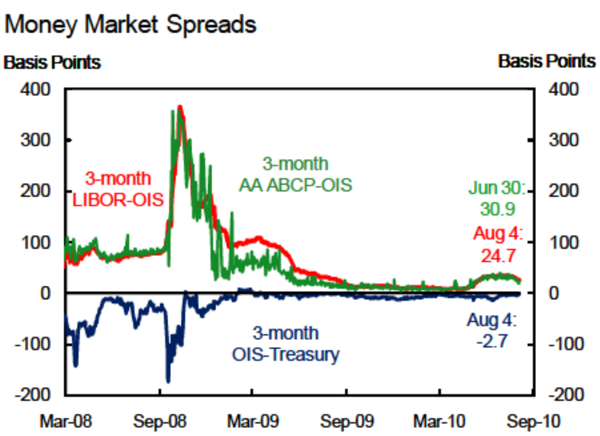


Source: Federal Reserve Board, Haver, Bloomberg



Source: Bloomberg

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

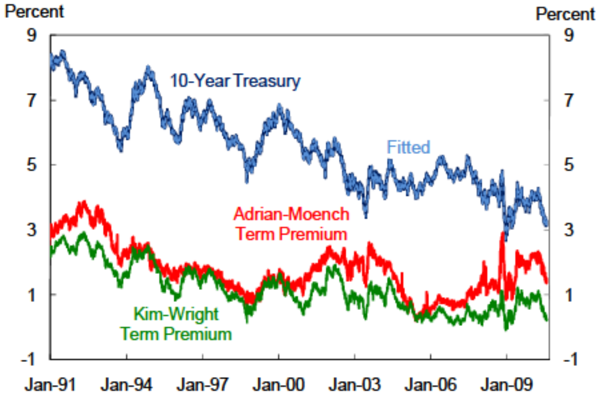


Source: Federal Reserve Board, Bloomberg

A. Significant Developments

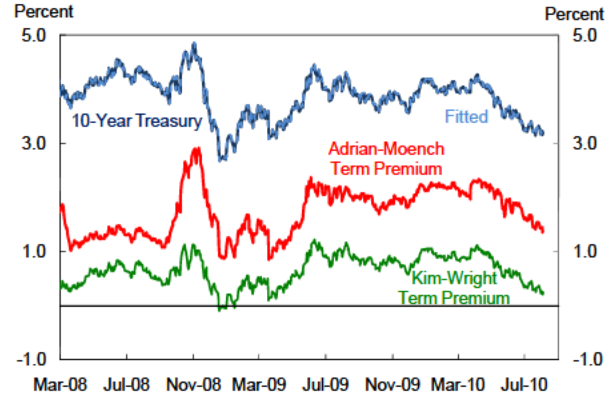
Exhibit A-10:
Estimates of Term Premia in Treasury Yields

10-Year Treasury and Term Premia



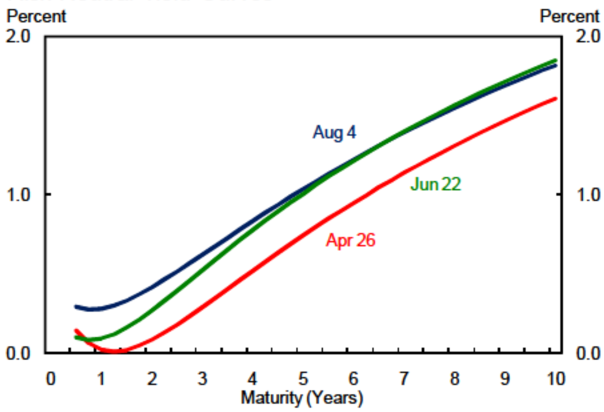
Source: FRBNY calculations, Federal Reserve Board

10-Year Treasury and Term Premia



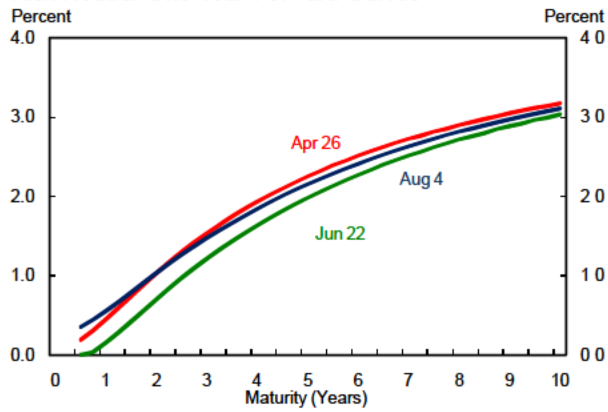
Source: FRBNY calculations, Federal Reserve Board

Risk Neutral Yield Curves



Source: FRBNY calculations

Risk Neutral One-Year Forward Curves



Source: FRBNY calculations

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

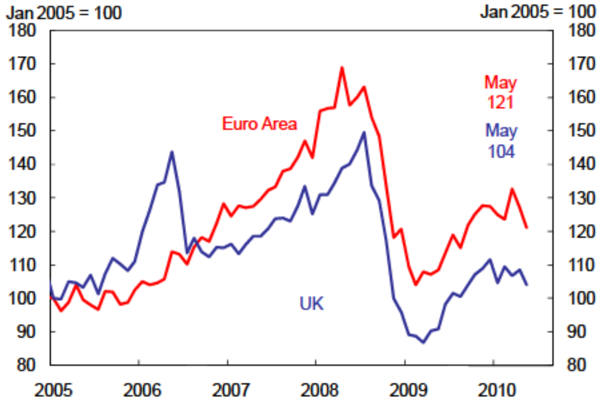
Source: FRBNY calculations, Haver, Merrill Lynch

A. Significant Developments

Exhibit A-11: Exports and Industrial Production

Exports

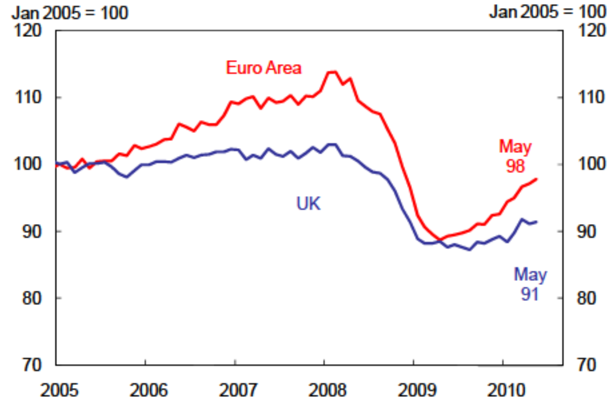
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

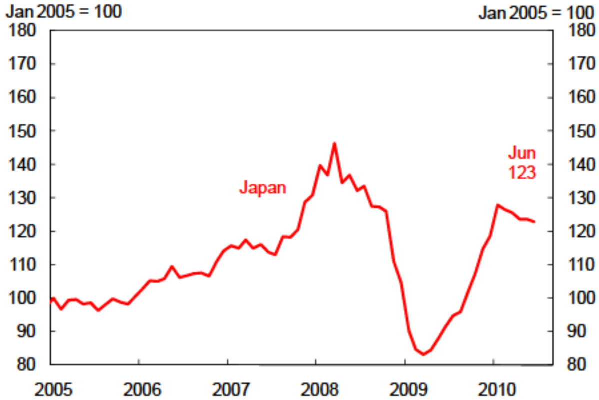
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

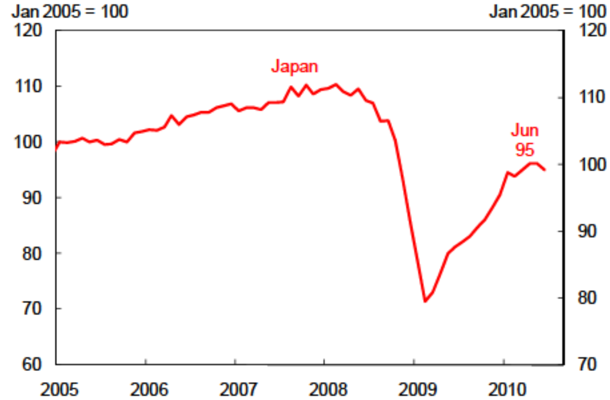
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

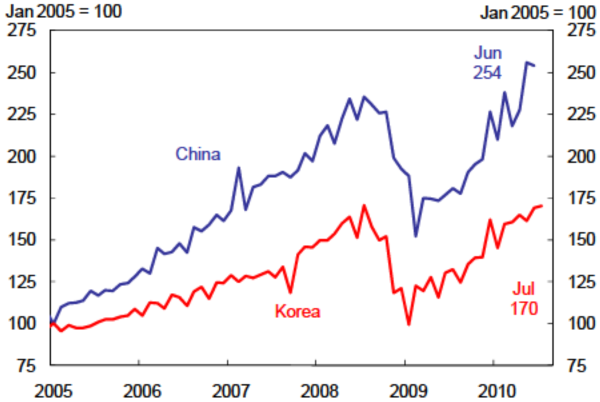
Jan 2005 = 100 Jan 2005 = 100



Source: Haver

Exports

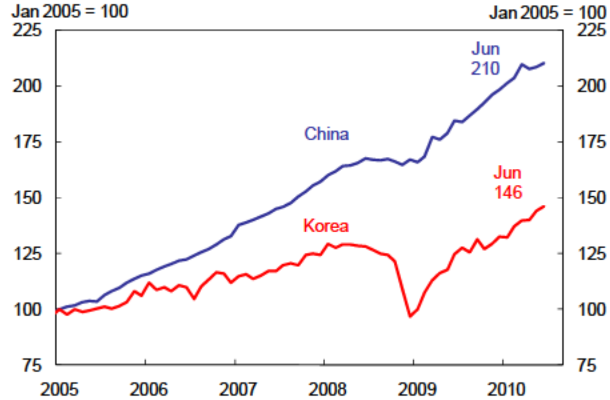
Jan 2005 = 100 Jan 2005 = 100



Source: Haver Note: In Dollar Terms

Industrial Production

Jan 2005 = 100 Jan 2005 = 100

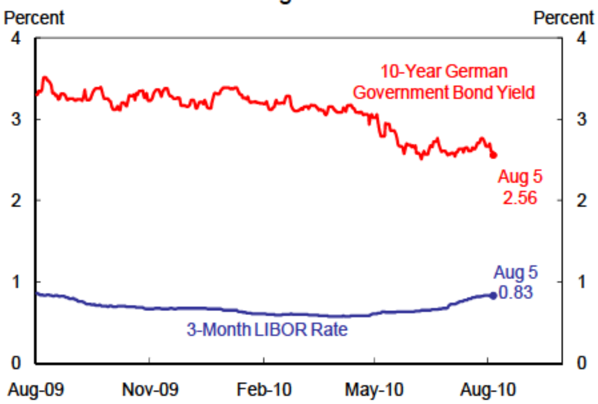


Source: Haver

A. Significant Developments

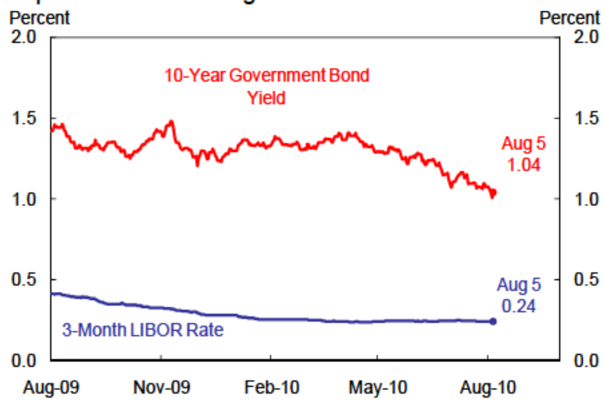
Exhibit A-12:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



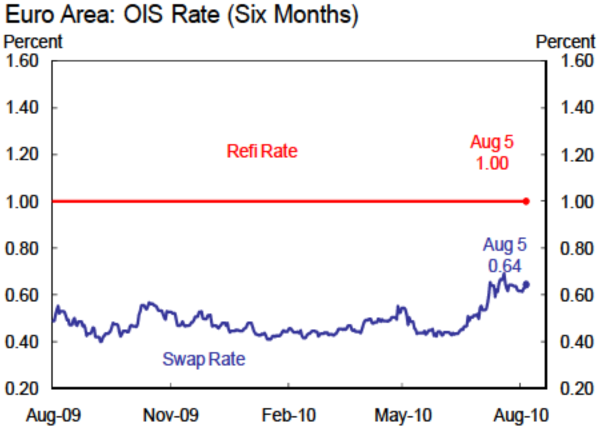
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



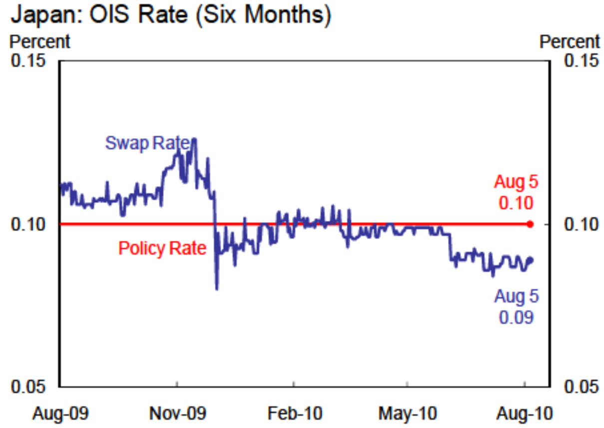
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



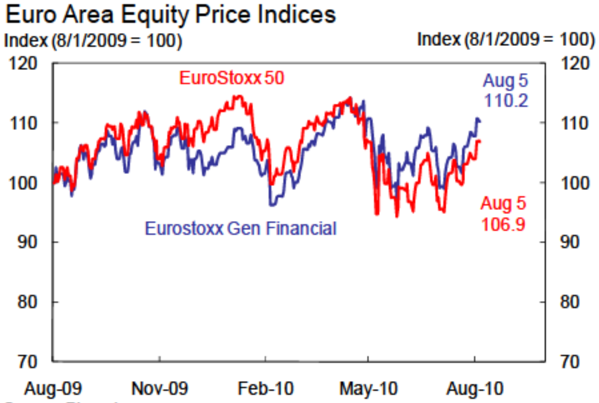
Source: Bloomberg

Japan: OIS Rate (Six Months)



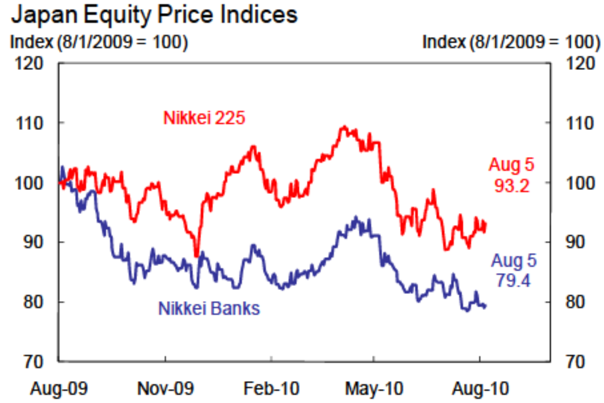
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

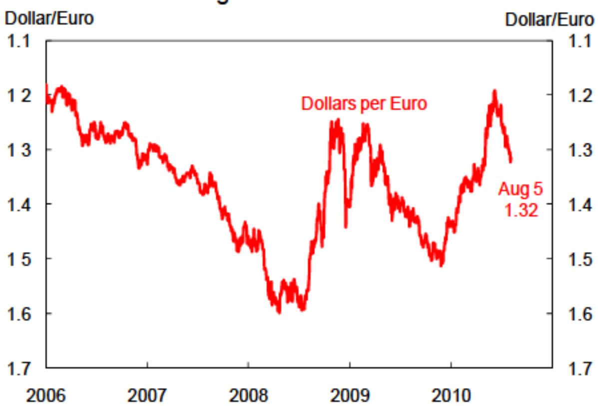


Source: Bloomberg

A. Significant Developments

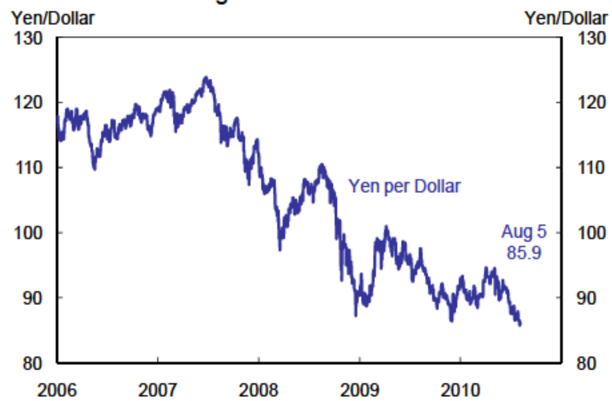
Exhibit A-13:
Exchange Rates

Dollar-Euro Exchange Rate



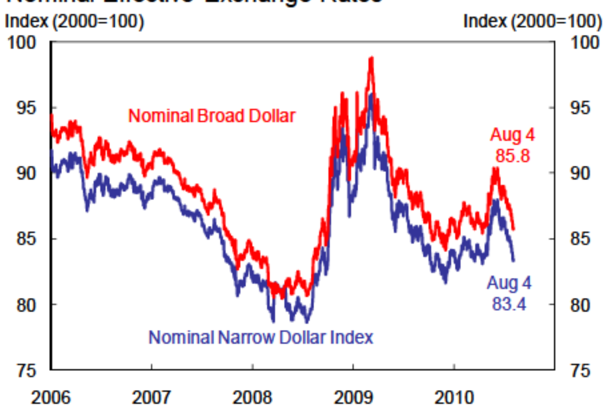
Source: Bloomberg Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



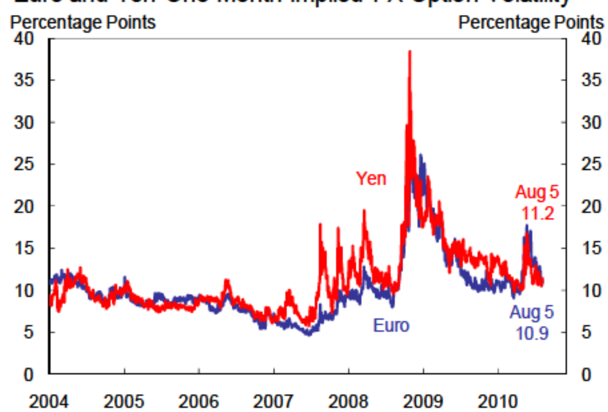
Source: Bloomberg

Nominal Effective Exchange Rates



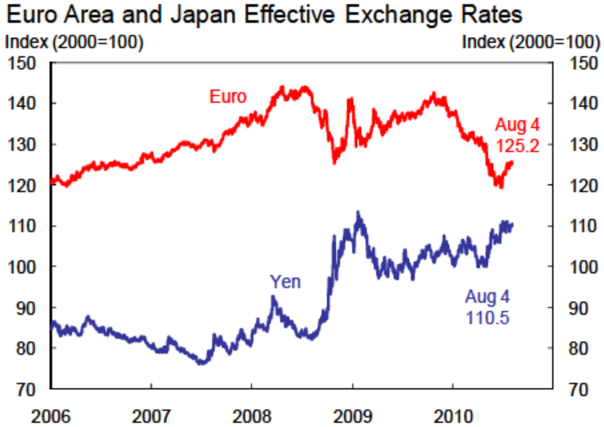
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



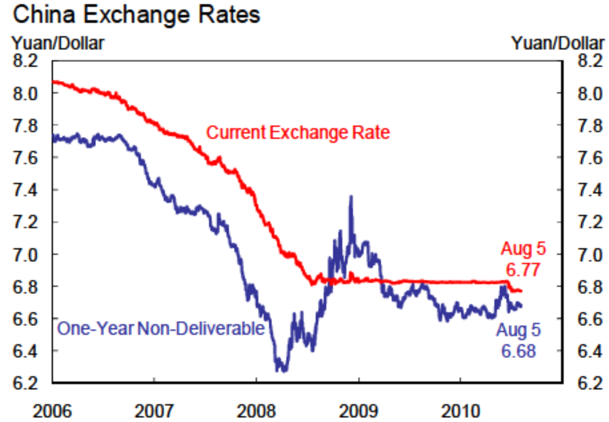
Source: Bloomberg

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

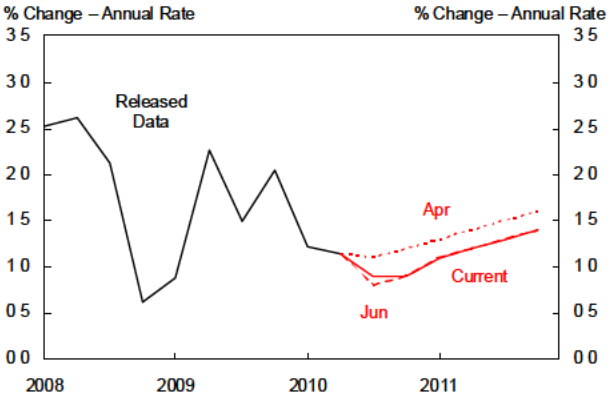
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Apr	Jun	Aug	Apr	Jun	Aug	Apr	Jun	Aug	Apr	Jun	Aug
2009												
Q1	*1.1*	*1.1*	*0.9*	*-6.4*	*-6.4*	*-4.9*	*8.2*	*8.2*	*8.2*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	*2.0*	*2.0*	*2.3*	*-0.7*	*-0.7*	*-0.7*	*9.3*	*9.3*	*9.3*	0-0.25	*0-0.25*	*0-0.25*
Q3	*1.2*	*1.2*	*1.5*	*2.2*	2.2	*1.6*	*9.6*	*9.6*	*9.6*	*0-0.25*	*0-0.25*	*0-0.25*
Q4	*1.7*	*1.7*	*2.1*	*5.6*	5.6	*5.0*	*10.0*	*10.0*	*10.0*	*0-0.25*	*0-0.25*	*0-0.25*
2010												
Q1	0.6	*0.6*	*1.2*	2.9	*3.0*	*3.7*	9.7	*9.7*	*9.7*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	0.9	1.3	*1.1*	2.8	3.2	*2.4*	9.6	*9.9*	*9.7*	0-0.25	*0-0.25*	*0-0.25*
Q3	1.1	0.8	0.9	2.8	2.5	1.1	9.9	10.0	9.6	0-0.25	0-0.25	0-0.25
Q4	1.2	0.9	0.9	3.6	3.1	3.7	9.7	9.9	9.5	0-0.25	0-0.25	0-0.25
2011												
Q1	1.3	1.1	1.1	4.0	3.7	3.8	9.3	9.5	9.1	0-0.25	0-0.25	0-0.25
Q2	1.4	1.2	1.2	4.2	3.8	3.5	8.9	9.2	8.8	0.5	0-0.25	0-0.25
Q3	1.5	1.3	1.3	4.5	4.3	3.6	8.4	8.7	8.6	1.0	0.5-1.0	0.5-1.0
Q4	1.6	1.4	1.4	4.6	4.6	5.1	8.0	8.2	8.1	1.5	0.5-1.0	0.5-1.0
Q4/Q4												
2008	*2.0*	*2.0*	*2.0*	*-1.9*	*-1.9*	*-2.8*	*2.2*	*2.2*	*2.2*	*-4.0*	*-4.0*	*-4.0*
2009	1.5	*1.5*	*1.7*	0.1	*0.1*	*0.2*	3.1	*3.1*	*3.1*	0.0	*0.0*	*0.0*
2010	0.9	0.9	1.0	3.0	3.0	2.7	-0.3	-0.1	-0.5	0.0	0.0	0.0
2011	1.4	1.3	1.3	4.3	4.1	4.0	-1.7	-1.7	-1.4	1.3	0.5	0.5

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

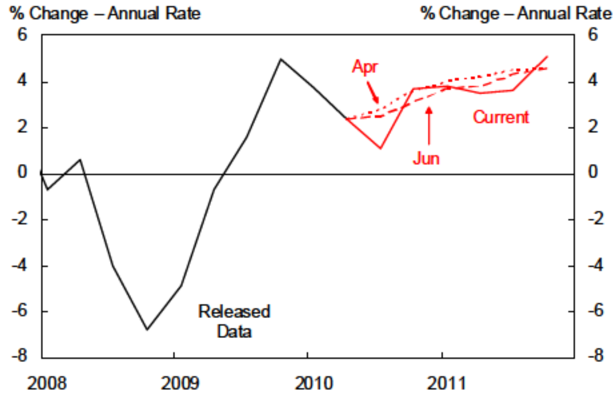
B. FRBNY Forecast Details

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

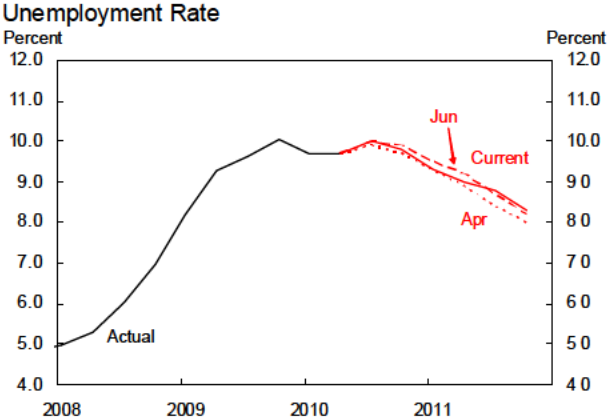
Core PCE Inflation



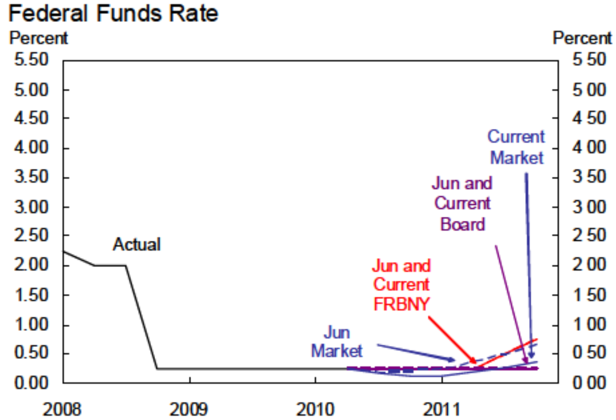
Real GDP Growth



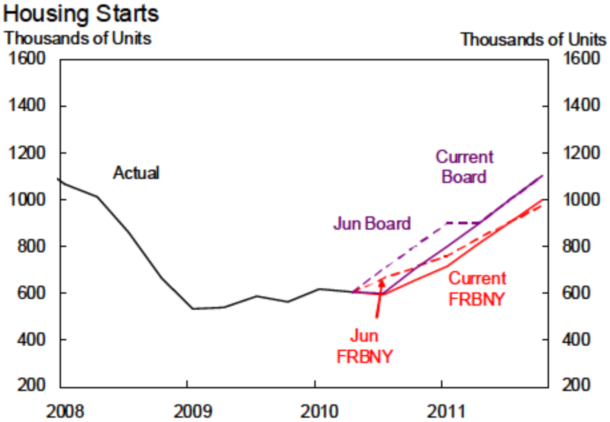
Unemployment Rate



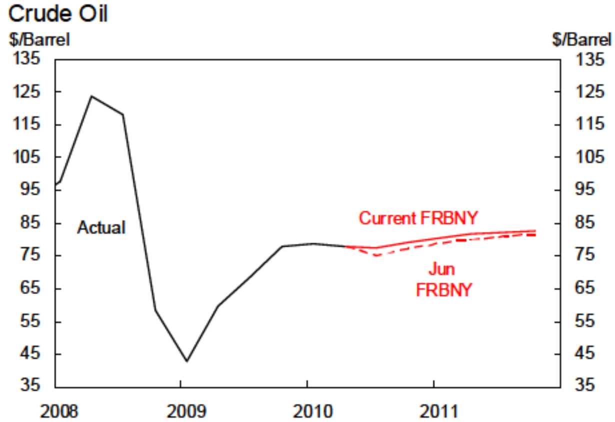
Federal Funds Rate



Housing Starts



Crude Oil



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

B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)		Quarterly Growth Contributions (AR)	
	2010Q3	2010Q4	2010Q3	2010Q4
OUTPUT				
Real GDP	1.1	3.7	1.1	3.7
	(2.5)	(3.1)	(2.5)	(3.1)
Final Sales to Domestic Purchasers	2.2	2.3	2.2	2.3
	(2.3)	(2.6)	(2.4)	(2.6)
Consumption	1.5	2.0	1.0	1.4
	(2.4)	(2.5)	(1.7)	(1.7)
BFI: Equipment and Software	18.0	12.0	1.2	0.8
	(10.0)	(8.0)	(0.6)	(0.5)
BFI: Nonresidential Structures	2.0	4.0	0.1	0.1
	(2.0)	(4.0)	(0.1)	(0.1)
Residential Investment	-14.6	-12.8	-0.4	-0.3
	(-7.5)	(3.3)	(-0.2)	(0.1)
Government: Federal	2.0	1.7	0.2	0.1
	(2.0)	(1.7)	(0.2)	(0.1)
Government: State and Local	1.4	1.3	0.2	0.2
	(0.4)	(0.6)	(0.0)	(0.1)
Inventory Investment	--	--	-1.2	0.1
	--	--	(0.3)	(0.0)
Net Exports	--	--	0.0	1.3
	--	--	(-0.2)	(0.5)
INFLATION				
Total PCE Deflator	1.1	1.2		
	(1.1)	(1.2)		
Core PCE Deflator	0.9	0.9		
	(0.8)	(0.9)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	0.4	1.3		
	(1.3)	(1.3)		
Compensation per Hour	1.3	1.5		
	(1.3)	(1.5)		
Unit Labor Costs	0.9	0.3		
	(0.0)	(0.3)		

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

B. FRBNY Forecast Details

Exhibit B-4: Real GDP and Inflation Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	0.2	2.7	4.0	0.2	2.7	4.0
	(0.1)	(3.0)	(4.1)	(0.1)	(3.0)	(4.1)
Final Sales to Domestic Purchasers	-1.4	2.5	3.3	-1.5	2.5	3.4
	(-1.0)	(2.6)	(3.7)	(-1.0)	(2.7)	(3.9)
Consumption	0.2	1.8	2.6	0.1	1.2	1.8
	(1.0)	(2.8)	(2.7)	(0.7)	(2.0)	(1.9)
BFI: Equipment and Software	-4.9	18.0	8.0	-0.3	1.2	0.6
	(-7.5)	(11.2)	(13.0)	(-0.5)	(0.7)	(0.9)
BFI: Nonresidential Structures	-26.5	-2.1	8.0	-1.1	-0.1	0.2
	(-25.3)	(-3.1)	(9.0)	(-1.1)	(-0.1)	(0.3)
Residential Investment	-13.4	-4.4	24.8	-0.4	-0.1	0.6
	(-12.6)	(-1.4)	(21.7)	(-0.4)	(0.0)	(0.5)
Government: Federal	3.6	3.6	1.5	0.3	0.3	0.1
	(3.6)	(2.7)	(1.5)	(0.3)	(0.2)	(0.1)
Government: State and Local	-1.0	0.0	1.1	-0.1	0.0	0.1
	(-0.1)	(-0.7)	(1.4)	(0.0)	(-0.1)	(0.2)
Inventory Investment	--	--	--	0.5	0.6	0.2
	--	--	--	(0.1)	(0.5)	(0.2)
Net Exports	--	--	--	1.2	-0.4	0.3
	--	--	--	(1.0)	(-0.2)	(0.0)
INFLATION						
Total PCE Deflator	1.5	1.1	1.4			
	(1.2)	(1.1)	(1.4)			
Core PCE Deflator	1.7	1.0	1.3			
	(1.5)	(0.9)	(1.3)			
Total CPI Inflation	0.0	0.0	0.0			
	(1.5)	(0.9)	(1.6)			
Core CPI Inflation	0.0	0.0	0.0			
	(1.7)	(0.6)	(1.5)			
GDP Deflator	0.5	1.3	1.3			
	(0.7)	(1.4)	(1.4)			

Note: Numbers in parentheses are from the previous Blackbook.

B. FRBNY Forecast Details

Exhibit B-5: Projections of Other Key Economic Variables

	Q4/Q4 Growth Rates		
	2009	**2010**	**2011**
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	0-0.25	0-0.25	0.5-1.0
	0-0.25	0-0.25	0.5-1.0
10-Year Treasury Yield (Avg. Q4 Level)	3.5	3.2	4.0
	(3.5)	(3.8)	(4.2)
PRODUCTIVITY AND LABOR COSTS*			
Output	-0.3	3.1	4.9
	(-0.3)	(3.7)	(5.1)
Hours	-5.6	2.1	3.2
	(-5.6)	(2.1)	(3.4)
Output per Hour	5.6	0.9	1.7
	(5.6)	(1.6)	(1.7)
Compensation per Hour	0.2	1.4	1.7
	(0.2)	(1.4)	(1.7)
Unit Labor Costs	-5.1	0.4	0.0
	(-5.1)	(-0.2)	(0.1)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	10.0	9.5	8.1
	(10.0)	(9.9)	(8.2)
Participation Rate (Avg. Q4 Level)	64.8	64.9	65.2
	(64.8)	(65.1)	(65.2)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-448	151	322
	(-448)	(103)	(342)
INCOME			
Personal Income	-0.9	3.5	4.7
	(-1.3)	(4.5)	(5.7)
Real Disposable Personal Income	0.4	2.4	3.0
	(0.7)	(3.4)	(4.1)
Personal Saving Rate	5.5	6.2	6.6
	(3.7)	(4.3)	(5.7)
Corporate Profits Before Taxes	42.5	15.7	6.0
	(30.6)	(7.0)	(4.8)

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

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Tealbook Forecast Comparison

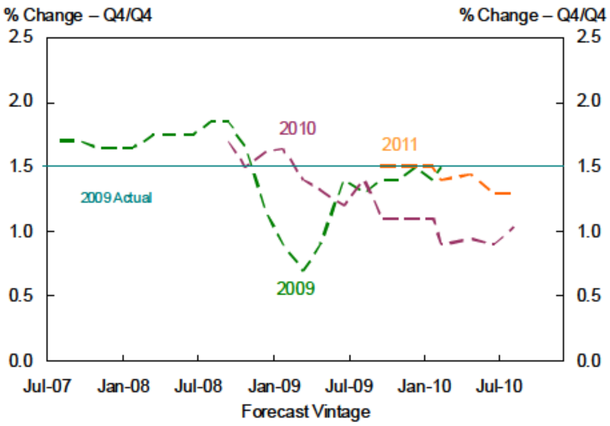
	FRBNY (Q4/Q4)			Board (Q4/Q4)		
	2009	2010	2011	2009	2010	2011
OUTPUT						
Real GDP	0.2	2.7	4.0	0.2	2.7	3.6
	(0.1)	(3.0)	(4.1)	(0.1)	(3.2)	(3.7)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	-1.5	2.5	3.4	-1.5	2.5	3.9
	(-1.0)	(2.7)	(3.9)	(-1.0)	(2.9)	(3.5)
Consumption	0.1	1.2	1.8	0.1	1.3	2.5
	(0.7)	(2.0)	(1.9)	(0.7)	(1.9)	(2.2)
BFI	-1.4	1.1	0.8	-1.4	0.9	0.8
	(-1.6)	(0.6)	(1.1)	(-1.6)	(0.7)	(0.7)
Residential Investment	-0.4	-0.1	0.6	-0.4	0.1	0.5
	(-0.4)	(-0.0)	(0.5)	(-0.4)	(0.1)	(0.4)
Government	0.2	0.3	0.3	0.2	0.2	0.1
	(0.3)	(0.1)	(0.3)	(0.3)	(0.2)	(0.2)
Inventory Investment	0.5	0.6	0.2	0.5	0.8	-0.2
	(0.1)	(0.5)	(0.2)	(0.1)	(0.6)	(0.3)
Net Exports	1.2	-0.4	0.3	1.2	-0.5	0.0
	(1.0)	(-0.2)	(0.0)	(1.0)	(-0.3)	(-0.2)
INFLATION						
Total PCE Deflator	1.5	1.1	1.4	1.5	1.3	1.1
	(1.2)	(1.1)	(1.4)	(1.2)	(0.9)	(1.0)
Core PCE Deflator	1.7	1.0	1.3	1.7	1.1	0.9
	(1.5)	(0.9)	(1.3)	(1.5)	(0.8)	(0.8)
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	5.6	0.9	1.7	66.3	1.4	1.3
	(5.6)	(1.6)	(1.7)	(5.6)	(1.2)	(0.9)
Compensation per Hour	0.2	1.4	1.7	2.6	0.9	2.2
	(0.2)	(1.4)	(1.7)	(0.2)	(1.7)	(2.3)
Unit Labor Costs	-5.1	0.4	0.0	-3.5	-0.5	0.8
	(-5.1)	(-0.2)	(0.1)	(-5.1)	(0.5)	(1.5)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	10.0	9.5	8.1	10.0	9.7	8.9
	(10.0)	(9.9)	(8.2)	(10.0)	(9.5)	(8.6)
Participation Rate (Avg. Q4 Level)	64.8	64.9	65.2	64.9	64.7	64.6
	(64.8)	(65.1)	(65.2)	(64.9)	(64.8)	(64.7)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	-448	151	322	-450	100	258
	(-448)	(103)	(342)	(-450)	(133)	(283)
SAVING						
Personal Saving Rate (Avg. Q4 Level)	5.5	6.2	6.6	5.5	6.2	6.2
	(3.7)	(4.3)	(5.7)	(3.7)	(3.8)	(4.1)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	565	655	1000	600	600	900
	(559)	(740)	(1025)	(600)	(700)	(1000)

B. FRBNY Forecast Details

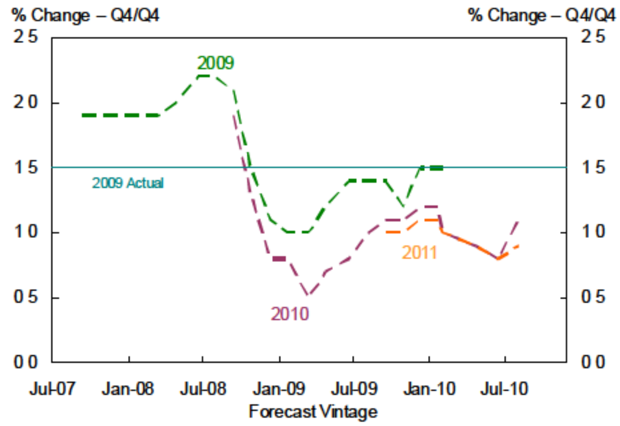
Exhibit B-7: Evolution of FRBNY and Board Forecasts since Mid-2006

FRBNY | **Board**

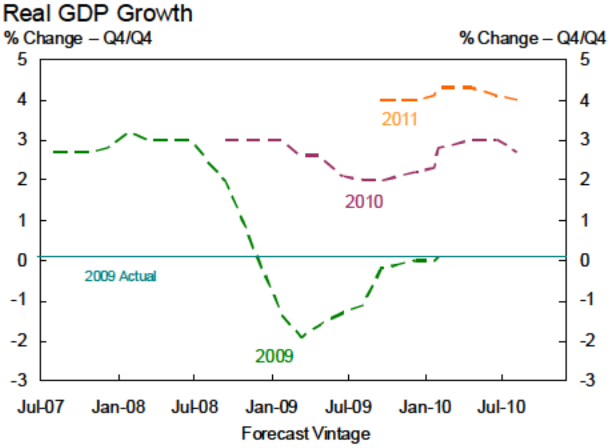
Core PCE Inflation



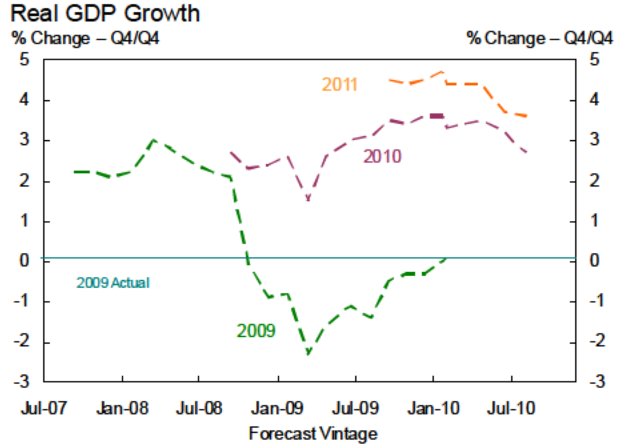
Core PCE Inflation



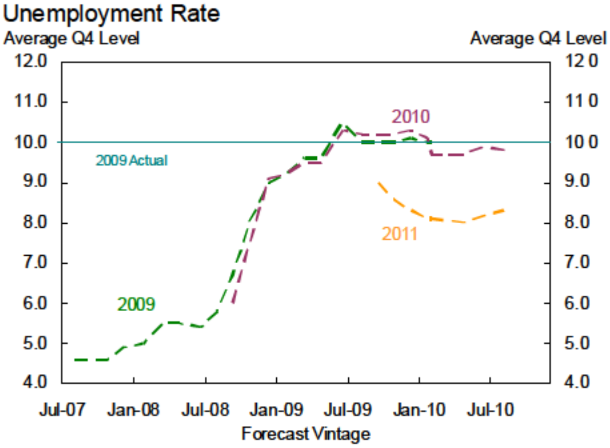
Real GDP Growth



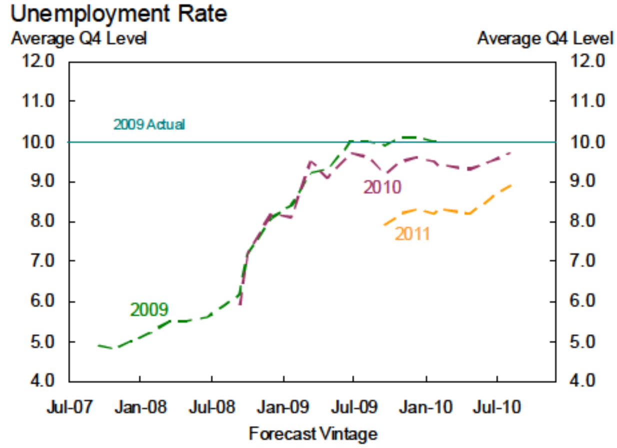
Real GDP Growth



Unemployment Rate



Unemployment Rate



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

B. FRBNY Forecast Details

Exhibit B-8: Alternative GDP and Inflation Forecasts

Real GDP Growth

	Release Date	2010Q3	2010Q4	2010 Q4/Q4	2011 Q4/Q4
FRBNY	8/6/2010	1.1	3.7	2.7	4 0
		(2.5)	(3.1)	(3.0)	(4.1)
PSI Model	8/1/2010	1.9	--	--	--
		(2.9)	--	--	--
Blue Chip	7/10/2010	2.7	2.8	2.9	3 0
		(3.0)	(3.1)	(3.1)	(3.1)
Median SPF	5/14/2010	3.3	2.8	3.1	--
		(2.7)	(2.7)	(2.7)	--
Macro Advisers	7/8/2010	3.0	3.6	3.2	4 0
		(3.7)	(3.9)	(3.7)	(3.7)

Core PCE Inflation

	Release Date	2010Q3	2010Q4	2010 Q4/Q4	2011 Q4/Q4
FRBNY	8/6/2010	0.9	0.9	1.0	1.3
		(0.8)	(0.9)	(0.9)	(1.3)
Median SPF	5/14/2010	1.2	1.3	1.2	1.6
		(1.3)	(1.4)	(1.3)	(1.5)
Macro Advisers	7/8/2010	1.2	0.8	1.0	0 9
		(1.0)	(0.7)	(0.8)	(0.8)

CPI Inflation

	Release Date	2010Q3	2010Q4	2010 Q4/Q4	2011 Q4/Q4
FRBNY	8/6/2010	0.3	1.2	0.6	1.6
		(1.1)	(1.3)	(0.9)	(1.6)
Blue Chip	7/10/2010	1.3	1.5	1.0	1.7
		(1.5)	(1.7)	(1.3)	(1 9)
Median SPF	5/14/2010	1.8	1.8	1.6	2 0
		(1.8)	(1.9)	(1.7)	(2.1)
Macro Advisers	7/8/2010	1.4	0.8	0.8	1 0
		(1.2)	(0.7)	(0.8)	(1 0)

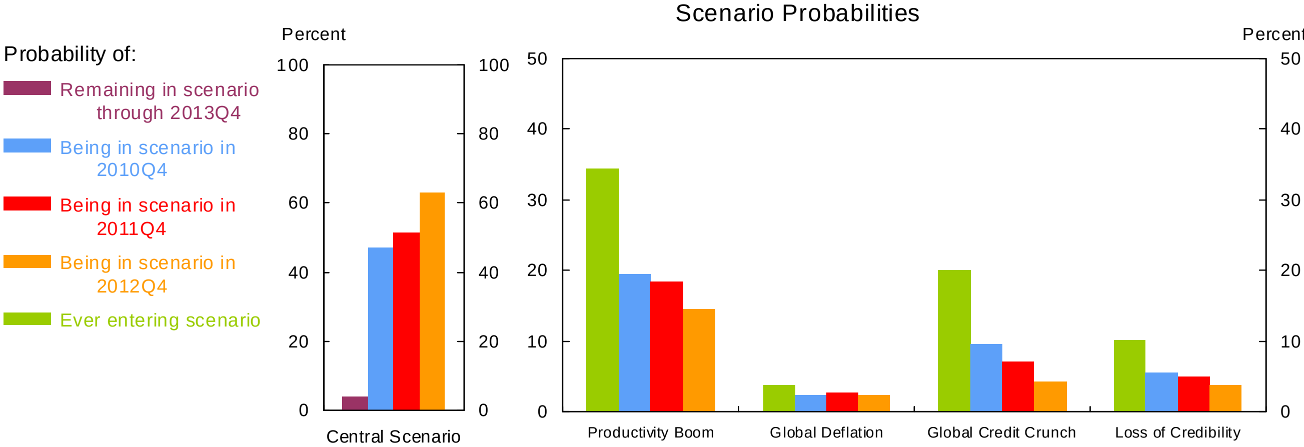
Core CPI Inflation

	Release Date	2010Q3	2010Q4	2010 Q4/Q4	2011 Q4/Q4
FRBNY	8/6/2010	1.4	1.2	0.9	1.5
		(0.8)	(1.0)	(0.6)	(1.5)
Median SPF	5/14/2010	1.4	1.5	1.0	1.6
		(1.5)	(1.5)	(1.4)	(1.7)
Macro Advisers	7/8/2010	1.0	0.8	0.6	0.8
		(0.9)	(0.9)	(0.6)	(0 9)

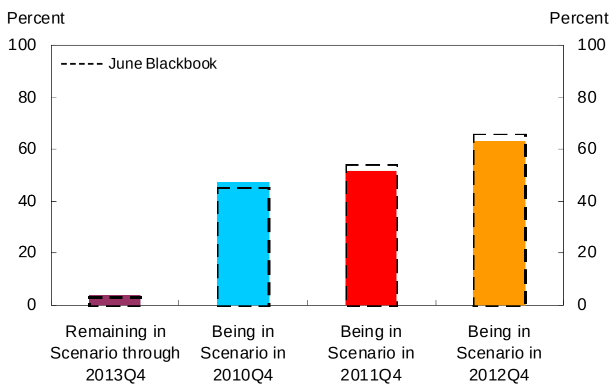
C. FRBNY Forecast Distributions

Exhibit C-1:
Risks

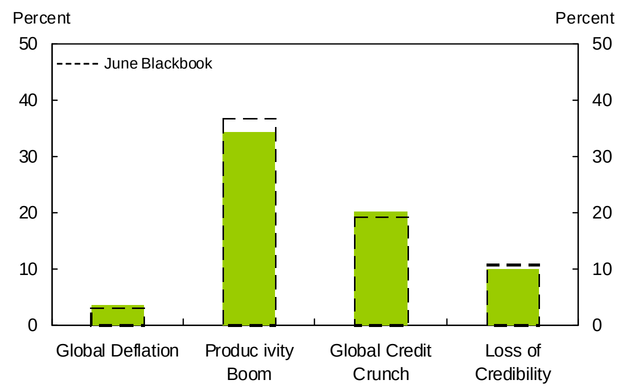
Scenario Probabilities



Change in Central Scenario Probabilities



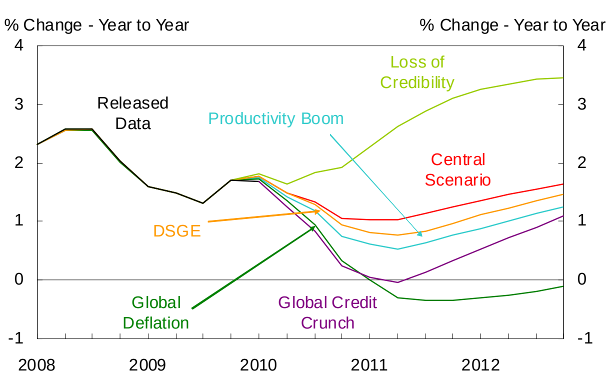
Change in Alternative Scenario Probabilities*



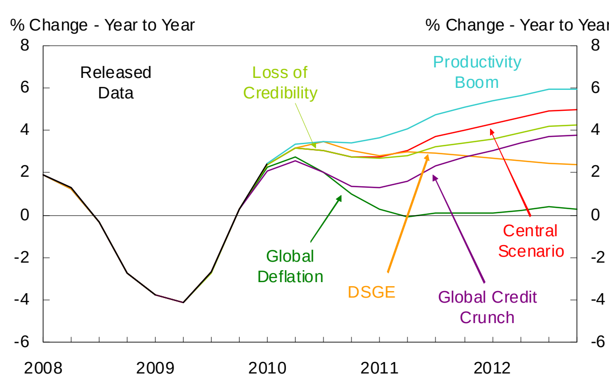
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

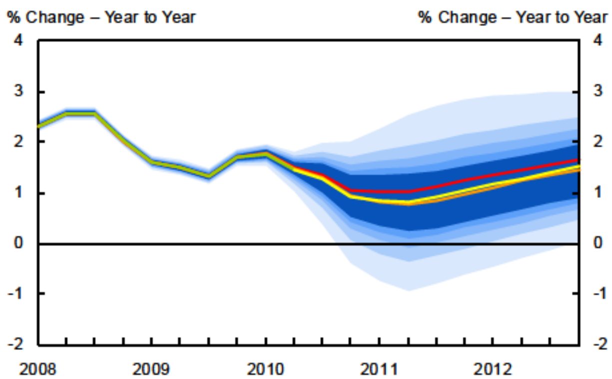


Source: MMS Function (FRBNY)

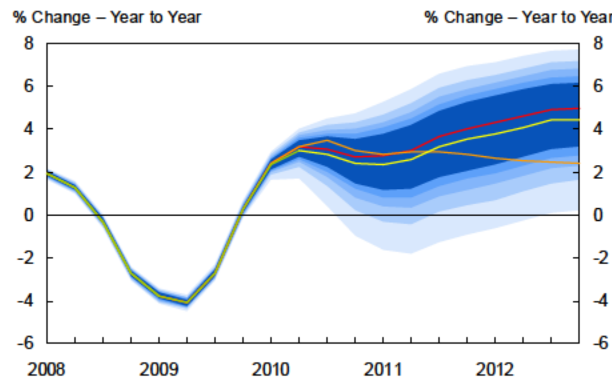
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

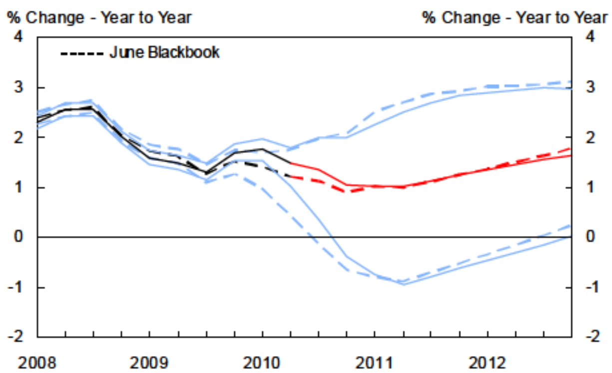


Real GDP Growth Forecast Distribution

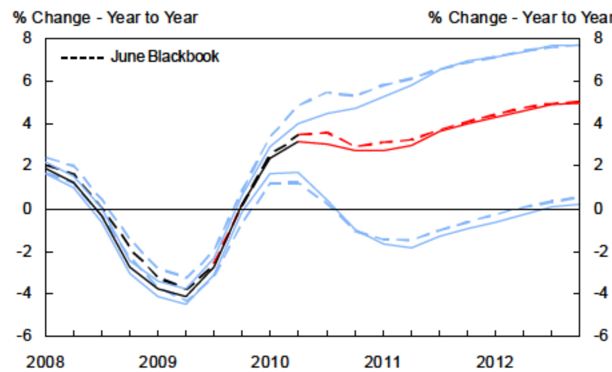


The yellow line represents the expected value of the forecast distribution, the red line represents the FRBNY central projection, the orange line represents the DSGE forecast, and the green line represents released data. The shading represents the 50, 60, 70, 80 and 90 percent probability that the four-quarter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

Change in Core PCE Inflation Forecast Distribution

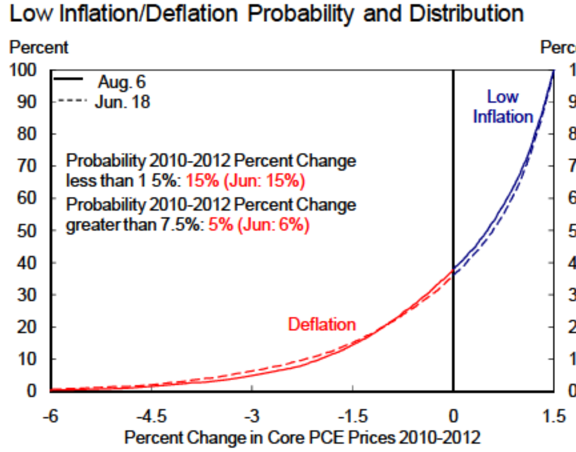


Change in Real GDP Growth Forecast Distribution

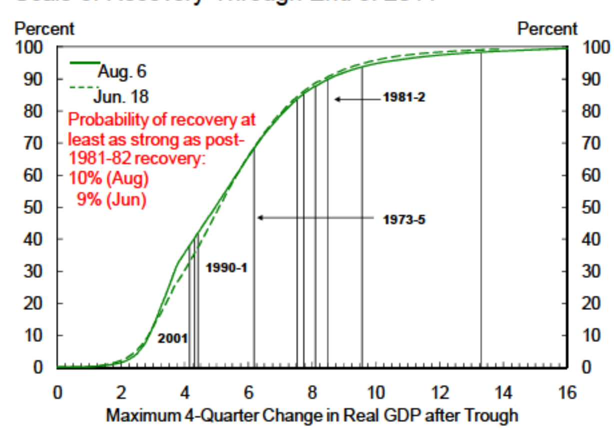


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from the previous Blackbook.

Low Inflation/Deflation Probability and Distribution



Scale of Recovery Through End of 2011

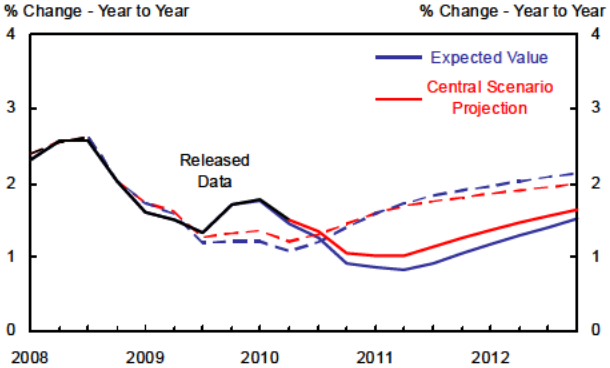


Source: MMS Function (FRBNY)

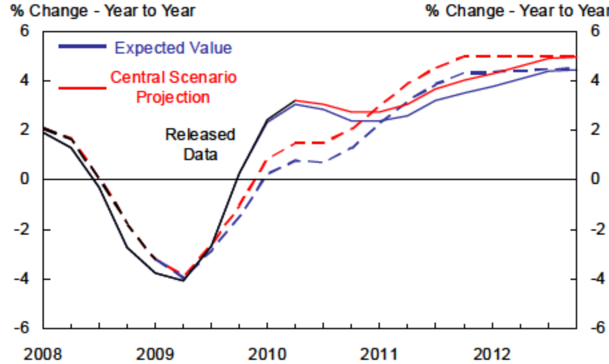
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

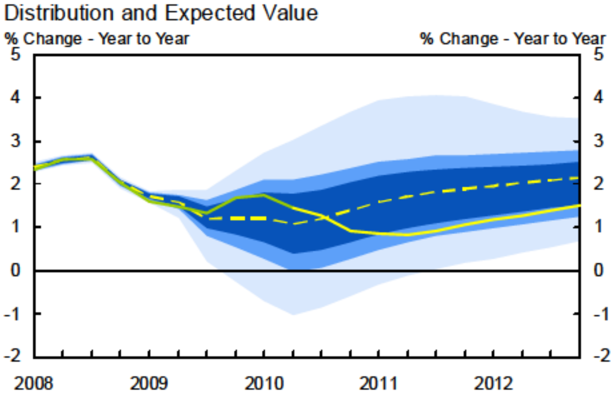


One-Year Comparison of Real GDP Growth Forecast

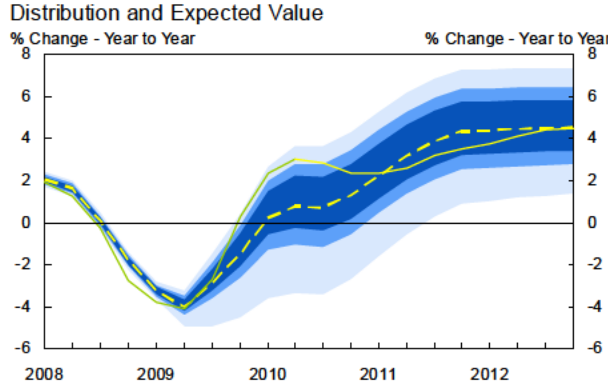


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

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



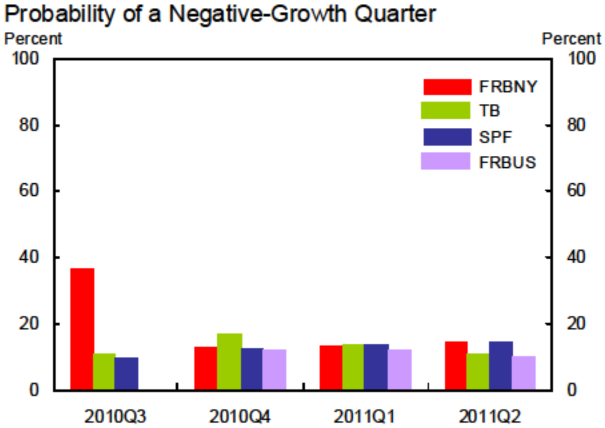
One-Year Comparison of Real GDP Growth Forecast Distribution and Expected Value



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

Exhibit C-5: Probability of a Negative Growth Quarter

Probability of a Negative-Growth Quarter

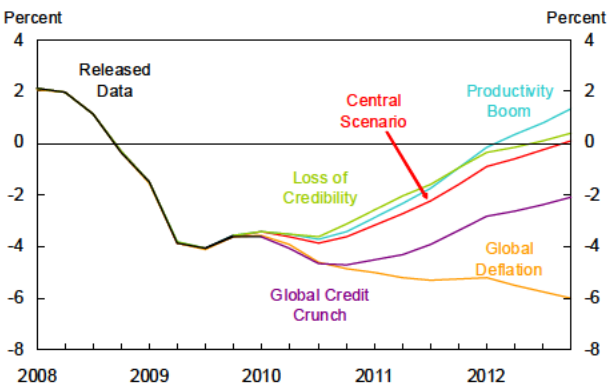


Source: MMS Function (FRBNY)

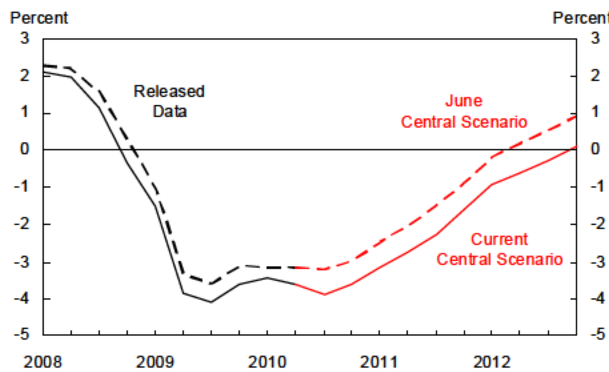
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

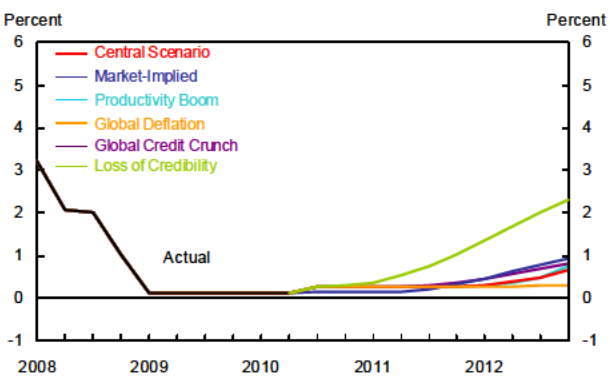
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

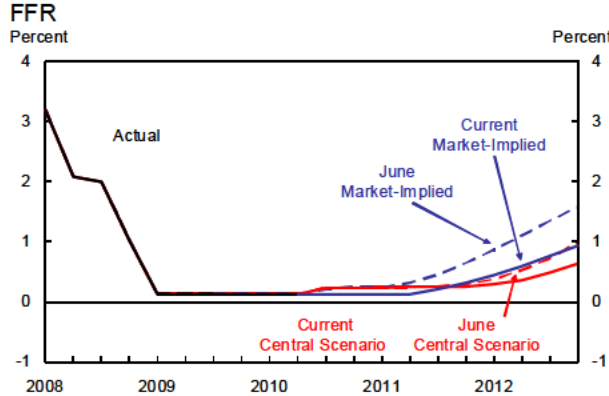
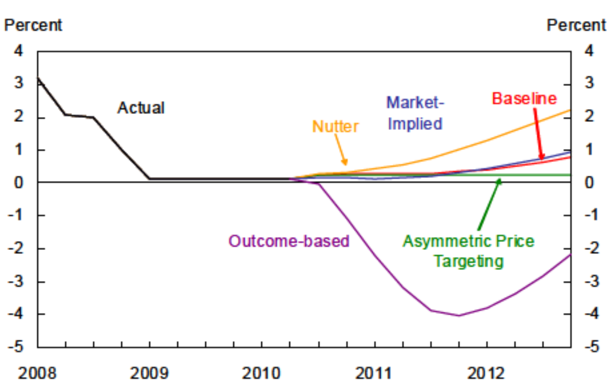


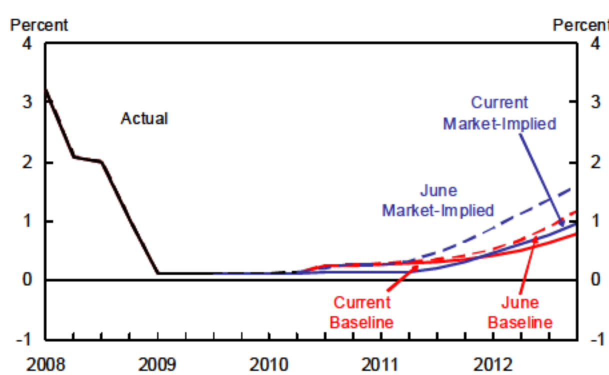
Exhibit D-2: Alternative Policy Rules under Expected Value of Forecast Distribution

Nominal FFR using Alternative Policy Rules*



*Evaluated using yellow line from C-3

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



*Evaluated using yellow line from C-3

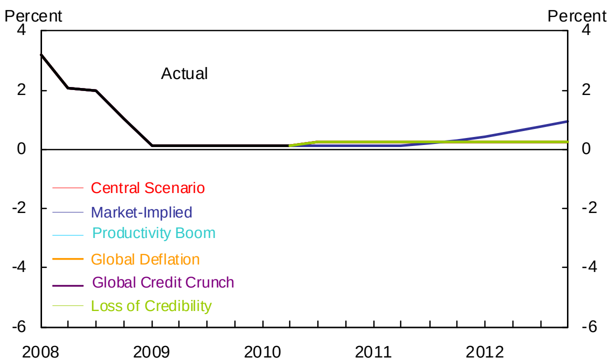
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

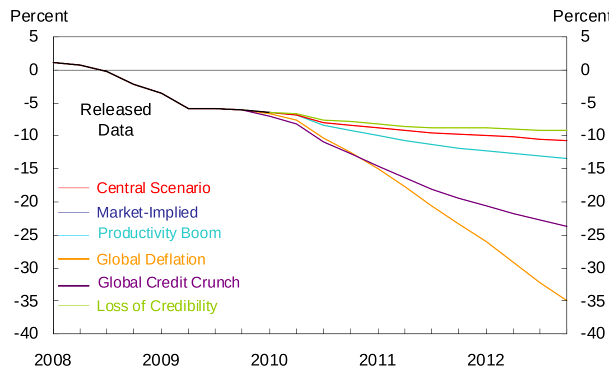
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

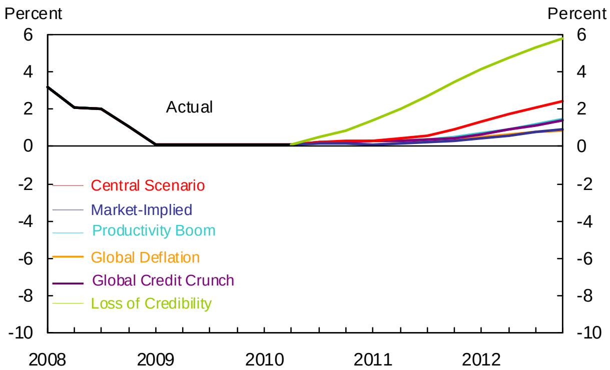


Real FFR under Alternative Scenarios

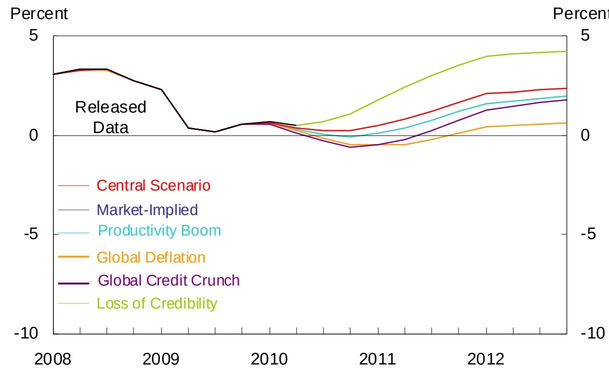


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios

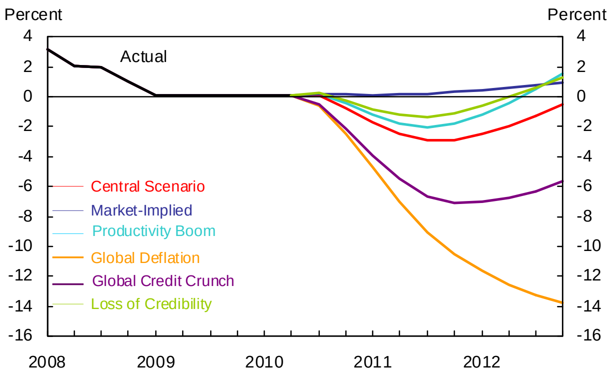


Real FFR under Alternative Scenarios

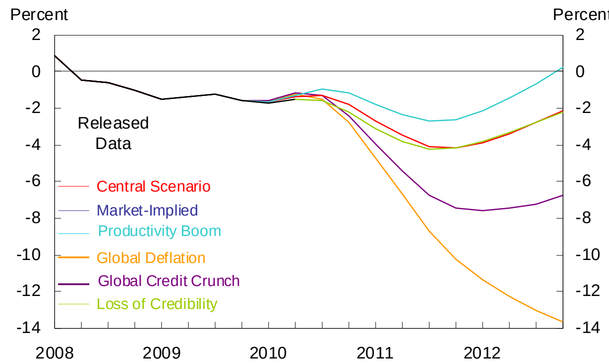


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



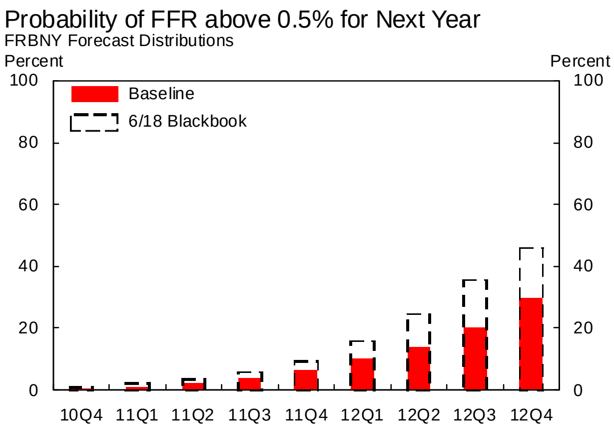
Real FFR under Alternative Scenarios

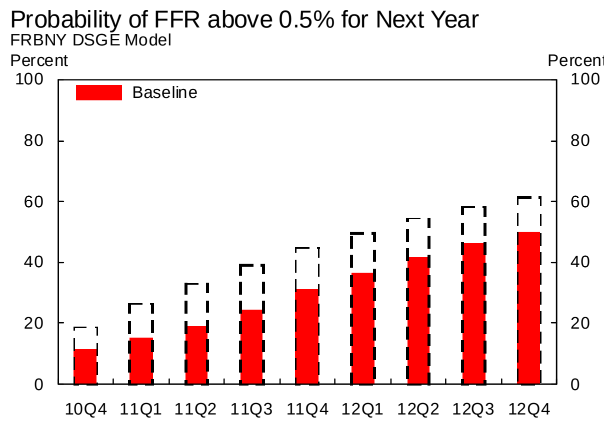


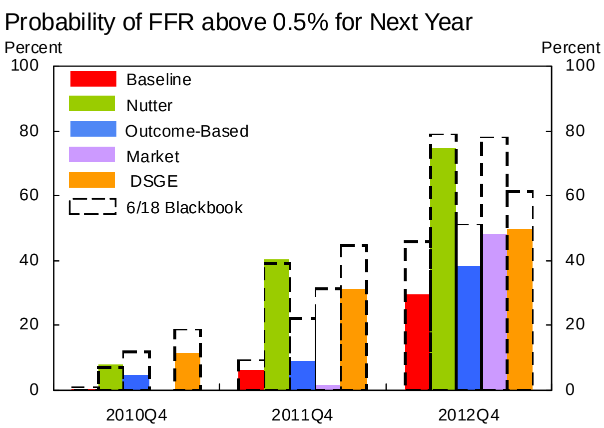
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-4: FFR Probabilities







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

Source: MMS Function (FRBNY)

Alternative Scenario Descriptions

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

Our first two alternative scenarios consider the impact of above- and below-trend productivity growth, respectively. Our current assumption of trend productivity growth is around 1.75% on a nonfarm business sector basis. Sustained productivity growth above or below this assumption would have important consequences for the economy; consequently these alternative scenarios are expected to be included in almost all periods.

Alternative 1: *Productivity Boom*

After a lull in the mid-2000s, productivity growth has been robust and above our current estimate of trend productivity growth. This rapid growth raises the possibility that the lull in productivity growth in mid-decade was a cyclical development and that medium- and long-term productivity growth will be closer to that of previous post-WWII periods of high productivity growth (pre-1973 and the mid-1990s through the mid-2000s). As such, we could see persistent productivity growth above our assumed trend, implying a higher potential growth rate for output and thus expected real output growth that is higher than our current estimate. (A higher potential growth rate may also imply that the output gap that opened during the 2007-2009 recession is larger than we currently estimate). Strong productivity growth would also limit labor cost pressures and thereby help to subdue inflation.

Alternative 2: *Productivity Slump*

Despite the recent surge in productivity growth, there are a number of reasons that productivity growth could slow substantially in the future. First, the recent rise may reflect a new cyclical pattern whereby firms protective of their profit margins reduce labor input in anticipation of slower profit growth. The massive declines in hours worked that have been associated with recent strong productivity growth lend supporting evidence to this view. Second, it is possible that the IT developments that drove the longer-term upswing in productivity that began in the mid-1990s may have run their course. Third, a renewed increase in the level and volatility of energy and commodity prices could lead to lower productivity growth, as occurred in the 1970s. In any case, if the rapid gains in productivity seen during the recession prove to be only transitory, there could be an extended period of productivity growth below the trend in our central forecast. Below-trend productivity growth would imply a lower estimate of potential output growth (and therefore a smaller output gap) and would also push inflation above the level projected in our central forecast.

We also currently consider four additional scenarios. In two of them (*Fiscal Consolidation* and *Loss of Credibility*), the public and investors lose confidence in the current stances of fiscal or monetary policy. In the other two (*Global Credit Crunch* and *Global Deflation*), the recent stresses in global financial and economic conditions continue to have an impact on U.S. economic conditions; the differences between the two mainly reflect differing assessments of how protracted the negative effects could be.

Alternative 3: *Fiscal Consolidation*

Events in Europe in early and mid-2010 concerning the fiscal position of several euro zone countries raises issues about the possible economic consequences if similar concerns were to develop about the sustainability of the U.S. government's fiscal position. The *Fiscal Consolidation* scenario envisions a situation in which concerns on the part of investors about the fiscal sustainability of the United States leads to an increase in long term interest rates and term premiums that contribute to a decline in output growth below that of the central forecast. As the U.S. government responds to those concerns by reducing government spending and/or raising taxes, the consequent decline in aggregate demand would imply that growth of real activity continues to be weak. In this scenario inflation temporarily rises above the central forecast, in part due to a likely depreciation of the dollar and possible increases in inflation expectations[2]. However, after several quarters, with the government embarking on a credible fiscal

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

consolidation, inflation declines below the central forecast as a consequence of the drop in aggregate demand and output growth.

Alternative 4: *Global Credit Crunch*

Although financial markets are generally notably healthier than they were during the most extreme periods of the financial crisis, continued impairments in some markets as well as general economic uncertainty may be keeping credit availability very tight. In addition, consumers suffered wealth losses during the crisis, of which only a small part has been recovered, and volatility in equity markets is still elevated. Most central banks are maintaining what would appear to be very accommodative policy stances. This combination of factors suggests the neutral rate is still lower than it was before the financial turmoil began (we estimate it to be between 3.00% and 3.75% over the near-term). Even though the current FFR is well below our lower estimate of the neutral rate, tight credit conditions, continued stresses in global financial markets, and a still-significant chance of a further deterioration in global economic conditions create a risk that output growth will fall significantly below the level projected in the central forecast; this development would likely be accompanied by inflation below the level in the central forecast. Nevertheless, under this scenario we assume that financial markets will begin to function more normally and that, as they do, the economy will exit the *Global Credit Crunch* scenario and begin growing faster than its potential growth rate. The strong output growth experienced when the economy leaves the scenario should result in a closing of the output gap over time.

Alternative 5: *Loss of Credibility*

In the wake of the monetary and fiscal stimulus used to combat the 2007-2009 recession, some commentary has focused on the possibility that these policies could lead to higher inflation expectations and eventually to higher inflation. The continued elevated levels of some commodity prices are consistent with such commentary. Even though the FOMC has made its commitment to low rates contingent on "subdued inflation trends" and "stable inflation expectations," it is possible that market participants may begin to believe that the FOMC is not credibly committed to keeping inflation around the presumed implicit target level, especially if the unemployment rate remains high. In addition, concerns about the possible influence of continued high fiscal deficits on monetary policy could lead investors and the public to question FOMC credibility on inflation: FRBNY survey evidence suggests that, for at least some market participants, increases in government debt lead to higher inflation expectations, regardless of the reason for the increased debt. If the concerns about credibility were to become widespread, they would likely cause rises in inflation and inflation expectations above forecast.

Alternative 6: *Global Deflation*

Recent price level indicators point to low inflation in many regions of the world. With inflation at such levels, sluggish growth in some parts of the world, concerns about the future of the euro zone, and continued financial market uncertainty suggest that there is some risk of global deflation going forward. This possibility is further exacerbated as many central banks around the world have their policy rates at or very near their lower bounds. The *Global Deflation* scenario reflects the possibility that the U.S. and the rest of the world may get mired in a liquidity trap for a prolonged period of time, resulting in both inflation and output growth far below the levels projected in the central forecast. Because of the difficulty of exiting such a situation, we see the *Global Deflation* scenario as quite persistent. Unlike the *Global Credit Crunch* scenario, the economy does not generally "bounce back" from *Global Deflation* to close the output gap. Instead, the U.S. is much more likely to experience a prolonged period of essentially no growth, and in many simulations in which the economy enters the *Global Deflation* scenario the level of output in 2013 does not surpass the 2009Q2 peak.

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

1. *Productivity Boom*: inflation below central forecast, output above central forecast.
2. *Productivity Slump*: inflation above central forecast, output below central forecast.
3. *Fiscal Consolidation*: inflation initially above and then below central forecast, output 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 (except for the *Nutter* rule, which ignores output deviations), while incorporating some degree of inertia. For each of the FFR paths and each of the policy rules, we determine these deviations using the inflation and output paths generated in Exhibit C.

Baseline Policy Rule Specification:

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

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

The two variants of the *Baseline* rule that we use are the *Asymmetric Price Targeting* and *Nutter* rules. The *Asymmetric Price Targeting* rule is designed to combat deflation by instituting price-level targeting. This rule reacts more slowly than the *Baseline* rule to initial increases in inflation, maintaining a lower policy rate for a longer period of time.[3] 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

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

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

The *Nutter* rule reacts more strongly than the Baseline rule to changes in inflation. Specifically, the *Nutter* rule increases the weight on deviations of core PCE inflation from the target ($\varphi_\pi = 2$ 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)[4].

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

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

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

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