FRBNY BLACKBOOK

RESEARCH AND STATISTICS GROUP

FOMC Background Material

June 2011

CONFIDENTIAL (FR) Class II FOMC

FRBNY BLACKBOOK

June 2011

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EXHIBITS

EXHIBIT OVERVIEW

1. Policy Recommendation and Rationale

Recent developments in the outlook and risks for U.S. growth and inflation have led to only relatively minor changes in our policy recommendation. We recommend maintaining the federal funds rate target range at 0-0.25% through 2012Q3, one quarter later than in the last Blackbook and in line with the current market-implied path. We also support retaining the policy to reinvest principal payments from securities holdings. However, the downside risks to real activity now appear significant enough for the FOMC to begin consideration of policy options for more accommodation.

Rationale—Outlook. For real activity, the weak May job market data, soft consumer spending data, downward revisions to income, and weaker readings of some business surveys have led us to lower our forecast of output growth for this year and next year. The slower projected growth and the recent uptick in the unemployment rate also have led us to raise the projected path for the unemployment rate. Although we have increased our projection for core PCE inflation in 2011H1 from that in the April Blackbook, the 2011(Q4/Q4) forecast has been raised only modestly and the 2012 forecast is unchanged. Similarly, the 2012 forecast for total PCE inflation is little changed.

Rationale—Risks. The developments during the intermeeting period led us to change our risk assessment. We see that the balance of risks to real activity is further skewed to the downside, reflecting an increase in the downside risks and a reduction in the upside risks. A premise of our central forecast is that the recent soft patch in the real economy is temporary and likely due in large part to supply disruptions in the auto industry in the aftermath of the Japanese earthquake as well as the impact of severe weather in the Midwest and South. In assessing the risks to the central forecast in the upcoming FOMC cycle, a key will be the behavior in unemployment insurance claims: if the economy indeed has been suffering a temporary soft patch, we expect claims to drop significantly in July. Meanwhile, on the inflation front, we have removed a modest amount of the upside risks to inflation. While this partially reflects weakness on the real side and the moderation in commodity markets (especially oil), it is primarily due to the decline in longer-term TIPS implied inflation compensation, which suggests that inflation expectations remain anchored.

Future Policy Issues. As much as we would like to restrict discussion to an exit strategy, we believe that the FOMC will also need to be prepared for an "entry strategy" that aims at stimulating aggregate demand to address the greater downside risks that have developed over the intermeeting period. In particular, options beyond another asset purchase program similar to LSAP II, including changes in language, may need to be considered if more accommodation is deemed necessary.

With regard to the exit strategy, our stance is broadly unchanged from the last Blackbook. Most pertinent at this time is the timing of the initial increase in the FFR. Our recommendation is to maintain the current target range through 2012Q3, which is one quarter later relative to the last Blackbook. Given this recommended timing, we believe that the "extended period" language and the current reinvestment policy can be maintained at least until the middle of next year. Again, economic and financial conditions will influence the timing of the initial moves; in particular, significant movements in inflation expectations, labor market conditions, financial conditions, and "early warnings" by economic indicators (such as business and consumer surveys) should lead to changes in the timing of exit.

The eventual renormalization of policy will be comprised of a number of steps involving language, the balance sheet, and policy rates. Of note about this process, we still see the FFR as the principal means of communicating the policy stance, but we expect that the primary changes in the FFR will take place through changes in the IOER during renormalization. Also, as noted in the previous Blackbook, the renormalization process will provide the FOMC considerable information that will be useful in determing the eventual policy implementation framework, and thus that decision can be deferred for now.

2. Evolution of Outlook and Risks

2.1 Central Forecast

After rising at a 2.8% (Q4/Q4) rate in 2010, growth of real GDP slowed to 1.8% (annual rate) in 2011Q1. Available data suggest that the economy will grow at only a 2 ¼% annual rate in 2011Q2. The slowing of growth has been centered in consumer spending—real PCE looks to have increased at just under a 2% annual rate over the first half of 2011, down from a 3 ¼% annual rate over the second half of 2010. As the growth slowdown has unfolded, trends in the labor market took a turn for the worse. The four-week moving average of initial claims for unemployment insurance, which had declined to below 400,000 from late February through mid April, rose to 440,000 by mid May. As of mid June that four-week moving average has declined modestly to 425,000. The pace of net job creation had been firming, with the three-month moving average of monthly changes of private nonfarm payroll employment increasing to 244,000 in April. But private payrolls increased by just 83,000 in May, and the unemployment rate rose another tenth of a percentage point to 9.1%. The rate of growth of hours worked by all private employees increased at a robust 4% annual rate over the April-May period, but it slowed to an increase of 0.1% (monthly rate) in May from 0.5% in April.

We view this slowing of growth over the first half of 2011 to be a "soft patch", induced by simultaneous, external shocks to the US economy from rising commodity prices, supply disruptions following the earthquake and tsunami in Japan, and unusually severe winter and spring weather. Looking through these shocks, the underlying fundamentals of the US economy have improved significantly over the past year, and there are several important sources of strong demand growth. Based on the Senior Loan Officer Survey, the net percentage of banks easing lending standards increased again in 2011Q2. Household net worth increased further in 2011Q1, and several measures of household leverage showed continued improvement. Growth of both real exports and real business investment in equipment and software remain strong, while inventories are relatively lean.

As the second quarter comes to a close, these shocks are beginning to reverse, at least in part, setting the stage for stronger growth in the second half of 2011. Oil prices have declined from their recent peak levels, and gasoline prices are now falling. This will begin to reverse the hit to real disposable income suffered by the household sector. In addition, the supply disruptions are now abating, and US auto makers have announced aggressive production schedules for the third quarter in an effort to boost inventories that are now quite low.

In contrast to the expenditure data, data on inflation has tended to come in stronger than expected. As of May, the twelve month changes of the total and core CPI had moved up to 3.4% and 1.5%, respectively, from 1.2% and 0.6%, respectively, in 2010Q4. Year-over-year gains of headline inflation should peak in the third quarter; energy prices in the CPI fell 1.0% (monthly rate) in May and will decline even more in June based on weekly data on spot prices of refined petroleum products. Core CPI inflation has been boosted by both the core goods and core services components. In many cases those increases look to be transitory. Transportation services prices were boosted as a second round effect of higher energy prices, but those price increases have already begun to subside. We have also seen unusually large increases in prices of lodging away from home, which historically have been short lived. The acceleration of the rates of increase of both rent measures in the CPI appears to have ended, at least for now. Regarding core goods, there have been quite large increases in prices of both new and used vehicles over the past few months, due in part to quite lean inventories stemming from supply disruptions. These large increases are expected to subside in the months ahead as vehicle production is ramped up. Apparel prices also increased sharply in May, apparently reflecting pass through of higher prices for cotton and some synthetic fibers. However, this too is likely to pass; cotton futures prices are down sharply as reports indicate a large increase in planted acres around the world.

Conditioning assumptions. We continue to assume that potential GDP growth is around 2 ½%. This is composed of trend hours growth of 1% and trend productivity growth of around 1 ½% (on a GDP basis, which is equivalent to about 1 ¾% on a nonfarm business sector basis). The Tealbook estimates of potential for 2011 and 2012 are unchanged at 2.3% and 2.4%, respectively.

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

The FRBNY outlook for foreign real GDP growth in 2011 is unchanged at 3.6% (Q4/Q4 on a GDP-weighted basis). The Board staff projection for 2011 is 3.1%, due largely to a weaker recovery in Japan. For 2012, we and the Board project foreign real GDP growth of 3.5%.

The projected path of oil prices over the forecast horizon has been lowered reflecting the recent decline in prices. Based on futures quotes, we expect an average price of WTI of $102 per barrel for 2011Q4, $9 per barrel lower than in April. The Board assumes $98 per barrel for 2011Q4, $10 per barrel lower than in April. Further out, the oil futures curve has a slight downward slope, with both forecasts assuming a price of $102 to $103 for 2012Q4.

Our assumptions regarding federal fiscal policy, which are the same as that of the Tealbook, are unchanged from April. For calendar 2011, federal fiscal policy is expected to be a roughly neutral influence on aggregate demand. However, in 2012 fiscal policy is anticipated to exert a drag on growth of about 1 percentage point as the payroll tax reduction and investment expensing provisions expire, the emergency unemployment benefits are phased out, the grants to state and local governments included in the 2009 stimulus bill are exhausted, and enacted reductions in budget authority begin to be reflected in outlays.

The assumed path of equity prices in the Tealbook, which we also adopt, has been shifted downward to account for the fact that equity prices are now about 5% below what they were expected to be at this time in the forecast. Nonetheless, equity prices are still expected to increase at a 9% annual rate through the end of 2012. The main driver of this increase in equity prices is the return of the equity premium to more normal levels.

Also reflecting intermeeting developments, the Board's assumed path of the nominal exchange value of the dollar is lower with a decline of 4.4% in 2011 versus 4.1% in April. The assumed decline in 2012 is unchanged at 2.0%. Our assumed path of the nominal exchange rate is a decline of 5.4% in 2011 and 1.5% in 2012, with an end point value essentially the same as that in the Tealbook.

Finally, following some firming from early 2009 through mid 2010, the Core Logic repeat sales home price index declined at a 9 ½% annual rate over the second half of 2010. The index has continued to decline over the first four months of 2011, but the rate of decline has slowed to an annual rate of about 7%. That rate of decline is expected to continue to slow over the remainder of 2011 such that the 2011Q4/Q4 decline is 4 ½%. Home prices are expected to be essentially unchanged for 2012.

The Outlook. For this Blackbook we have once again lowered projected growth in 2011 and 2012. For 2011, we now expect real GDP to increase 3% (Q4/Q4) versus 3.7% in the April Blackbook and 4% in January. Much of this reduction for 2011 reflects the impact of events than have already happened. Growth of real GDP in the first half of 2011 will likely be around 2% (annual rate), almost a full percentage point below our projection in April. As mentioned above, we view this slowing of growth as primarily a temporary phenomenon resulting from external shocks. While these shocks are now beginning to reverse, they will have some lasting effects which we believe has lowered the trajectory of the recovery. Thus, we have lowered projected growth in the second half of the year to around 4% from 4½%, and in 2012 to 3¾%, down from around 4% in April.

The main source of the "slow patch" is a pronounced slowing of the rate of growth of real personal consumption expenditures. This largely stems from a larger than anticipated commodity price shock which has resulted in a pronounced slowing of growth of real disposable income. In addition to the commodity price shock, the level of personal income for 2011Q1 has been revised down while the level of personal current taxes has been revised up. Real PCE has not slowed to the same extent as disposable income; as a result, the saving rate declined to 4.9% in April, compared to over 6% a year ago. Even though the ratio of household net worth to disposable income increased somewhat in the first quarter, we view this decline of the saving rate as an undesired response to higher prices of goods with very inelastic demand in the short run. Because we expect households to forestall any further decline of the personal saving rate over the forecast horizon, we have therefore reduced our real PCE growth forecast through the end of 2012.

Despite the marking down of projected real PCE growth, we have seen improvement in some of the underlying fundamentals of consumer spending, which mitigated the reduction in our forecast. The annualized rate of growth of hours worked over the four months ending in May was 4¼%, the strongest in quite some time. Based on the Flow of Funds data, households made further progress in deleveraging in 2011Q1. Total household liabilities declined 2.1% (annual rate), the fastest since 2010Q1, and the ratio of financial assets to liabilities moved higher and is now reasonably close to its longer term trend. According to the Senior Loan Officer survey, banks' willingness to make nonmortgage consumer loans increased further in the second quarter and there was another increase in the net percentage of banks indicating that their standards for such loans had eased.

Aside from the damping down of real PCE growth and its effects on imports, the remainder of the forecast for growth of total expenditures is essentially unchanged from April. Growth prospects of our major trading partners remain favorable, suggesting sustained strong growth of exports. Indeed, recent data suggest that growth of real exports in 2011Q2 will be stronger than in the preceding two quarters. Business investment in equipment and software surprised to the upside in 2011Q1, and that strength was broad based. Surveys of business leaders suggest that this form of investment will remain strong over the remainder of 2011, aided by the full expensing tax provision enacted at the end of 2010. Leading indicators of business investment in nonresidential structures, such as the Architecture Billings Index, suggest some improvement in this sector over the forecast horizon. The fiscal condition of state and local governments has improved in recent quarters, with 2011Q1 state and local total tax receipts up 11% from their 2009Q2 low. As a result, the drag from this sector is expected to gradually subside. Even residential investment is likely to improve modestly, as current levels of housing production are far below what is needed to keep up with the demographically driven rate of household formations. We anticipate that this improvement will be mainly in production of new multifamily housing.

With the downgrading of real GDP growth, the expected path of the unemployment rate is somewhat higher. We now project the unemployment rate to be around 8½% by the end of 2011 and 7½% by the end of 2012, up from 8% and 7%, respectively, in the April Blackbook. The projected growth of employment is lower, with average monthly gains of nonfarm payroll employment of around 220,000 in 2011 and 300,000 in 2012. In addition to slower growth of output, the average workweek has increased somewhat more than we were expecting. In contrast, the labor force participation rate has only stabilized; based on past business cycles we would have expected to have seen some increase by this point. Analysis indicates that the current participation rate is well below trend, and so we continue to believe there is a case for the participation rate to move up some as the economy continues to recover. However, we have pushed further into the future when the recovery of participation to trend will occur.

The decline in energy prices over the intermeeting period and the May fall of the energy component of the CPI have led us to reduce our forecast for the change in the total PCE deflator for 2011 (Q4/Q4) from a little over 3% in April to about 2½%. On a monthly basis, year over year changes of the total PCE deflator are now likely to top out in the 2½% to 2¾% range in 2011Q3. Reflecting the higher readings on core inflation so far in the current quarter, we have raised our projections for core PCE inflation in 2011

(Q4/Q4) modestly from a little under 1½% in April to a little over 1½%. We see the bulk of the increase in core inflation in the first half of this year as reflecting transitory factors. Consequently, we have made little change to our core inflation forecast for the second half of this year and for 2012, and therefore we continue to expect core PCE inflation in 2012 (Q4/Q4) to be about 1½%. Meanwhile, because futures prices suggest energy prices will rise somewhat faster in 2012 than for other goods and services, total PCE inflation is expected to be around 1¾% for that year.

2.2 Alternative Scenarios and Risks

Over the intermeeting period the risk assessment worsened, especially in terms of output. Risks to inflation are still roughly balanced. The change in the risk assessment for output mainly reflects the soft patch the economy has recently encountered. The likelihood that the soft patch turns into a more serious drag on the recovery is captured by an increased probability associated with the *Fiscal Consolidation* scenario. This scenario envisions a decline in aggregate demand due to a sudden contraction in fiscal spending, hence its name, but also more broadly to a widespread reluctance on the part of households and firms to consume and invest, respectively. In light of recent data releases, the probabilities associated with both the *Faster Growth* and *Productivity Boom* scenarios have decreased.

In particular, the probability associated with the *Fiscal Consolidation* scenario was increased from 35% to almost 40%, making it the most likely scenario [Exhibit C-1]. The *Productivity Boom* scenario follows with a likelihood of about 25%. The *Faster Growth*, *Global Credit Crunch*, and *Loss of Credibility* scenarios are much less likely, with an associated probability of roughly 10% each. The probability associated with the *Global Credit Crunch* scenario has increased slightly, following the concern that recent weakness may not be limited to the U.S., while that associated with the *Loss of Credibility* scenario has decreased a bit due to the return of TIPS spreads to more normal levels. The paths for core PCE inflation and GDP growth associated with the previously existing scenarios have changed only as a result of changes in the *Central* scenario, as all alternative scenarios are defined relative to our modal forecast [Exhibit C-2].

The changes in our risk assessment result in a downward shift in the forecast distribution for real GDP growth [Exhibit C-3]. The probability associated with the event of a double-dip recession is still small, but has increased during the intermeeting period. The forecast distribution for core PCE inflation changed very little since April. The 95th percentile of the forecast distribution for core PCE inflation moved downward towards the end of the forecast horizon, reflecting the decreased likelihood of the *Loss of Credibility* scenario. The "Low Inflation/Deflation Probability and Distribution" chart shows that the likelihood of average inflation being less than 1.5% between 2010 and 2012 decreased over the intermeeting period from 9 to 8%. The "Scale of Recovery Through the End of 2011" chart was deemed superfluous, as we are now quite certain that the rebound from the recession has been quite weak. This chart was replaced by the "High Inflation Probability and Distribution" chart, which is the mirror image of the "Low Inflation/Deflation Probability and Distribution" chart in terms of upside risks. The chart shows the likelihood of observing a percent change in prices larger than a given value between 2010 and 2012, conditional on average inflation during that period being greater than 2.5%. The probability associated with this latter event according to our forecasts is quite small, however, at about 4%.

Exhibit C-3 also shows, for comparison, the mean forecasts from the FRBNY DSGE model. The forecasts for inflation are lower than in the *Central Scenario*, especially in the short run. The forecasts for output are close to the *Central Scenario* in the short run, but the DSGE model does not foresee growth significantly above trend at any time over the forecast horizon.

3. Forecast Comparison

3.1 Comparison with Private Forecasters[1]

The FRBNY forecasts for GDP growth lie within the range of private forecasts for 2011Q2 and 2011Q3. Over the medium term, the FRBNY 2011 (Q4/Q4) and 2012

[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 (6/10), SPF (6/8), and Macro Advisers (6/15). Quarterly numbers are SAAR.

(Q4/Q4) real GDP growth forecasts are above most private forecasts. The FRBNY core inflation projection for 2011Q2 is higher than private forecasts by 0.5-0.7 percentage point. For 2011 Q3, 2011 (Q4/Q4), and 2012 (Q4/Q4), the FRBNY core inflation forecasts are closer to private forecasts, but are still higher than most of them.

Real GDP Growth. Since the last FOMC meeting, private forecasts for 2011Q2 have been revised down, reflecting the weak tone of data releases during the intermeeting period. The FRBNY forecast for 2011Q2 is 2.2%, down from 3.6% in the April Blackbook, which is between Macro Advisers (2.0%) and Blue Chip (2.6%). The FRBNY forecast for 2011Q3 remains unchanged at 3.6%, which is also between Blue Chip (3.3%) and Macro Advisors (3.9%). A common assumption across the FRBNY forecasts and private forecasts is that the weaker growth observed in 2011Q2 will not persist and that growth will rise in 2011Q3. The FRBNY forecast for 2011 (Q4/Q4) has been lowered 0.7 percentage point to 3.0%, which is slightly above the projections of Macro Advisers and Blue Chip, which are both at 2.8%. Our forecast for 2012 (Q4/Q4) has been reduced 0.2 percentage point to 3.7%, which is above Macro Advisers (3.3%, revised down from 3.9%) and above Blue Chip (3.1%).

Inflation. The FRBNY projection for core PCE inflation in 2011Q2 has been raised from 1.7% in the April Blackbook to 2.2%, which is above Macro Advisers (1.7%). Our forecasts for 2011Q3, 2011Q4/Q4 and 2012Q4/Q4 for core PCE inflation (1.4%, 1.6% and 1.5%, respectively) are above those of Macro Advisers (1.2%, 1.4% and 1.4%). Our forecast for headline CPI inflation for 2011 (Q4/Q4) is 3.1%, down from 3.5% in the previous Blackbook, and is in line with private forecasts. For 2012 (Q4/Q4), our forecast increased by 0.1 percentage point since the April Blackbook to 2.2%: it is the same as Blue Chip (2.2%), but above that of Macro Advisers (1.6%). The FRBNY projection for core CPI inflation in 2011 (Q4/Q4) is 1.9%, up from 1.7% in the April Blackbook, and it is the same as Macro Advisers. For 2012 (Q4/Q4), our forecast is unchanged at 1.8%, which is slightly above that of Macro Advisers (1.7%).

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% through 2012Q2 – as in recent Blackbooks. Our recommendation is consistent with the *Baseline* policy rule under all scenarios except the *Loss of Credibility* and *Faster Recovery* scenarios [Exhibit D-1]. Under these scenarios, the *Baseline* policy rule instead implies a quicker lift-off in 2011Q4.

Exhibit D-2 shows the prescription of various policy rules using the expected value of the forecast distribution as an input. The path implied by the *Baseline* policy rule under the expected paths for output and inflation roughly coincides with the market-implied path for the federal funds rate. This path prescribes a lift-off in 2012Q1, but a very gradual renormalization thereafter. The *Nutter* rule, which only puts weight on inflation, prescribes a first rate hike in 2011Q3. Conversely, the *Asymmetric Price Targeting* rule results in the FFR remaining close to zero until the end of the forecast horizon. Exhibit D-2 also shows the implied nominal FFR for the *Outcome-based* rule, ignoring the zero bound. Under the expected value of the forecast distribution, the unconstrained nominal FFR is about -3.5% by 2012Q3 and returns to zero only at the end of the forecast horizon.

Exhibit D-3 shows the prescriptions from alternative policy rules under the various scenarios. The *Nutter* rule prescribes a lift-off before the end of 2011 for all scenarios. FFR paths under the *Asymmetric Price Targeting* rule are at the lower bound (.25%) throughout the forecast horizon. For the *Outcome-based* rule, the paths are at or below zero through mid-2012 under all scenarios except for the new *Faster Recovery* scenario, under which the renormalization would occur in 2011.

Exhibit D-1 shows the real FFR rates implied by the *Baseline* rule under the various scenarios, ignoring the zero bound constraint. Under the *Central* scenario, this rule implies a very gradual renormalization of the real rate, increasing from about -4% in the current quarter to -2% by 2013. Exhibit D-3 shows the real rate (under alternative scenarios) for the *Asymmetric Price Targeting*, the *Nutter*, and the *Outcome-based* rules. We also use the DSGE model to assess the current stance of monetary policy by performing a counterfactual exercise that eliminates current and past policy shocks. From this exercise, 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 start of the renormalization process implied by FFR futures is now 2012Q2, one quarter later than in April. The implied renormalization process is also substantially more gradual than in April, with rates barely above 1% by 2013Q4. Compared to the last survey, primary dealers' expectations for the path of the fed funds target rate also indicate a later start for the renormalization process. Specifically, the median dealer's expectation for the timing of the first tightening shifted from 2012Q2 in April to early 2012Q3 in June. Further, the mode of the average probability distribution of the first rate hike moved from 2012Q1 to 2012Q2, and the entire distribution shifted towards later dates. For the size of the year-end SOMA portfolio, the median expectation is roughly $2.7, $2.3, and $2 trillion for 2011, 2012, and 2013, respectively. These expectations are close to those reported in April. Finally, in terms of exit strategy, the median respondent still expects the removal of the "extended period" language from the FOMC statement to take place three meetings before the actual increase in the IOER. Most respondents now believe that the end of reinvestments for maturing Agency and MBS securities will precede the change in the FOMC statement language.

5. Significant Developments

5.1 Economic Developments

Real Activity. *GDP*: Based on the second estimate, growth of real GDP in 2011Q1 was 1.8% (annual rate), unchanged from the first estimate. The consensus expectation had been for an upward revision to 2.2%. This release provides the first estimate of corporate profits in 2011Q1, which rose by $22 billion in 2011Q1 and remained at 12.9% of national income.

Labor: In May, nonfarm payrolls increased by only 54,000 as private payroll employment increased by 83,000 and government payrolls declined by 29,000. The unemployment rate increased from 9.0% to 9.1%. The labor force participation rate and the employment-to-population ratio were unchanged at 64.2% and 58.4%, respectively. The May labor market report was weak, showing little if any improvement in labor market conditions in the month and indicating greater downside risks to the real economic outlook.

ISM: The ISM's May survey suggests a pronounced deceleration in manufacturing activity, as the headline composite index and two key components fell to their lowest levels since the summer of 2009. Meanwhile, the headline composite index of the ISM's nonmanufacturing survey in May was 54.6, 1.8 points higher than the 52.8 registered in April and slightly above private forecasts.

Production: Total industrial production increased 0.1% in May and manufacturing production rose 0.4%. Production declined again in motor vehicles, but there were solid gains elsewhere in manufacturing. The reduction in motor vehicle production, however, reflects some temporary reduction in production due to shutdowns related to annual retooling. Moreover, the shutdowns were scheduled at an unusual time due to the earthquake in Japan and consequently were not picked up by standard seasonal corrections. Taken together, these considerations suggest the recent weakness in various manufacturing data is indicative of a temporary soft patch.

Retail Sales: Total retail sales fell 0.2% in May, while retail sales excluding motor vehicles increased 0.3%. The decline in total retail sales breaks a 10-month series of gains, with marked weakness in autos. The pace of sales across other sectors was mixed, with strength in building materials as well as health and personal care offsetting weakness in electronics and furniture.

Prices. *CPI*: Overall CPI increased 0.2% in May, the lowest month-to-month increase in 2011. Energy prices were down 1.0%. Food prices increased 0.4%, as in April. The 12-month change in the overall index was +3.6%, up from 3.2% in April. Core CPI rose 0.3% in May, up from 0.2% in April. The 12-month change in core was 1.5%, up from 1.3% in April. The slowdown of headline inflation is mainly driven by the moderation in energy prices. The gains in core prices appear to be broad-based, although price increases were notable in some volatile categories, such as apparel.

Trade. The trade deficit narrowed from a revised $46.8 billion in March to $43.7 billion in April. Export volumes increased, while nonoil import volumes were flat and oil import volumes slumped. Export volumes were up 0.8 percent in April over the previous month, building on the strong growth of 4.5 percent in the previous month. This growth rate was broadly in line with our forecast. Over the 12 months ending in April, real exports were up 11.2 percent. Nonoil import volumes were flat in April, following growth of 1.9 percent in March and resulting in a 12.5 percent increase over the year, which was also consistent with our forecast. Oil volumes continued to exhibit high volatility, with a 14.6 percent slump in April over the previous month—a larger decline than we had expected. These data suggest the net export contribution to GDP growth will add 0.9 percentage point in 2011 Q2.

Foreign Data Releases. Data suggest that there was a broad moderation in foreign growth in Q2, with stability in energy prices easing inflation pressures.

Euro area: GDP grew 3.4 percent (saar) in Q1, after a 1.0 percent gain in Q4. The strong growth in Q1 was likely boosted by a payback from weather-related weakness in Q4. Investment along with private and government consumption were the main drivers of growth, while net exports were flat. Manufacturing output fell in March and country-level data suggest a further decline in April. Business surveys weakened in May, but remain consistent with moderate Q2 growth. CPI inflation was 2.7 percent over the year in May, down slightly from 2.8 percent in February. Core inflation was 1.6 percent in April.

U.K.: Manufacturing output fell in April to around 1 percent below the Q1 average. PMI surveys declined in April and May, but remain consistent with moderate growth in Q2. Inflation was unchanged at 4.5 percent in May, with core inflation falling from 3.7 percent to 3.4 percent in April.

Japan: The March earthquake pushed the Japanese economy into a recession with GDP shrinking by 3.5 percent (saar) in Q1 after falling 2.9 percent in the previous quarter. Main drivers were declines in consumption, investment spending, and exports. Export volumes fell again in April because of supply-side constraints. In particular, auto exports to Europe and the U.S. saw steep declines. A survey of producers' forecasts suggests production rebounded sharply in May and June and will likely return to its pre-quake levels by the end of Q2. Still, average production for the quarter is expected to be down relative to Q1. Headline consumer price inflation increased slightly in April because of higher energy prices, with the index up 0.3 percent over the year. Core prices were down 0.1 percent.

EM Asia: China data confirm that growth is slowing gradually in line with expectations but to a still strong pace. Export growth remains robust, at a 33 percent annualized pace in the three months through May. Property sector investment remains strong, though there are signs that tighter bank lending standards have started to weigh on transactions and possibly prices. Inflation pressures remain significant, with the CPI up 5.5 percent over the year in May. In the rest of Asia, strong Q1 GDP data have been followed by clear signs of a slowing in Q2.

Latin America: Brazil's domestic demand growth is moderating despite record low unemployment and continued strong credit expansion. While the annual inflation rate continues to edge higher (6.6 percent over the year in May), softer demand and the recent pullback in commodity prices have eased price pressures. Mexico's GDP growth (2.0 percent, saar) was weaker than expected. The export-oriented manufacturing sector slowed in April and consumer spending appears to be losing momentum after picking up speed in the second half of 2010. Inflation dipped to 3.2 percent in May and underlying price pressures appear muted.

5.2 Financial Markets

Domestic Financial Markets. Since the last FOMC meeting, Treasury yields and expected future policy rates shifted down, inflation expectations declined, equity markets declined, equity volatility increased, and credit spreads widened. The market movements are attributable to the weaker-than-expected economic data and increased concerns about growth prospects, with concerns about the fiscal crisis in the euro area periphery also driving price action, especially towards the end of the cycle.

Nominal Interest Rates: Since the last FOMC meeting, Treasury yields declined to their lowest levels since late 2010. The 10-year yield declined roughly 30 basis points over the intermeeting period to 2.99% on June 13, and the 2-year yield declined about 20 basis points to 0.39%. The 3-month yield remained just above zero over the intermeeting period, declining 2 basis points to 0.04%. (Exhibit A-3: Treasury Yields)

Expected Policy Rate Path: The expected path of the fed funds rate, as inferred from futures markets, shifted down significantly since the last FOMC meeting. Market prices are currently consistent with a target fed funds rate of 0.0-0.25% through the third quarter of 2012. Professional forecasters revised down slightly their expected policy rate paths in the June Blue Chip Financial Forecasts Survey. Such rate expectations are substantially higher than those implied by market prices, although some of this divergence is explained by market developments since the survey. The median survey expectation for the third quarter of 2012 was 1.12% in the June survey vs. 1.20% the month before. (Exhibit A-5: Policy Expectations)

Inflation Compensation: Market-based measures of expected inflation declined since the last FOMC meeting. The 0-5 year measure, which gauges expected inflation over the next five years, declined about 30 basis points over the intermeeting period and about 45 basis points since its recent post-crisis high to 1.92% on June 13. The 5-10 year measure, which gauges expected inflation 5-10 years out, declined about 25 basis points over the intermeeting period to 2.75% on June 13. The 5-10 year measure is close to its lowest level since October 2010, but remains well within the range observed in recent years. (Exhibit A-4: Real Yields and Implied Inflation)

Equity Markets: Equity markets declined over the intermeeting period with the S&P 500 index down about 6% as of June 13. The S&P 500 remains 21% above its level at the time of Chairman Bernanke's August 2010 Jackson Hole speech and 88% above its March 2009 low. Implied equity volatility, as measured by the VIX, rose 4% over the intermeeting period to 20% on June 13, but remains well below recent peaks. (Exhibit A-6: Equity)

Credit Spreads: Credit spreads widened modestly over the intermeeting period. Spreads on investment grade corporate bonds widened 17 basis points to 163 basis points and spreads on high-yield corporate bonds widened 76 basis points to 547 basis points. Both sets of spreads are now at their widest levels during the past five to six months, but well below levels observed during the crisis. (Exhibit A-7: Credit)

Foreign Financial Markets. *Euro Area*: With the release of worse-than-expected Greek fiscal performance during 2010 and early 2011, it became apparent that Greece would not be able to raise funding in private capital markets as envisaged by Greece's existing EU/IMF aid package. IMF officials subsequently announced that, according to existing IMF policy, it could not continue to fund Greece until the sovereign addresses its funding needs for the following 12 months. These developments prompted a discussion about how to structure additional financing, which is still ongoing. Most market participants expect a decision to be reached by the June 23-24 EU Council meeting. Spreads between all periphery euro-area bond yields and German equivalents rose during the period, albeit more strongly in the case of Greece. For example, 10-year Spanish spreads increased 36 basis points, while 10-year Greek spreads increased 200 basis points. The Eurostoxx equity index underperformed the S&P 500 over the intermeeting period and the euro depreciated 3 percent against the dollar.

Japan: Japanese financial markets remain focused on the consequences of the March 11 earthquake and its implications for growth and the government's fiscal position as well as global growth outlook concerns. The Nikkei fell about 3 percent over the intermeeting period, with ten-year JGB yields remaining broadly unchanged. Since the last FOMC meeting, the yen appreciated 1 percent against the U.S. dollar and the dollar-yen rate reached its lowest level since just before the coordinated G7 intervention. The currency move is attributed to narrowing spreads between the U.S. and Japanese interest rates, with the 2-year spread shrinking by almost 20 basis points over the period. The pace and volatility of the yen's recent appreciation remains well below those witnessed following the earthquake.

Emerging Asia: Since the last FOMC meeting, EM Asian currencies on average were unchanged against the dollar, except for the Indonesian rupiah and Chinese yuan which made modest gains. Based on forward contracts, the implied 12-month yuan appreciation rate relative to the dollar fell from 2.9 percent to 1.3 percent. EM Asian equities shed 5 percent on average over the period.

Latin America: Latin American currencies depreciated by 1 percent against the dollar over the intermeeting period, while equity markets in the region declined by 5 percent on average. Five-year local yields declined by 50 basis points as moderating domestic and global activity, along with the pullback in commodity prices, helped lower inflation expectations in the region.

5.3 Global Economic Policy

Euro Area: The ECB kept the policy rate at 1.25 percent at its June meeting but indicated that a rate hike in July is likely. President Trichet described the current stance of monetary policy as "accommodative" and said that upside risks to price stability warranted "strong vigilance" – ECB code that a rate hike is imminent. Both median analyst and OIS-derived expectations are for two further 25-basis point rate hikes this year, with the next move expected in July. The interest rate corridor around the main refinancing rate remained unchanged and the ECB announced that its refinancing operations will continue to be conducted with full allotment at least until October 2011. The ECB holds €75 billion of debt purchased under the securities markets program. No peripheral debt has been purchased since March and the total size of the program is down €1.5 billion from the peak as securities mature.

Japan: The Bank of Japan is keeping its policy rate in a range of 0.0-0.10 percent and will continue to do so until its official projections suggest price stabilization in the near-to-medium term. Also, the size of its asset purchase program remained unchanged at ¥10 trillion. At the June policy meeting, the Bank announced the introduction of a new line of credit, providing ¥500 billion in loans to financial institutions for equity investments and loans without real estate collateral or guarantees. The Bank upgraded its economic assessment following its June meeting and, consistent with private sector forecasts, expects the economy to return to a moderate recovery path in the second half of FY2011.

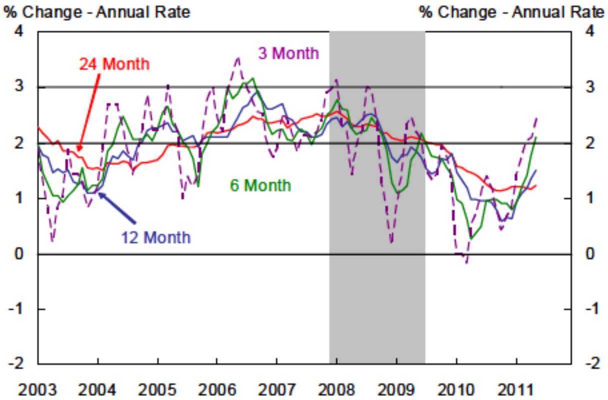
EM Asia: Asian authorities continue to tighten policy. China has relied mainly on higher bank reserve requirements, imposing six 50 basis points hikes this year. Elsewhere, central banks in India, Korea, Malaysia, the Philippines and Thailand have increased rates over the intermeeting period, with authorities in India hiking twice. Reserve accumulation outside China was relatively muted in May after a record April with capital inflows tapering off in recent weeks.

Latin America: In Mexico, expectations for the start of a tightening cycle have been pushed back further with analysts not expecting a rate hike until Q1 2012. Brazil's central bank raised its policy rate by 25 basis points in June to 12.25 percent, bringing cumulative tightening in 2011 to 150 basis points. The market consensus is for another 25 basis points hike in July to conclude the current tightening cycle.

A. Significant Developments

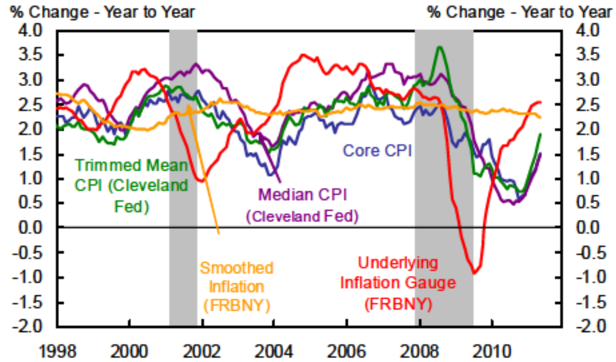
Exhibit A-1:
Measures of Trend Inflation

Core CPI Inflation over Various Horizons



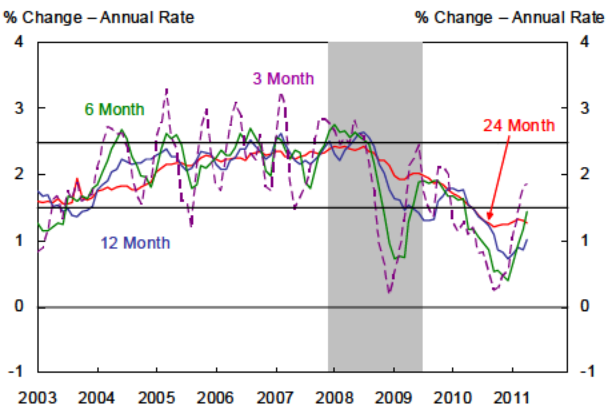
Source: Bureau of Labor Statistics

Alternative Measures of CPI Inflation



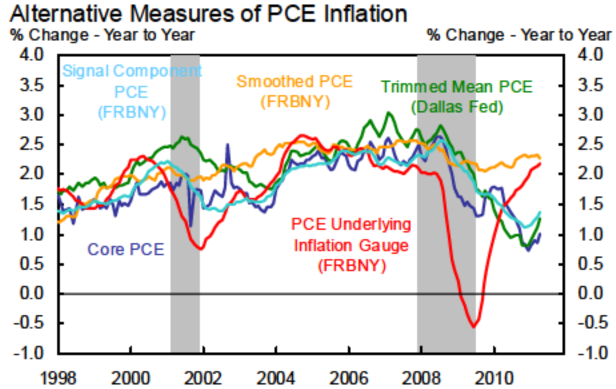
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



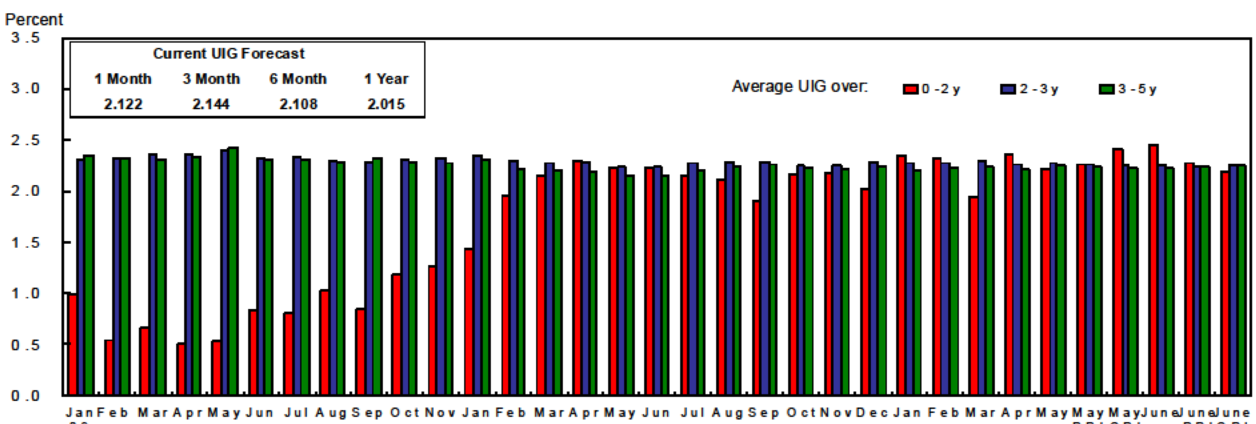
Source: Bureau of Economic Analysis

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)

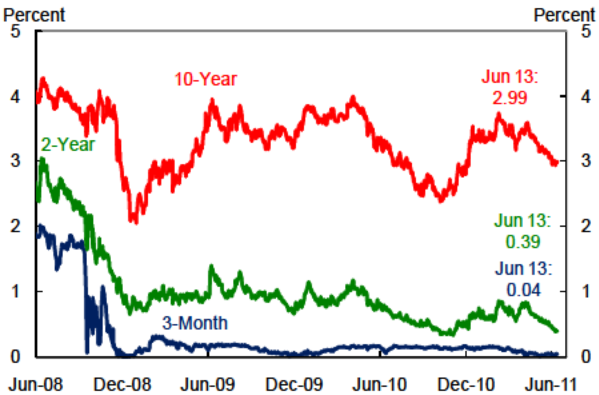


Source: MMS Function (FRBNY) and Swiss National Bank

A. Significant Developments

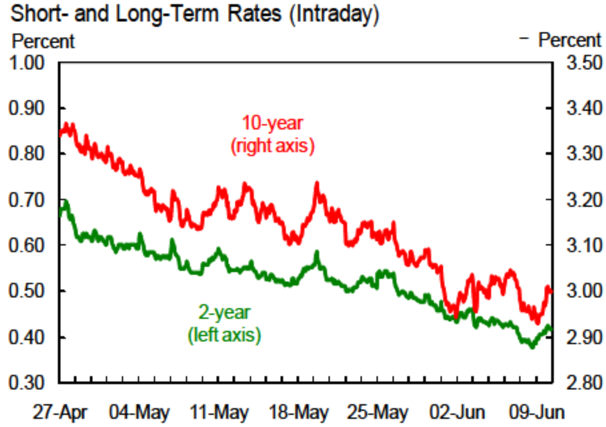
Exhibit A-3:
Treasury Yields

Short- and Long-Term Rates



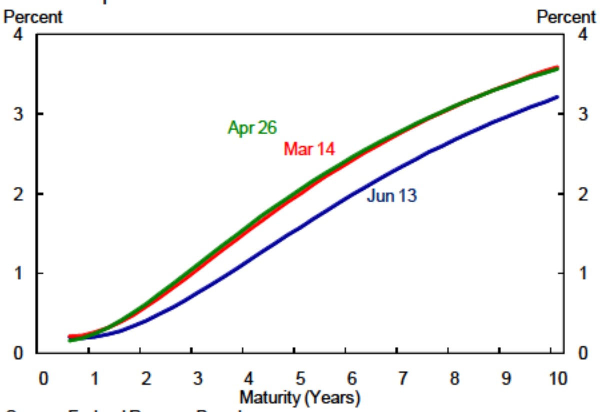
Source: Bloomberg Note: Yields of on-the-run securities.

Short- and Long-Term Rates (Intraday)



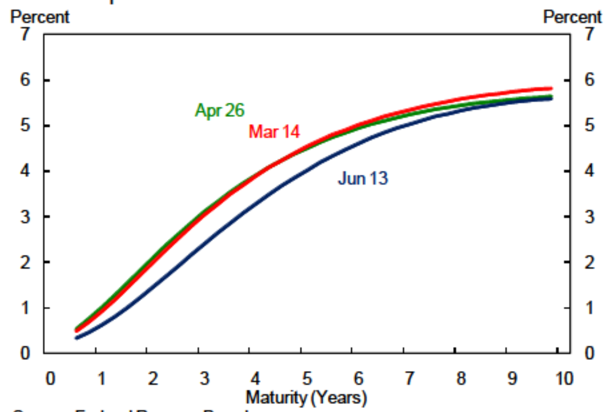
Source: Bloomberg Note: On-the-run securities, 8:00 am to 4:00 pm.

Zero Coupon Yield Curves



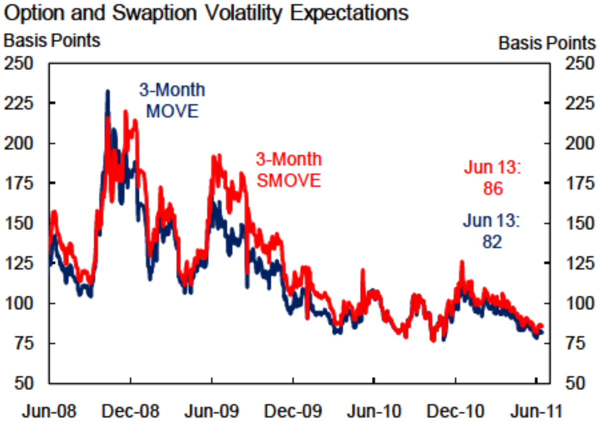
Source: Federal Reserve Board

Zero Coupon Yield Curves: One-Year Forward Rates



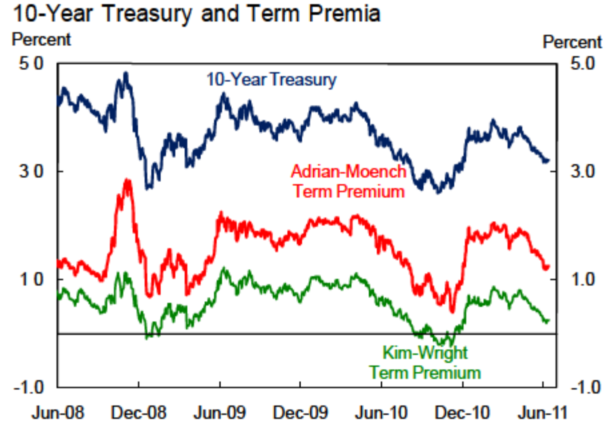
Source: Federal Reserve Board

Option and Swaption Volatility Expectations



Source: Federal Reserve Board, Barclays, and FRBNY

10-Year Treasury and Term Premia

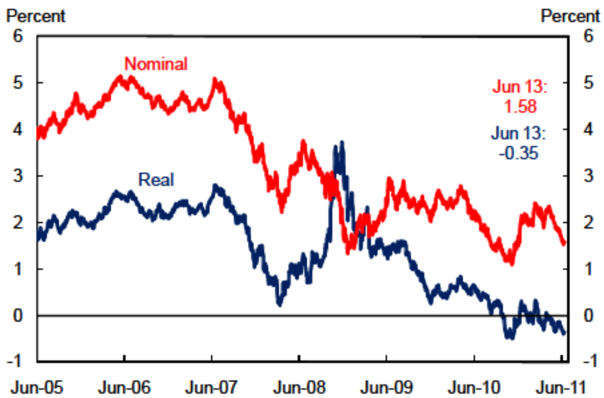


Source: FRBNY calculations, Federal Reserve Board

A. Significant Developments

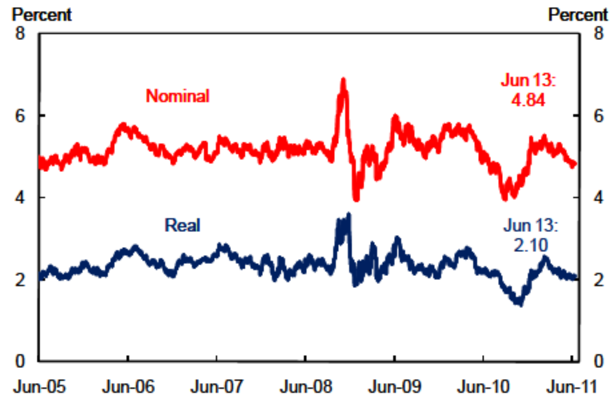
Exhibit A-4:
Real Yields and Implied Inflation

5 Year Spot Rate



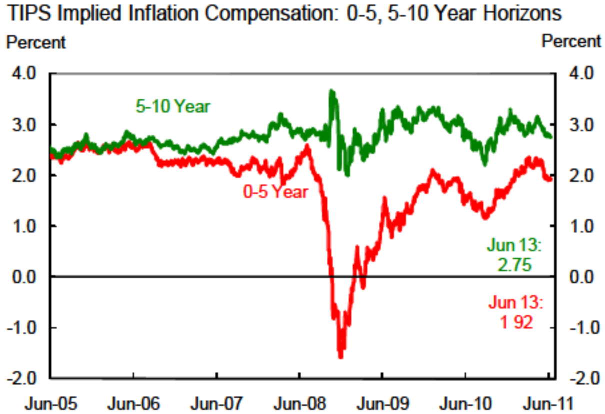
Source: Federal Reserve Board

5-10 Year Forward Rates



Source: Federal Reserve Board

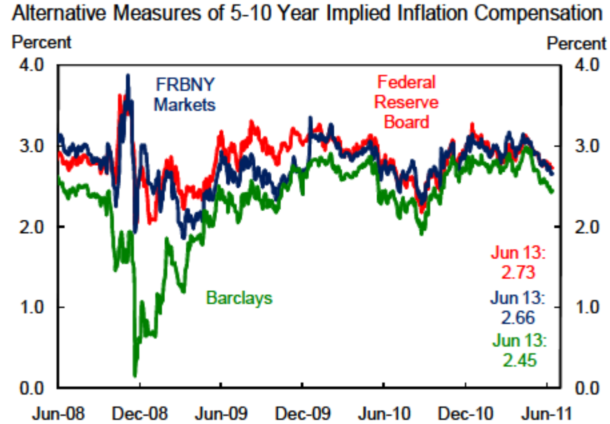
TIPS Implied Inflation Compensation: 0-5, 5-10 Year Horizons



Source: Federal Reserve Board

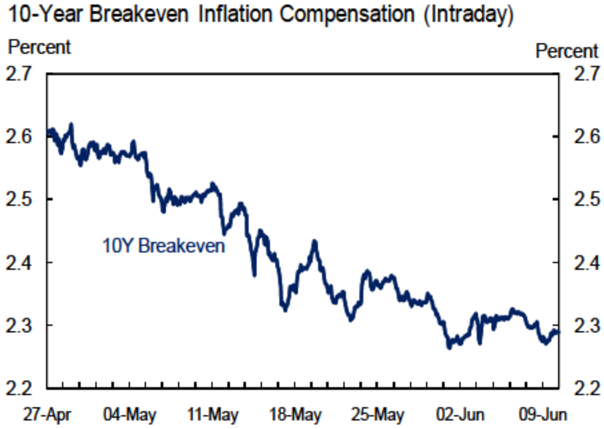
Note: Carry-adjusted.

Alternative Measures of 5-10 Year Implied Inflation Compensation



Source: Federal Reserve Board, Barclays, and FRBNY calculations

10-Year Breakeven Inflation Compensation (Intraday)



Source: Bloomberg

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

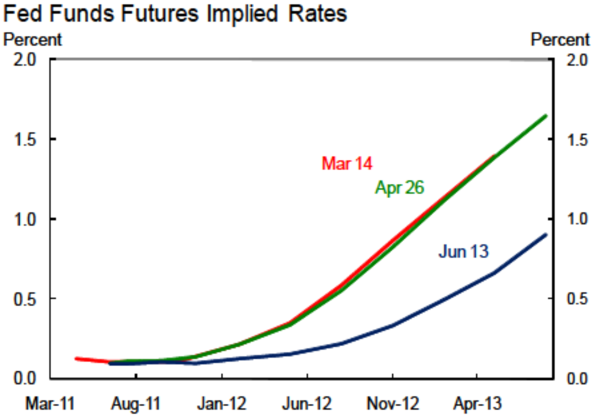
Implied Inflation from Inflation Swaps: 0-5, 5-10 Year Horizon

Source: Barclays

A. Significant Developments

Exhibit A-5:
Policy Expectations

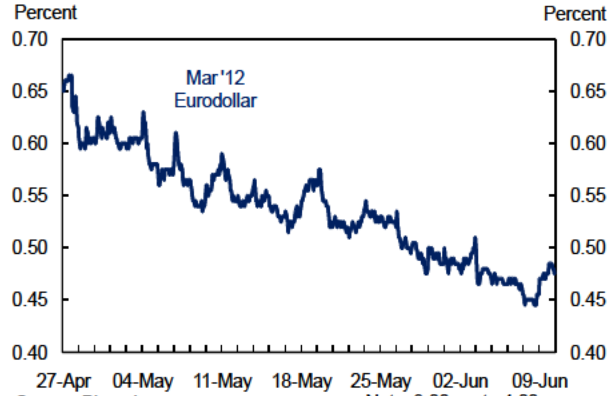
Fed Funds Futures Implied Rates



Source: Federal Reserve Board

Note: Estimated using fed funds and Eurodollar futures.

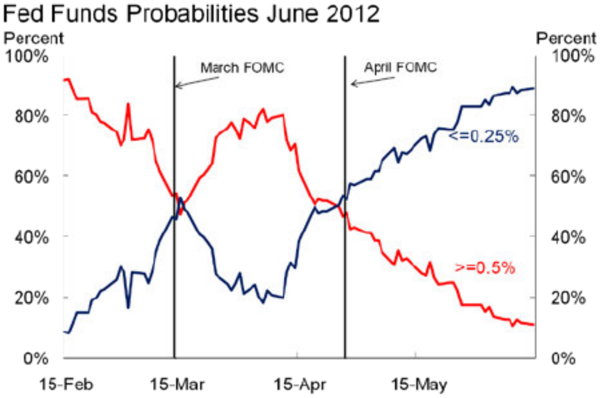
Implied Eurodollar Rates (Intraday)



Source: Bloomberg

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

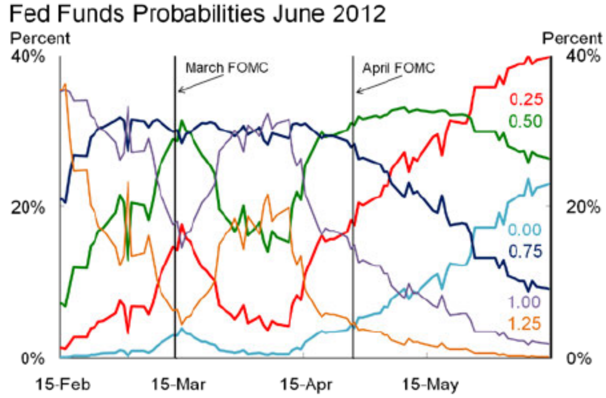
Fed Funds Probabilities June 2012



Source: Bloomberg

Note: Estimated from Fed Funds Futures

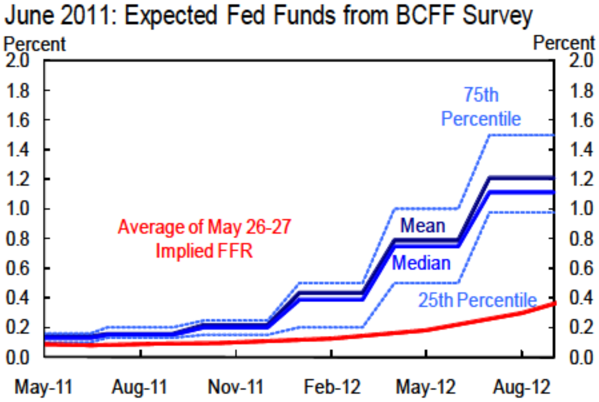
Fed Funds Probabilities June 2012



Source: Bloomberg

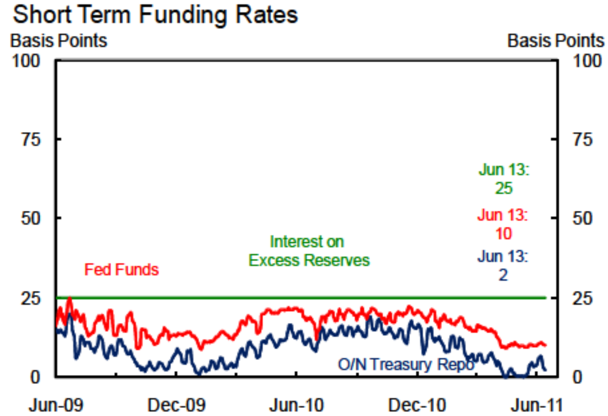
Note: Estimated from Fed Funds Futures

June 2011: Expected Fed Funds from BCFF Survey



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

Short Term Funding Rates



Source: Bloomberg, FRBNY calculations

Note: 1-week moving averages.

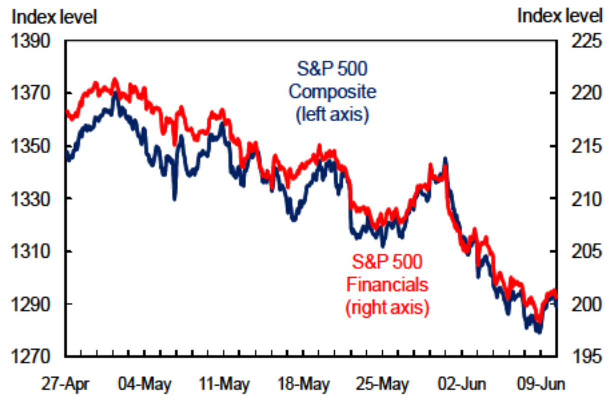
A. Significant Developments

Exhibit A-6:
Equity

Equity Index Levels

Source: Datastream

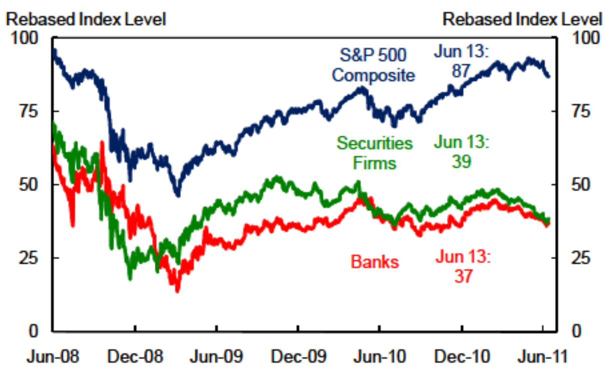
S&P 500 Indices (Intraday)



Source: Bloomberg

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

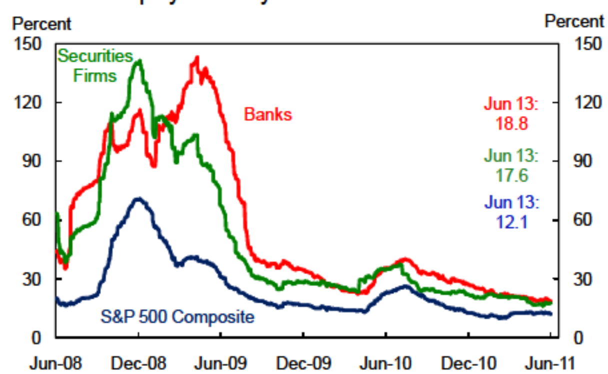
Equity Performance



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

Source: Datastream

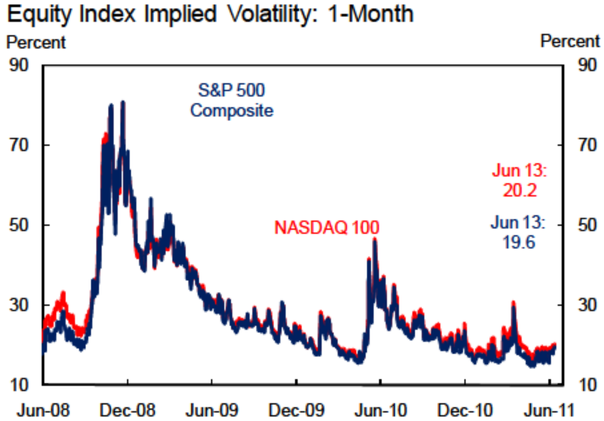
Historical Equity Volatility



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

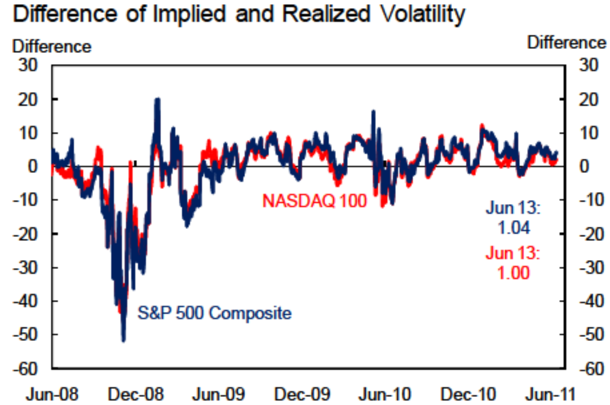
Source: Datastream

Equity Index Implied Volatility: 1-Month



Source: Datastream

Difference of Implied and Realized Volatility



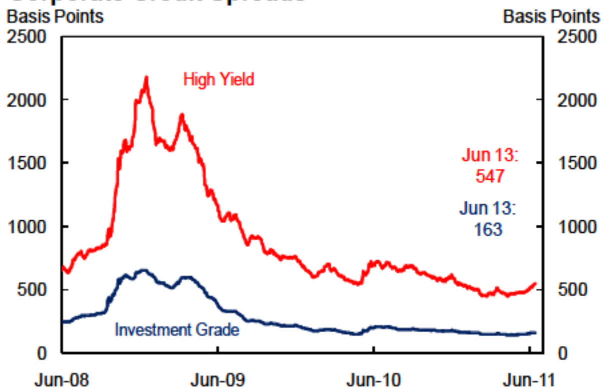
Source: Datastream

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

A. Significant Developments

Exhibit A-7:
Credit

Corporate Credit Spreads



Source: Merrill Lynch

Note: Option-adjusted spreads.

CDS Spreads

Source: Bloomberg

Mortgage Market Rates

Source: Bloomberg

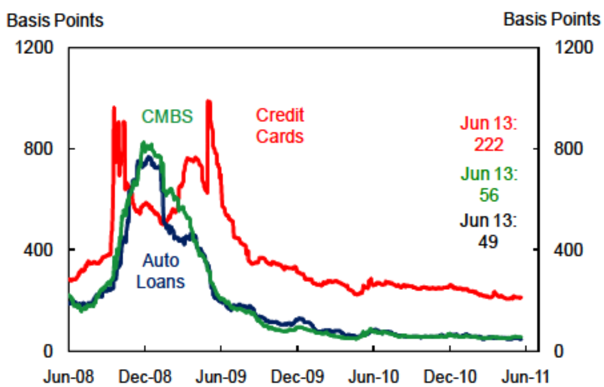
Note: 30-year fixed mortgage rate and Fannie Mae current coupon yield.

Mortgage Secondary Market

Source: J.P. Morgan

Note: 30 year current coupon Fannie Mae MBS.

AAA-Rated ABS/CMBS Spreads



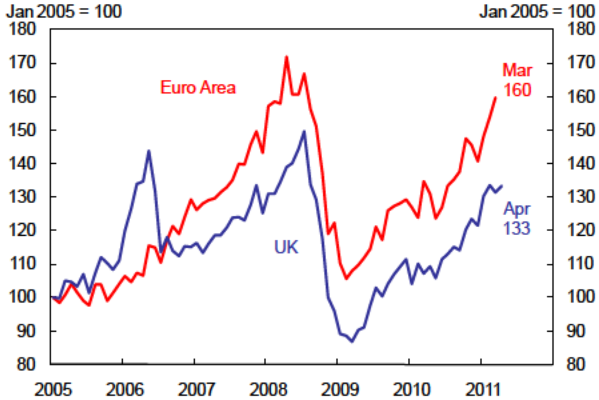
Source: Merrill Lynch

Note: Option-adjusted spreads.

A. Significant Developments

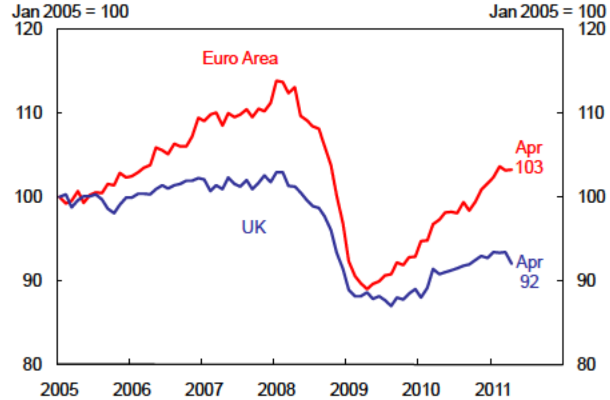
Exhibit A-8: Exports and Industrial Production

Exports



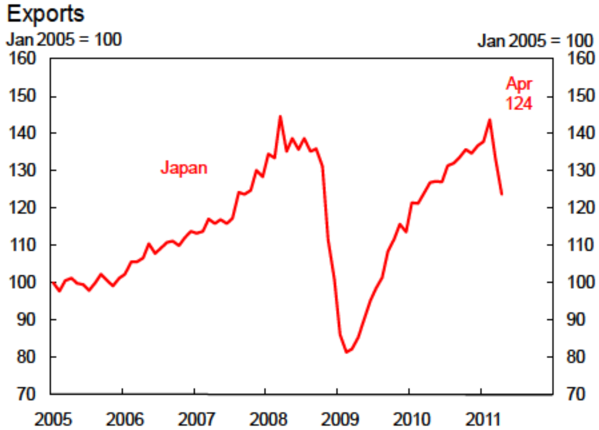
Source: Haver | Note: In Dollar Terms

Industrial Production



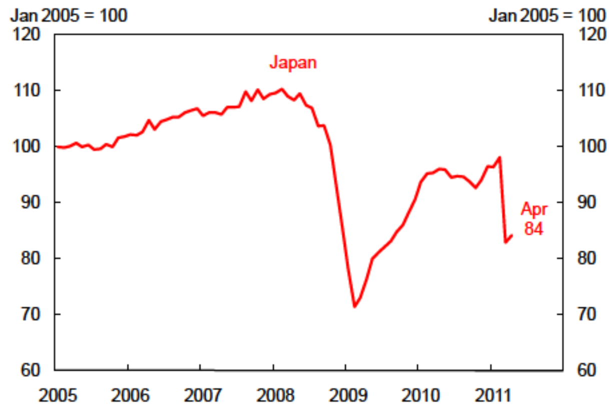
Source: Haver

Exports



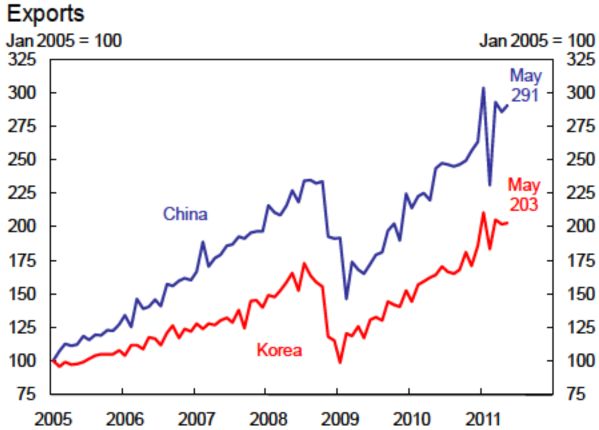
Source: Haver | Note: In Dollar Terms

Industrial Production



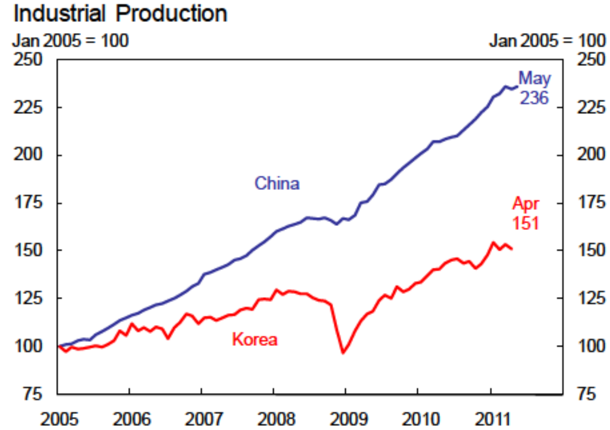
Source: Haver

Exports



Source: Haver | Note: In Dollar Terms

Industrial Production



Source: Haver

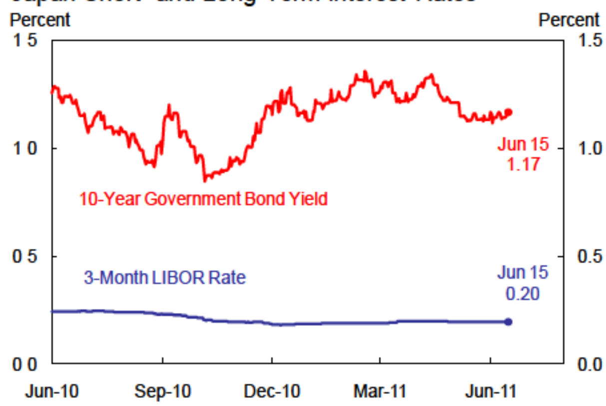
A. Significant Developments

Exhibit A-9:
Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates

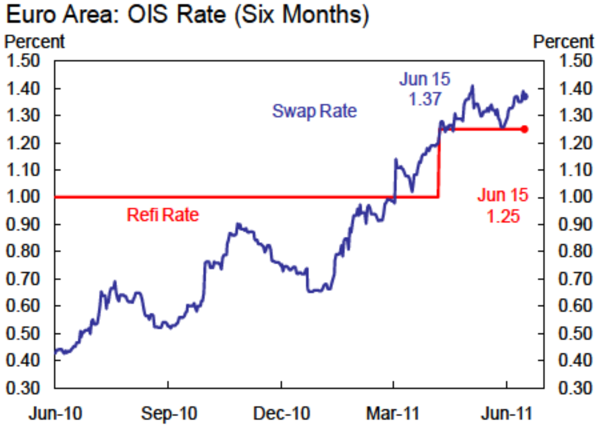
Source: Bloomberg

Japan Short- and Long-Term Interest Rates



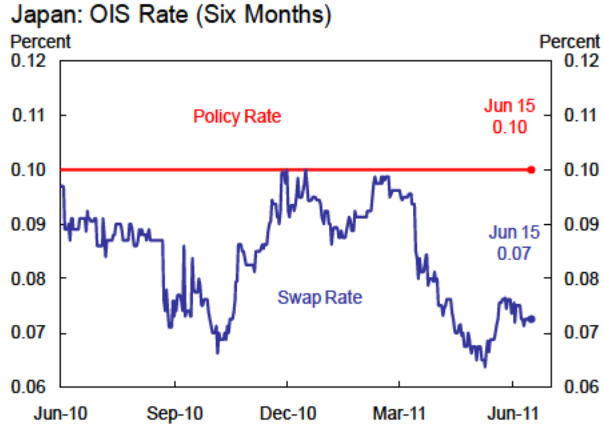
Source: Bloomberg

Euro Area: OIS Rate (Six Months)



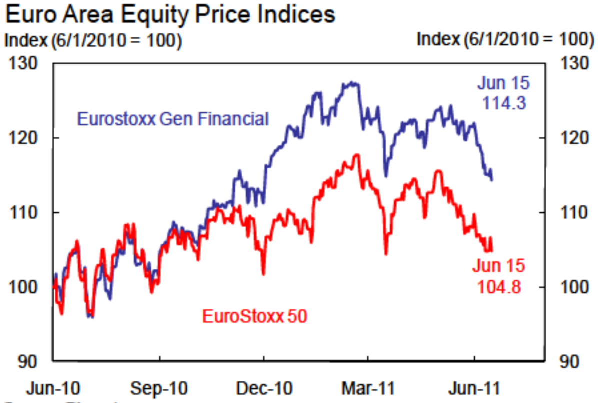
Source: Bloomberg

Japan: OIS Rate (Six Months)



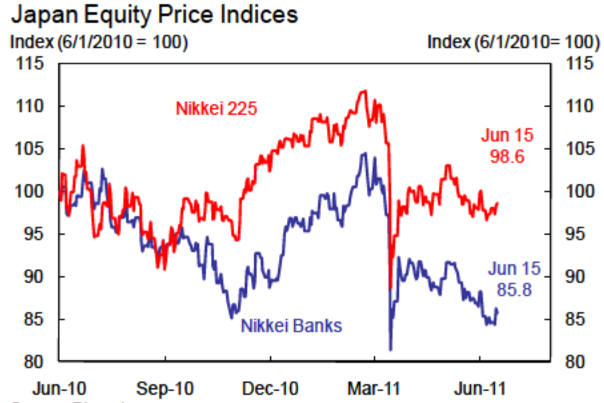
Source: Bloomberg

Euro Area Equity Price Indices



Source: Bloomberg

Japan Equity Price Indices

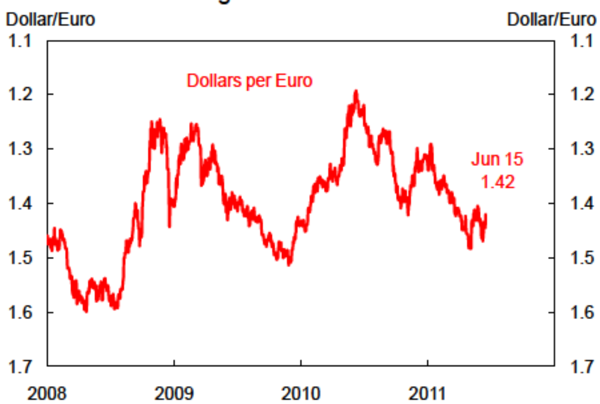


Source: Bloomberg

A. Significant Developments

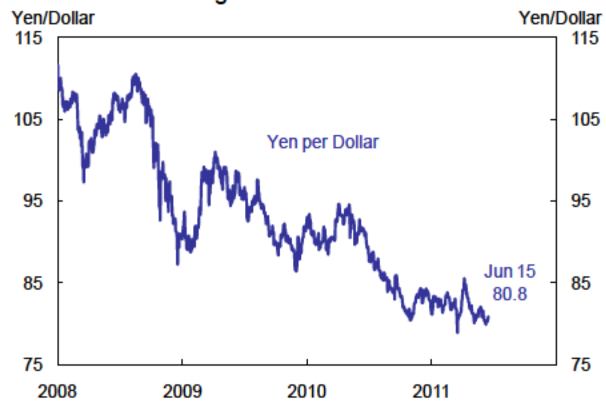
Exhibit A-10:
Exchange Rates

Dollar-Euro Exchange Rate



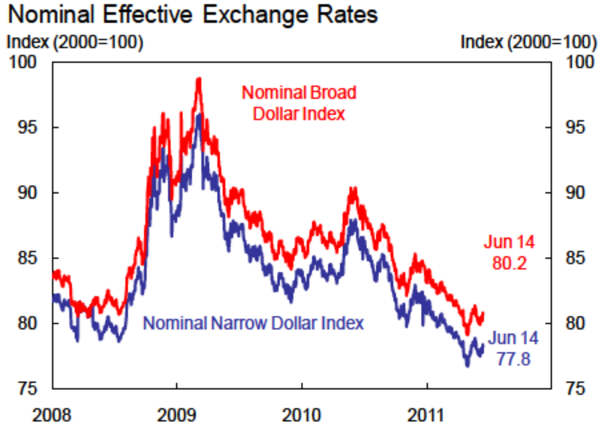
Source: Bloomberg   Note: Exchange rate scale is inverted.

Yen-Dollar Exchange Rate



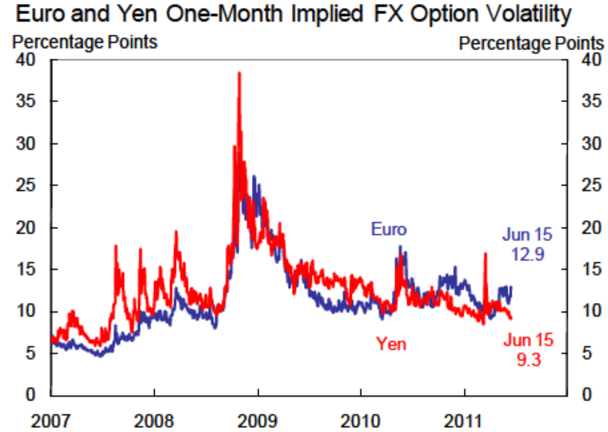
Source: Bloomberg

Nominal Effective Exchange Rates



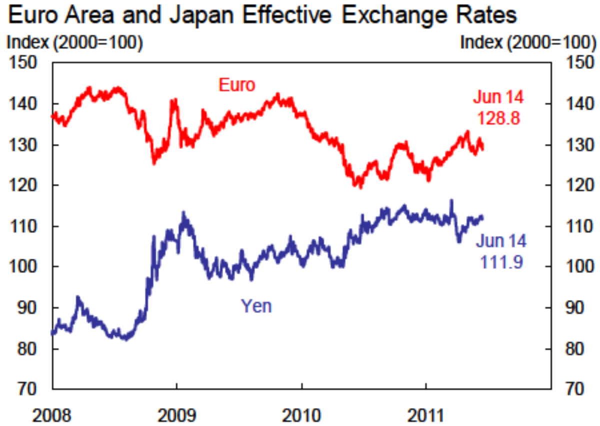
Source: Bloomberg and JPMorgan

Euro and Yen One-Month Implied FX Option Volatility



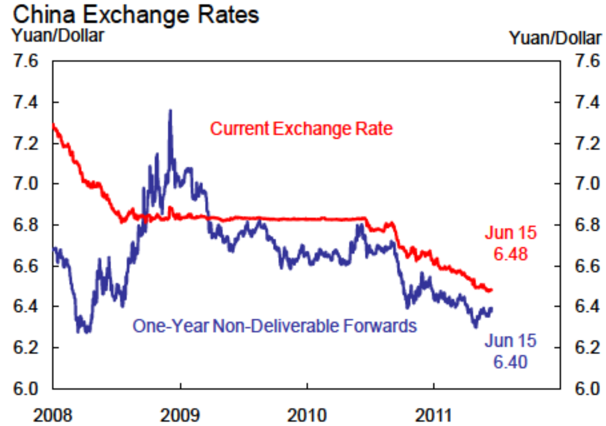
Source: Bloomberg

Euro Area and Japan Effective Exchange Rates



Source: Bloomberg and JPMorgan

China Exchange Rates



Source: Bloomberg

B. FRBNY Forecast Details

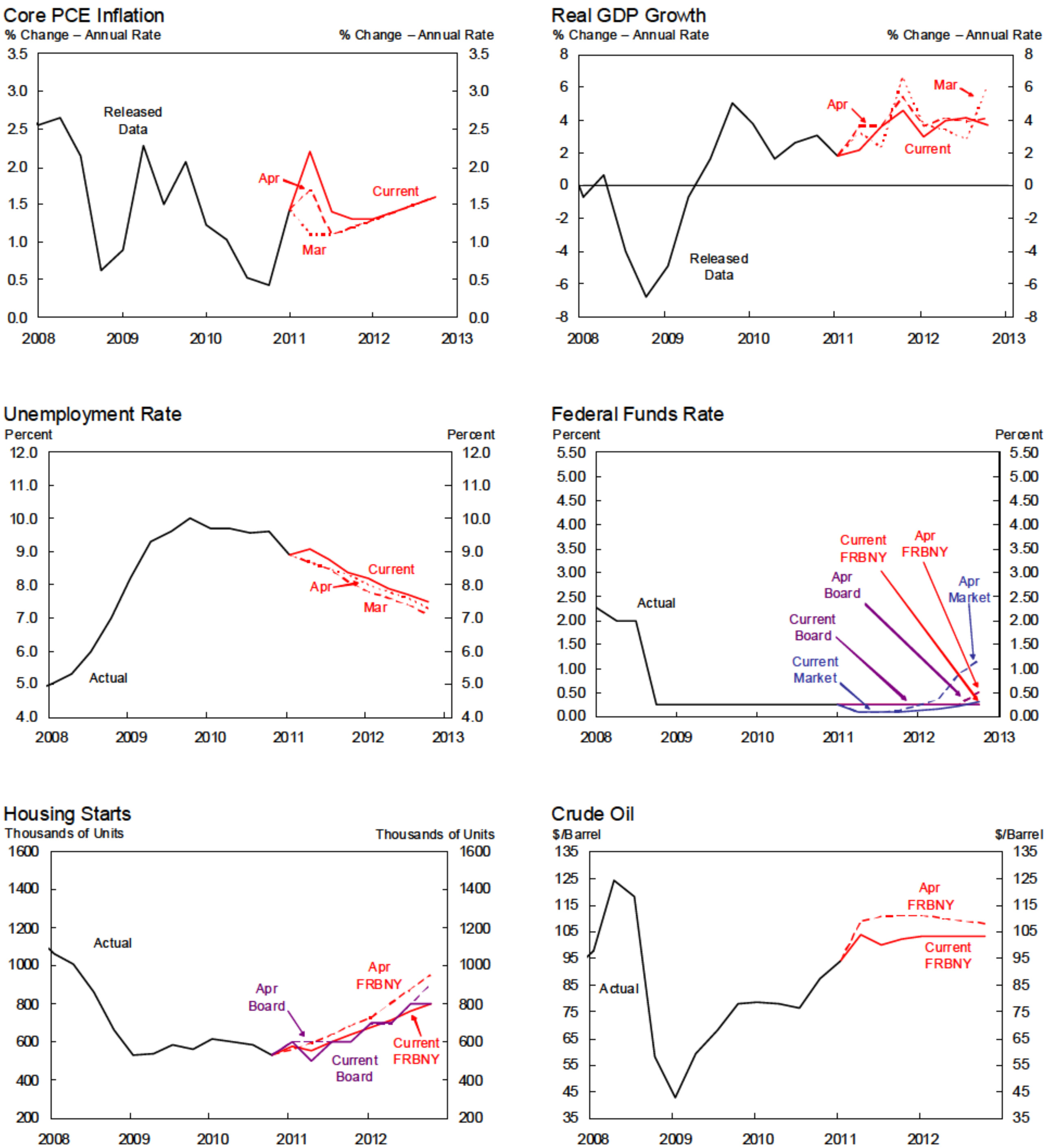
Exhibit B-1: Quarterly and Annual Projections of Key Variables

	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Mar	Apr	Jun	Mar	Apr	Jun	Mar	Apr	Jun	Mar	Apr	Jun
2010												
Q1	*1.2*	*1.2*	*1.2*	*3.7*	*3.7*	*3.7*	*9.7*	*9.7*	*9.7*	*0-0.25*	*0-0.25*	*0-0.25*
Q2	1.0	*1.0*	*1.0*	1.7	*1.7*	*1.7*	9.6	*9.6*	*9.6*	*0-0.25*	*0-0.25*	*0-0.25*
Q3	0.5	*0.5*	*0.5*	2.6	*2.6*	*2.6*	9.6	*9.6*	*9.6*	*0-0.25*	*0-0.25*	*0-0.25*
Q4	0.5	0.4	*0.4*	2.8	3.1	*3.1*	9.6	*9.6*	*9.6*	0-0.25	0-0.25	*0-0.25*
2011												
Q1	1.1	1.5	*1.4*	3.3	2.1	1.8	9.0	8.9	*8.9*	0-0.25	0-0.25	*0-0.25*
Q2	1.1	1.7	2.2	3.2	3.6	2.2	8.7	8.7	9.1	0-0.25	0-0.25	0-0.25
Q3	1.1	1.1	1.4	2.3	3.6	3.6	8.5	8.5	8.8	0-0.25	0-0.25	0-0.25
Q4	1.2	1.2	1.3	6.6	5.4	4.6	8.3	8.1	8.4	0-0.25	0-0.25	0-0.25
2012												
Q1	1.3	1.3	1.3	3.7	3.6	3.0	8.0	7.8	8.2	0-0.25	0-0.25	0-0.25
Q2	1.4	1.4	1.4	3.4	4.1	4.0	7.8	7.6	7.9	0-0.25	0-0.25	0-0.25
Q3	1.5	1.5	1.5	2.8	3.9	4.1	7.6	7.4	7.7	0.25	0.25	0-0.25
Q4	1.6	1.6	1.6	6.0	4.1	3.7	7.3	7.1	7.5	0.5	0.5	0.25
Q4/Q4												
2009	*1.7*	*1.7*	*1.7*	*0.2*	*0.2*	*0.2*	*3.1*	*3.1*	*3.1*	*0.0*	*0.0*	*0.0*
2010	0.8	0.8	*0.8*	2.7	2.8	*2.8*	-0.3	-0.3	*-0.3*	0.0	0.0	*0.0*
2011	1.1	1.4	1.6	3.8	3.7	3.0	-1.3	-1.8	-1.4	0.0	0.0	0.0
2012	1.5	1.5	1.5	4.0	3.9	3.7	-1.0	-1.3	-1.0	0.5	0.5	0.25

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

B. FRBNY Forecast Details

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



Source: MMS and IR Functions (FRBNY) and Federal Reserve Board
Note: Mar Oil Forecast is for Brent; Current Oil Forecast is for WTI

B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)		Quarterly Growth Contributions (AR)	
	2011Q2	2011Q3	2011Q2	2011Q3
OUTPUT				
Real GDP	2.2	3.6	2.2	3.6
	(3.6)	(3.6)	(3.6)	(3.6)
Final Sales to Domestic Purchasers	1.8	2.4	1.9	2.5
	(3.1)	(3.1)	(3.1)	(3.2)
Consumption	1.5	2.1	1.1	1.5
	(3.2)	(2.8)	(2.2)	(2.0)
BFI: Equipment and Software	10.0	10.0	0.7	0.7
	(8.0)	(10.0)	(0.6)	(0.7)
BFI: Nonresidential Structures	7.5	4.0	0.2	0.1
	(2.0)	(4.0)	(0.1)	(0.1)
Residential Investment	1.0	8.0	0.0	0.2
	(5.1)	(14.6)	(0.1)	(0.3)
Government: Federal	4.0	1.2	0.3	0.1
	(3.2)	(1.2)	(0.3)	(0.1)
Government: State and Local	-3.6	-1.0	-0.4	-0.1
	(-0.6)	(-0.0)	(-0.1)	(-0.0)
Inventory Investment	--	--	-0.5	0.3
	--	--	(0.2)	(0.0)
Net Exports	--	--	0.9	0.7
	--	--	(0.2)	(0.4)
INFLATION				
Total PCE Deflator	3.6	1.3		
	(4.4)	(2.3)		
Core PCE Deflator	2.2	1.4		
	(1.7)	(1.1)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	0.0	2.0		
	(2.1)	(2.2)		
Compensation per Hour	2.0	2.3		
	(2.7)	(3.1)		
Unit Labor Costs	2.0	0.3		
	(0.6)	(0.9)		

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		
	2010	2011	2012	2010	2011	2012
OUTPUT						
Real GDP	2.8	3.0	3.7	2.8	3.0	3.7
	(2.8)	(3.7)	(3.9)	(2.8)	(3.7)	(3.9)
Final Sales to Domestic Purchasers	2.9	2.0	3.0	3.0	2.1	3.1
	(2.9)	(2.6)	(3.2)	(3.0)	(2.7)	(3.3)
Consumption	2.6	2.0	2.7	1.9	1.4	1.9
	(2.6)	(2.8)	(3.1)	(1.9)	(2.0)	(2.2)
BFI: Equipment and Software	16.9	11.6	8.5	1.1	0.8	0.6
	(16.9)	(10.2)	(8.0)	(1.1)	(0.7)	(0.6)
BFI: Nonresidential Structures	-4.0	-0.4	8.0	-0.1	0.0	0.2
	(-4.0)	(-0.3)	(8.0)	(-0.1)	(-0.0)	(0.2)
Residential Investment	-4.6	2.9	14.9	-0.1	0.1	0.3
	(-4.6)	(6.3)	(13.7)	(-0.1)	(0.1)	(0.3)
Government: Federal	4.8	-0.5	-0.8	0.4	0.0	-0.1
	(4.8)	(0.4)	(-0.7)	(0.4)	(0.0)	(-0.1)
Government: State and Local	-1.3	-1.9	0.9	-0.2	-0.2	0.1
	(-1.3)	(-1.1)	(0.9)	(-0.2)	(-0.1)	(0.1)
Inventory Investment	--	--	--	0.4	0.5	0.1
	--	--	--	(0.4)	(0.5)	(-0.0)
Net Exports	--	--	--	-0.6	0.5	0.6
	--	--	--	(-0.6)	(0.5)	(0.6)
INFLATION						
Total PCE Deflator	1.1	2.5	1.7			
	(1.1)	(3.1)	(1.6)			
Core PCE Deflator	0.8	1.6	1.5			
	(0.8)	(1.4)	(1.5)			
Total CPI Inflation	1.2	3.1	2.2			
	(1.2)	(3.5)	(2.1)			
Core CPI Inflation	0.6	1.9	1.8			
	(0.6)	(1.7)	(1.8)			
GDP Deflator	1.3	2.2	1.6			
	(1.3)	(2.4)	(1.6)			

Note: Numbers in parentheses are from the previous Blackbook.

B. FRBNY Forecast Details

Exhibit B-5: Projections of Other Key Economic Variables

	Q4/Q4 Growth Rates		
	2010	2011	2012
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	0-0.25	0-0.25	0.25
	0-0.25	0-0.25	(0.5)
10-Year Treasury Yield (Avg. Q4 Level)	2.9	3.5	4.3
	(2.9)	(3.9)	(4.5)
PRODUCTIVITY AND LABOR COSTS*			
Output	3.7	4.2	4.7
	(3.6)	(4.8)	(5.2)
Hours	1.7	2.8	3.0
	(1.6)	(3.1)	(3.5)
Output per Hour	2.0	1.4	1.8
	(1.9)	(1.8)	(1.7)
Compensation per Hour	1.8	2.3	2.9
	(1.8)	(2.7)	(3.7)
Unit Labor Costs	-0.2	0.9	1.2
	(-0.2)	(0.9)	(1.9)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	9.6	8.4	7.5
	(9.6)	(8.1)	(7.1)
Participation Rate (Avg. Q4 Level)	64.4	64.3	64.6
	(64.4)	(64.3)	(64.9)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	59	231	296
	(59)	(254)	(337)
INCOME			
Personal Income	3.8	6.0	4.0
	(4.0)	(6.9)	(4.4)
Real Disposable Personal Income	2.2	2.4	1.9
	(2.4)	(3.1)	(2.4)
Personal Saving Rate	5.4	5.9	5.3
	(5.6)	(6.1)	(5.5)
Corporate Profits Before Taxes	18.3	4.0	4.4
	(7.0)	(4.8)	(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

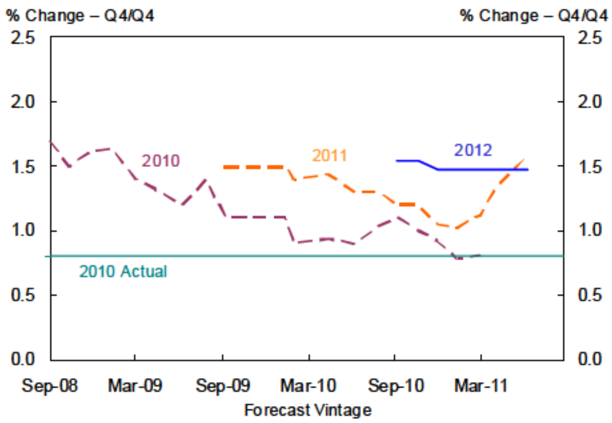
	FRBNY (Q4/Q4)			Board (Q4/Q4)		
	2010	2011	2012	2010	2011	2012
OUTPUT						
Real GDP	2.8	3.0	3.7	2.8	2.7	3.5
	(2.8)	(3.7)	(3.9)	(2.8)	(3.2)	(4.2)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	3.0	2.1	3.1	3.0	1.9	2.7
	(3.0)	(2.7)	(3.3)	(3.0)	(2.6)	(3.5)
Consumption	1.9	1.4	1.9	1.9	1.6	2.0
	(1.9)	(2.0)	(2.2)	(1.9)	(2.1)	(2.6)
BFI	1.0	0.8	0.9	1.0	0.6	0.6
	(1.0)	(0.7)	(0.8)	(1.0)	(0.7)	(0.7)
Residential Investment	-0.1	0.1	0.3	-0.1	0.0	0.1
	(-0.1)	(0.1)	(0.3)	(-0.1)	(0.0)	(0.2)
Government	0.2	-0.3	0.0	0.2	-0.3	0.0
	(0.2)	(-0.1)	(0.0)	(0.2)	(-0.2)	(0.0)
Inventory Investment	0.4	0.5	0.1	0.4	0.3	0.3
	(0.4)	(0.5)	(-0.0)	(0.4)	(0.2)	(0.3)
Net Exports	-0.6	0.5	0.6	-0.6	0.4	0.6
	(-0.6)	(0.5)	(0.6)	(-0.6)	(0.3)	(0.4)
INFLATION						
Total PCE Deflator	1.1	2.5	1.7	1.2	2.3	1.5
	(1.1)	(3.1)	(1.6)	(1.2)	(2.2)	(1.2)
Core PCE Deflator	0.8	1.6	1.5	0.8	1.7	1.5
	(0.8)	(1.4)	(1.5)	(0.8)	(1.4)	(1.4)
INTREST RATE ASSUMPTION						
Fed Funds Rate (End-of-Year)	0-0.25	0-0.25	0.25	0-0.25	0-0.25	0-0.25
	0-0.25	0-0.25	(0.5)	0-0.25	0-0.25	(0.5)
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	2.0	1.4	1.8	2.0	1.3	1.7
	(1.9)	(1.8)	(1.7)	(2.0)	(1.1)	(1.8)
Compensation per Hour	1.8	2.3	2.9	1.4	2.1	2.5
	(1.8)	(2.7)	(3.7)	(1.9)	(2.2)	(2.7)
Unit Labor Costs	-0.2	0.9	1.2	-0.6	0.8	0.7
	(-0.2)	(0.9)	(1.9)	(-0.2)	(1.1)	(0.9)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	9.6	8.4	7.5	9.6	8.9	8.1
	(9.6)	(8.1)	(7.1)	(9.6)	(8.7)	(7.7)
Participation Rate (Avg. Q4 Level)	64.4	64.3	64.6	64.5	64.3	64.4
	(64.4)	(64.3)	(64.9)	(64.5)	(64.3)	(64.4)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	59	231	296	58	167	208
	(59)	(254)	(337)	(58)	(200)	(266.7)
SAVING						
Personal Saving Rate (Avg. Q4 Level)	5.4	5.9	5.3	5.6	5.3	5.2
	(5.6)	(6.1)	(5.5)	(5.6)	(5.9)	(5.5)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	539	640	800	600	600	700
	(534)	(685)	(950)	(600)	(600)	(800)

B. FRBNY Forecast Details

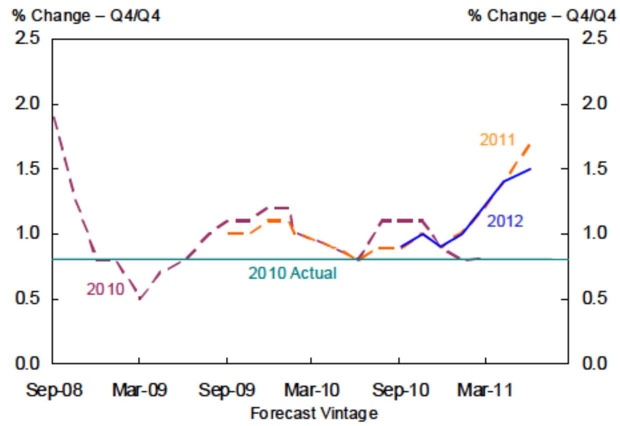
Exhibit B-7: Evolution of FRBNY and Board Forecasts since Mid-2007

FRBNY	**Board**

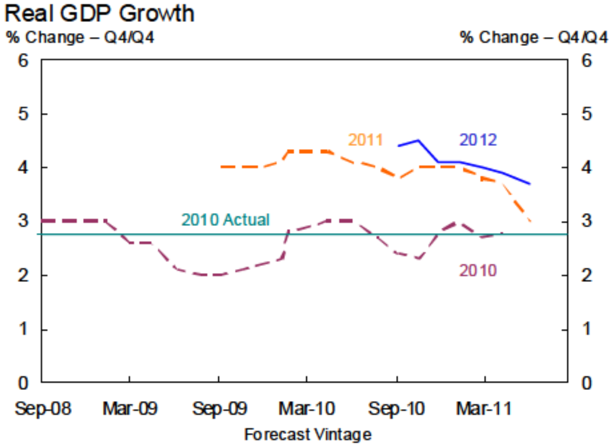
Core PCE Inflation



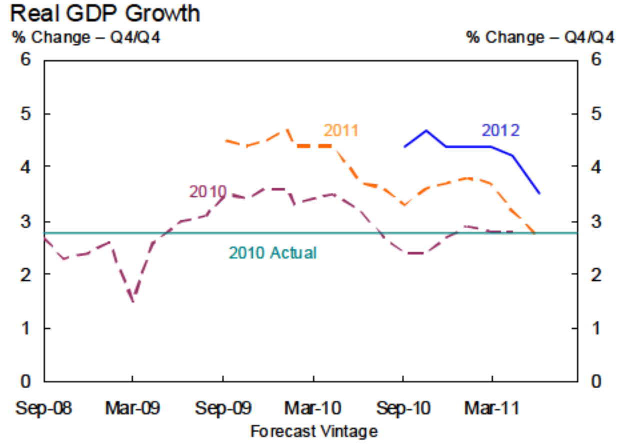
Core PCE Inflation



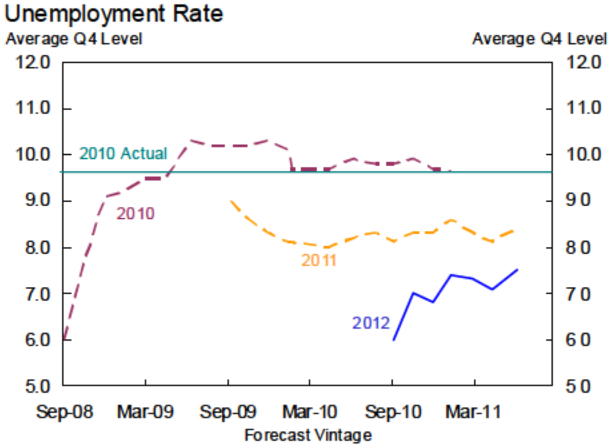
Real GDP Growth



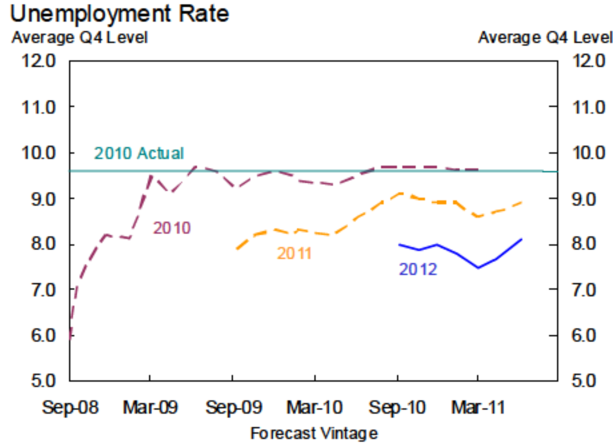
Real GDP Growth



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	2011Q2	2011Q3	2011 Q4/Q4	2012 Q4/Q4
FRBNY	6/16/2011	2.2	3.6	3.0	3.7
		(3.6)	(3.6)	(3.7)	(3.9)
Blue Chip	6/10/2011	2.6	3.3	2.8	3.1
		(3.2)	(3.2)	(3.2)	(3.2)
Median SPF	6/8/2011	3.2	3.4	3.0	--
		(3.5)	(3.5)	(3.4)	--
Macro Advisers	6/16/2011	2.0	3.9	2.8	3.3
		(3.6)	(3.6)	(3.3)	(3.9)

Core PCE Inflation

	Release Date	2011Q2	2011Q3	2011 Q4/Q4	2012 Q4/Q4
FRBNY	6/16/2011	2.2	1.4	1.6	1.5
		(1.7)	(1.1)	(1.4)	(1.5)
Median SPF	6/8/2011	1.5	1.4	1.5	1.6
		(1.3)	(1.3)	(1.3)	(1.6)
Macro Advisers	6/13/2011	1.7	1.2	1.4	1.4
		(1.2)	(1.2)	(1.2)	(1.2)

CPI Inflation

	Release Date	2011Q2	2011Q3	2011 Q4/Q4	2012 Q4/Q4
FRBNY	6/16/2011	4.3	1.1	3.1	2.2
		(5.1)	(1.7)	(3.5)	(2.1)
Blue Chip	6/10/2011	3.9	2.1	3.4	2.2
		(2.7)	(2.7)	(2.9)	(2.2)
Median SPF	6/8/2011	3.5	2.2	3.1	2.2
		(1.3)	(1.3)	(1.7)	(2.0)
Macro Advisers	6/13/2011	4.2	2.7	3.4	1.6
		(3.7)	(3.7)	(2.8)	(1.4)

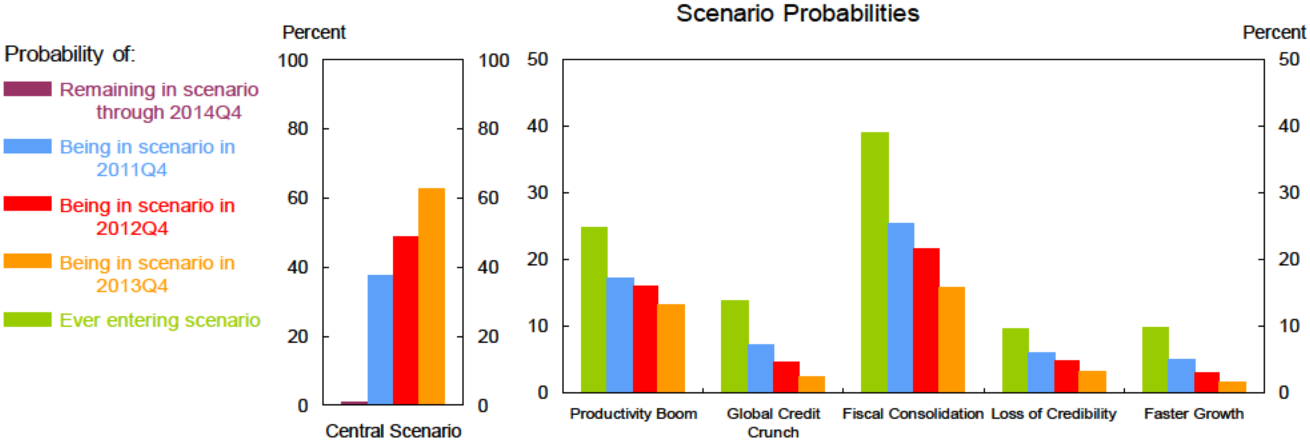
Core CPI Inflation

	Release Date	2011Q2	2011Q3	2011 Q4/Q4	2012 Q4/Q4
FRBNY	6/16/2011	2.5	1.7	1.9	1.8
		(2.0)	(1.5)	(1.7)	(1.8)
Median SPF	6/8/2011	1.7	1.6	1.6	1.9
		(1.2)	(1.2)	(1.3)	(1.7)
Macro Advisers	6/13/2011	2.0	1.9	1.9	1.7
		(1.8)	(1.8)	(1.6)	(1.5)

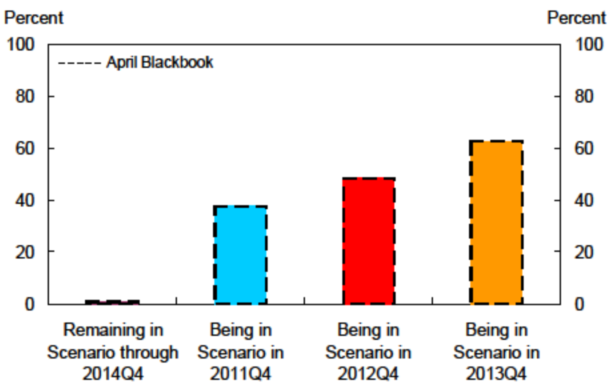
C. FRBNY Forecast Distributions

Exhibit C-1:
Risks

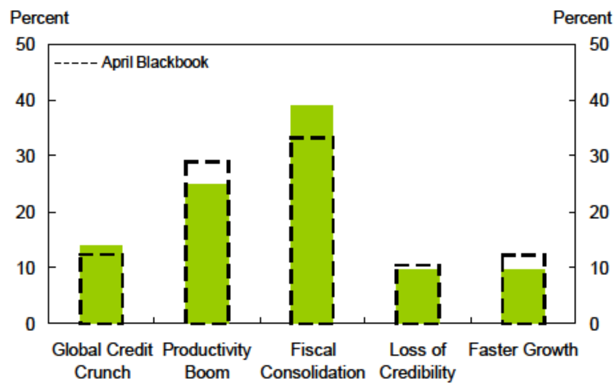
Scenario Probabilities



Change in Central Scenario Probabilities



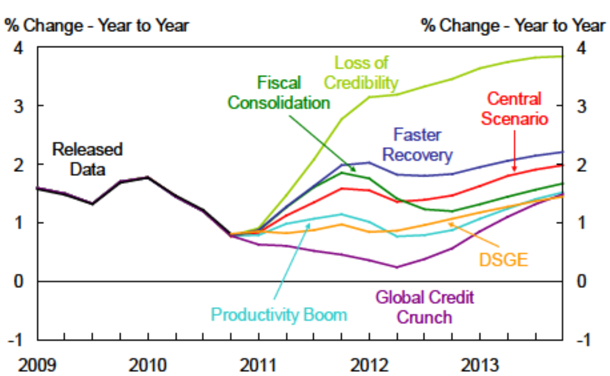
Change in Alternative Scenario Probabilities*



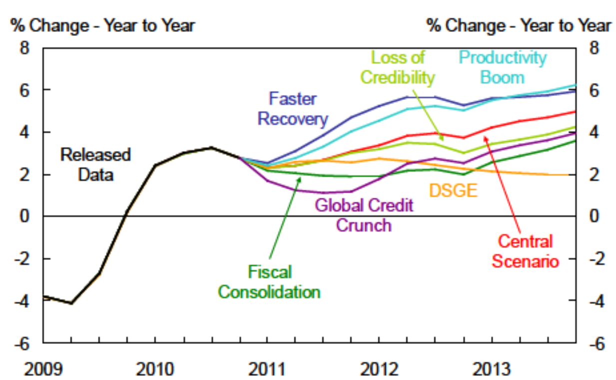
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

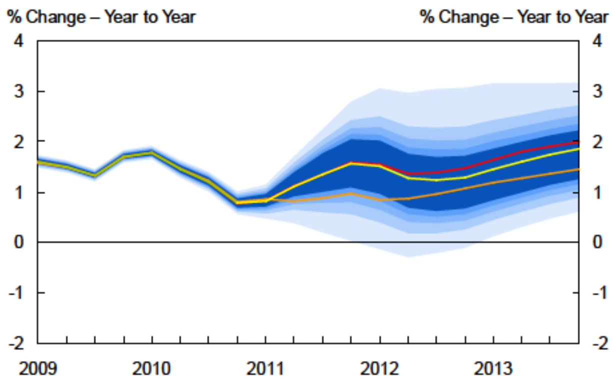


Source: MMS Function (FRBNY)

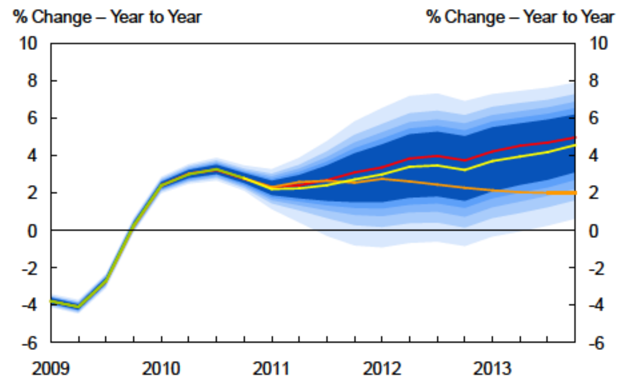
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

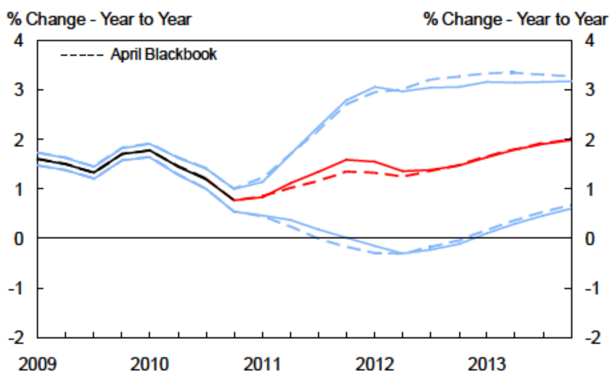


Real GDP Growth Forecast Distribution

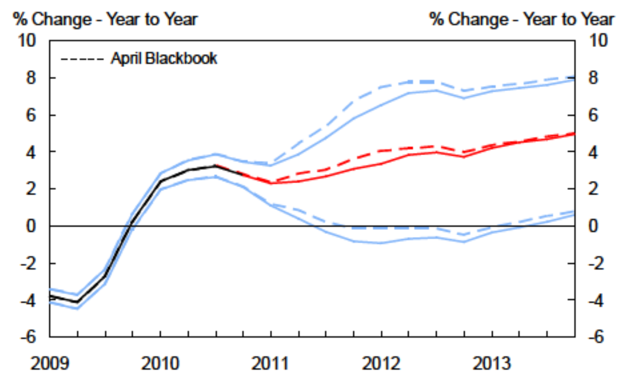


The yellow line represents the expected value of the forecast distribution, the red line represents the FRBNY central projection, the orange line represents the DSGE forecast, and the green line represents released data. The shading represents the 50, 60, 70, 80 and 90 percent probability that the four-quarter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

Change in Core PCE Inflation Forecast Distribution

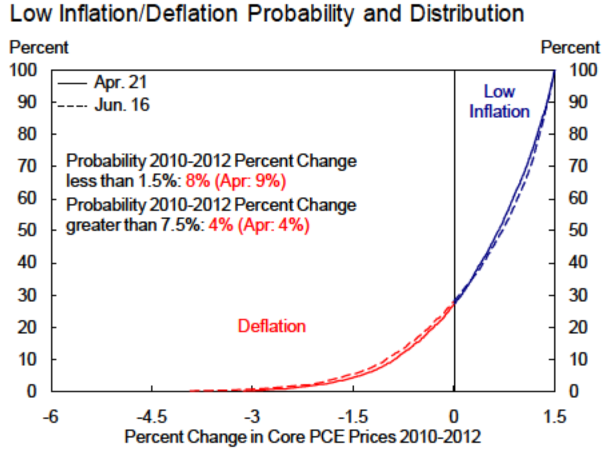


Change in Real GDP Growth Forecast Distribution

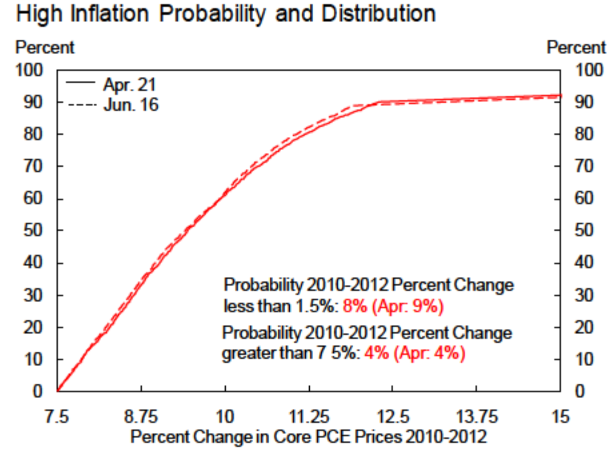


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from the previous Blackbook.

Low Inflation/Deflation Probability and Distribution



High Inflation Probability and Distribution

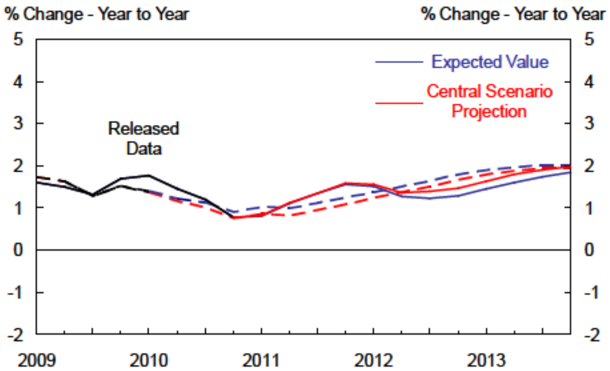


Source: MMS Function (FRBNY)

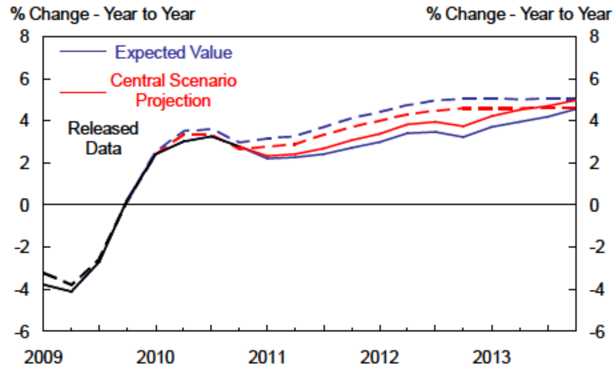
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

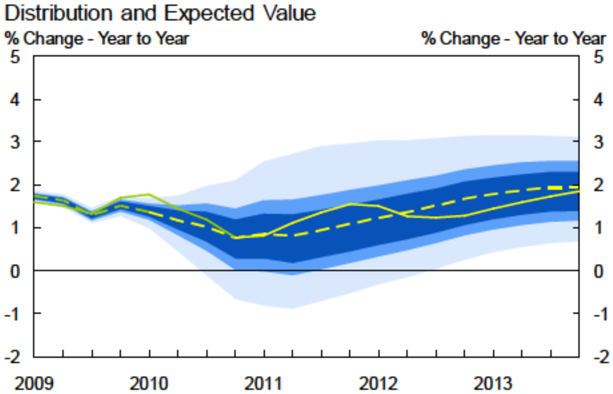


One-Year Comparison of Real GDP Growth Forecast

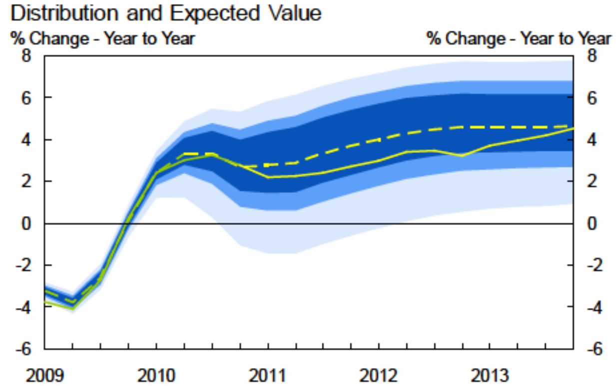


The solid lines represent the current central scenario projection and expected value, while the dashed lines represent those from the year-ago Blackbook.

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



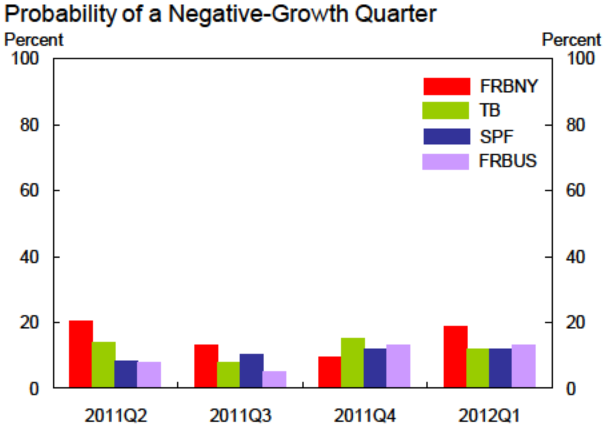
One-Year Comparison of Real GDP Growth Forecast Distribution and Expected Value



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

Exhibit C-5: Probability of a Negative Growth Quarter

Probability of a Negative-Growth Quarter

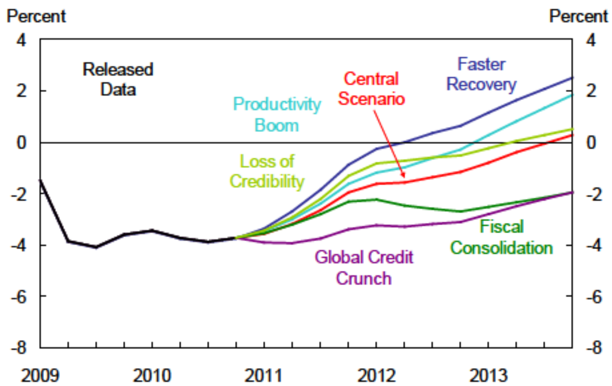


Source: MMS Function (FRBNY)

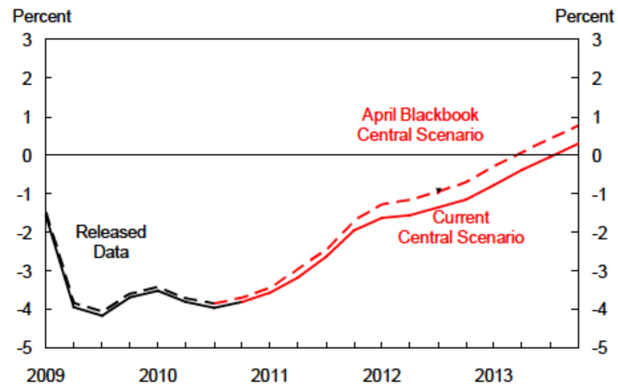
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

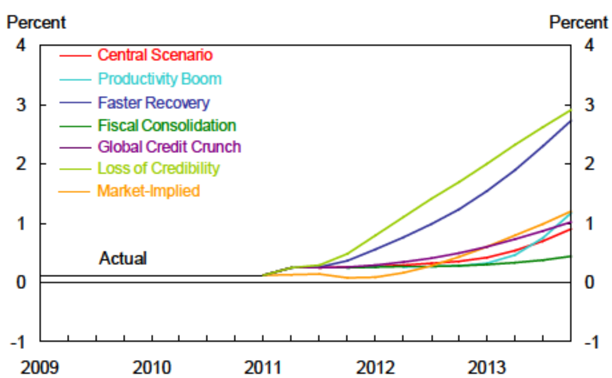
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

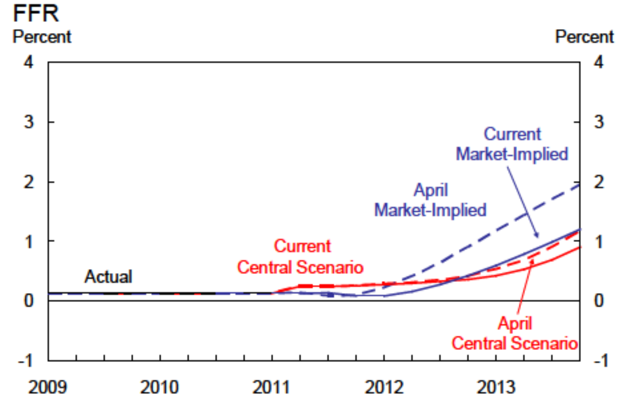
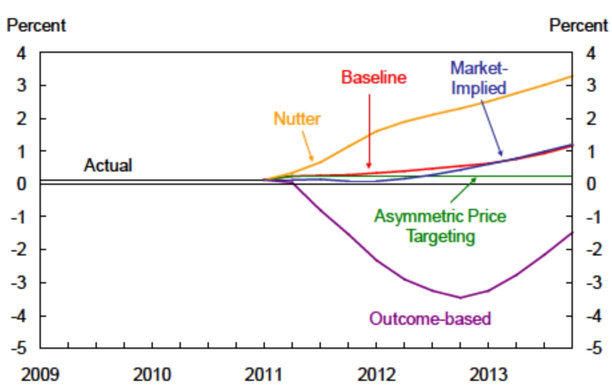


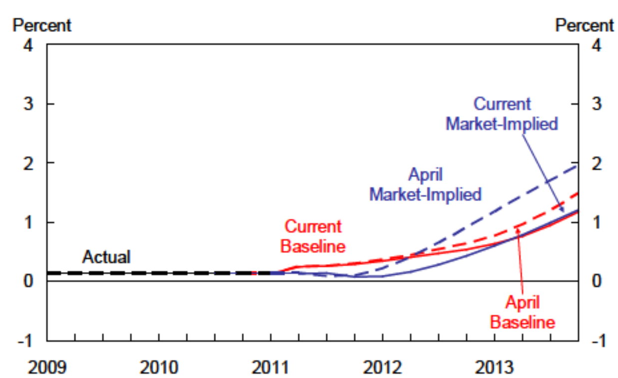
Exhibit D-2: Alternative Policy Rules under Expected Value of Forecast Distribution

Nominal FFR using Alternative Policy Rules*



*Evaluated using yellow line from C-3

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



*Evaluated using yellow line from C-3

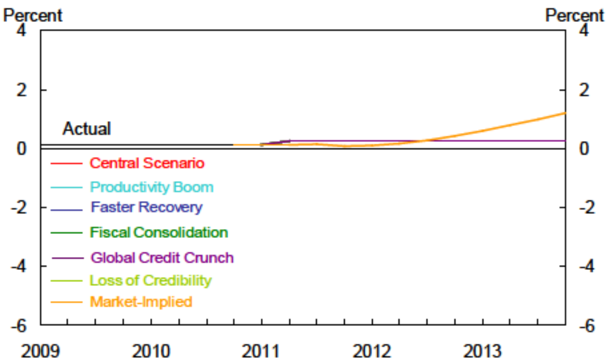
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

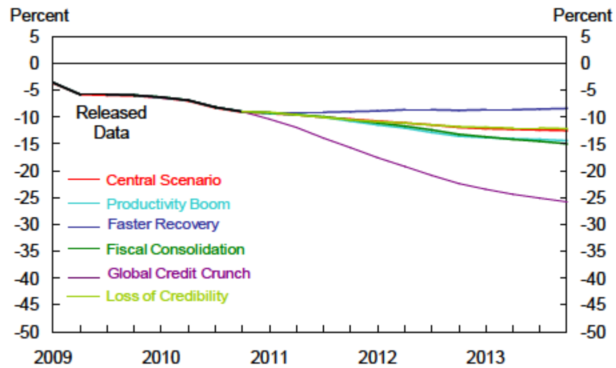
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Asymmetric Price Targeting*

Nominal FFR under Alternative Scenarios

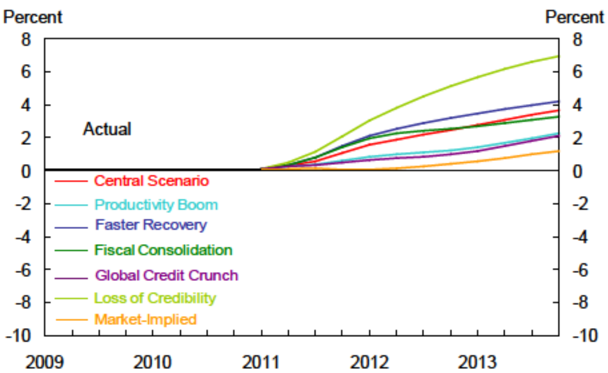


Real FFR under Alternative Scenarios

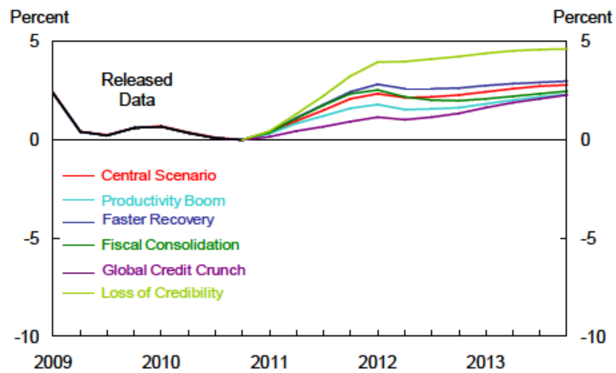


Policy Rule: *Nutter*

Nominal FFR under Alternative Scenarios

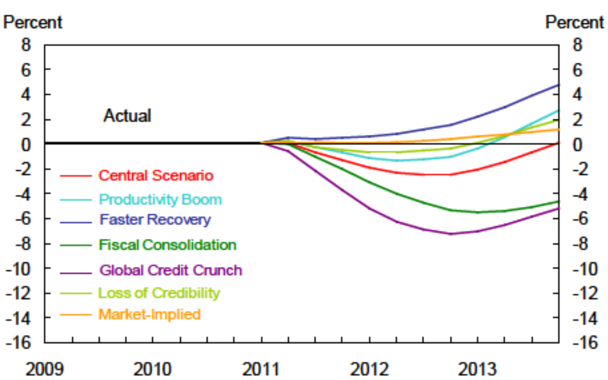


Real FFR under Alternative Scenarios

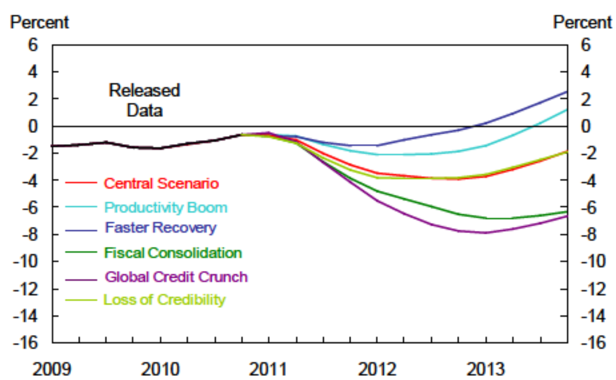


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



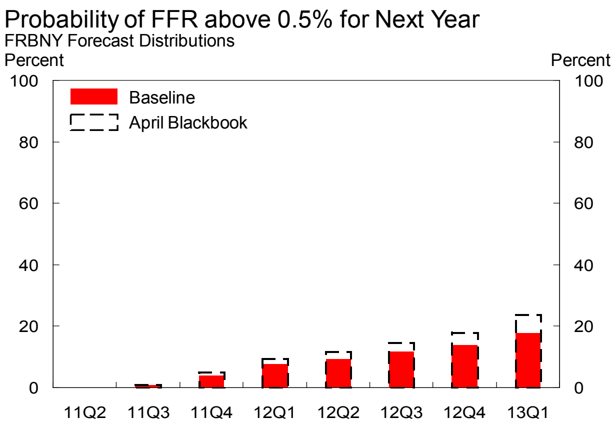
Real FFR under Alternative Scenarios

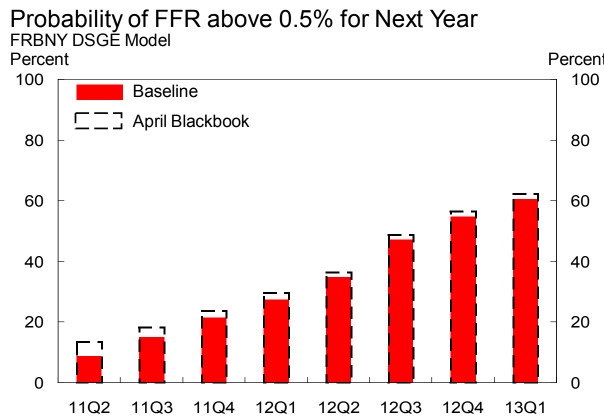


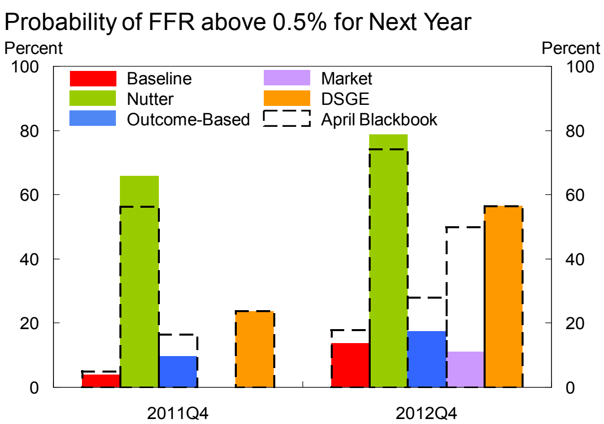
Source: MMS Function (FRBNY)

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 alternative scenario considers the impact of above-trend productivity growth. Our current assumption of trend productivity growth is around 1.75% on a nonfarm business sector basis. Sustained productivity growth above this assumption would have important consequences for the economy. Typically, because below-trend productivity growth also has important consequences, we have included an alternative scenario that incorporates that assumption (*Productivity Slump)*. However, because the near-term consequences of that scenario and the *Fiscal Consolidation* scenario are similar, we have combined those two scenarios into a single revamped *Fiscal Consolidation* scenario, which allows us to add a new scenario (*Faster Growth/Recovery*). We also currently consider four additional scenarios. In one (*Faster Growth/Recovery*), the recent "headwinds" subside more quickly than expected, leading to stronger aggregate demand effects from monetary and fiscal policy. In another (*Loss of Credibility*), the public and investors lose confidence in the current stances of monetary and fiscal policy. In the other two (*Global Credit Crunch* and *Global Deflation*), the recent stresses in global financial and economic conditions continue to have an impact on U.S. economic conditions; the differences between the two mainly reflect differing assessments of how protracted the negative effects could be.

Alternative 1: *Productivity Boom*

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

Alternative 2: *Fiscal Consolidation*

Events in Europe in 2010 and so far in 2011 concerning the fiscal position of several euro zone countries raise issues about the possible economic consequences if similar concerns were to develop about the sustainability of the U.S. government's fiscal position. The *Fiscal Consolidation* scenario envisions a situation in which concerns on the part of investors about the fiscal sustainability of the United States leads to an increase in long term interest rates and term premia that contribute to a decline in output growth below that of the central forecast. As the U.S. government responds to those concerns by reducing government spending and/or raising taxes, the consequent decline in aggregate demand would imply that growth of real activity continues to be weak. In this scenario inflation temporarily rises above the central forecast, in part due to a likely depreciation of the dollar and possible increases in inflation expectations[2]. [As stated earlier, the near-term implications of this scenario are similar to those of a supply shock or productivity slump, which is one reason we have folded in the weight of the old *Productivity Slump* scenario into this scenario.] However, after several quarters, with the government embarking on a credible fiscal consolidation, inflation declines below the central forecast as a consequence of the drop in aggregate demand and output growth.

Alternative 3: *Faster Growth/Recovery*

The recovery from the 2007-09 recession has been quite weak, especially given the severe drop in real activity during the recession. Factors behind the slow pace of recovery include the continued stress faced by financial markets and institutions as they slowly mend from the financial crisis and a slow process of repairing household balance sheets damaged in the financial crisis and recession. However, the relative strength in

[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.

recent real PCE and other aggregate demand indicators raise the possibility that the process of mending may be beginning to reach an end. The *Faster Growth/Recovery* scenario envisions a situation where these factors that have inhibited growth subside more quickly than anticipated by policymakers. In particular, the diminution of these factors would lead to a stronger impact from accommodative monetary policy and from the fiscal stimulus associated with the fiscal agreement passed in December 2010, leading to faster growth in aggregate demand. In that case, real GDP growth could be higher than anticipated, and inflation pressures could materialize more quickly.

Alternative 4: *Loss of Credibility*

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

Alternative 5: *Global Credit Crunch*

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

Alternative 6: *Global Deflation*

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

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

1. *Productivity Boom*: inflation below central forecast, output above central forecast.

2. *Fiscal Consolidation*: inflation initially above and then below central forecast, output below central forecast.
3. *Faster Growth/Recovery*: inflation above central forecast, output above central forecast.
4. *Loss of Credibility*: inflation far above central forecast, output slightly below central forecast.
5. *Global Credit Crunch*: inflation below central forecast, output significantly below central forecast.
6. *Global Deflation*: inflation far below central forecast, output far below central forecast.

Policy Rule Descriptions

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

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

Baseline Policy Rule Specification:

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

$\rho = 0.8$ (interest rate smoothing parameter)

$i^* =$ 3.75 in short-term, moving to 4.25 (neutral FFR)

$\pi^* = 1.75$ (core PCE inflation target)

$\varphi_\pi = 1.5$ (weight on inflation deviations)

$\varphi_x = 0.5$ (weight on output gap)

π_t : core PCE, 4-quarter average

x_t : output gap, using 2.7% potential growth rate, moving to 2.6%

i_{t-1} : interest rate in previous quarter

The two variants of the *Baseline* rule that we use are the *Asymmetric Price Targeting* and *Nutter* rules. The *Asymmetric Price Targeting* rule is designed to combat deflation by instituting price-level targeting. This rule reacts more slowly than the *Baseline* rule to initial increases in inflation, maintaining a lower policy rate for a longer period of time.[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: $i_t = 1.20*i_{t-1} - 0.39*it\text{-}2 + 0.19*(1.17 + 1.73*\pi_t + 3.66*x_t - 2.72*x_{t-1})$

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