FRBNY Blackbook

RESEARCH AND STATISTICS GROUP

FOMC Background Material

April 2008

CONFIDENTIAL(FR) Class II FOMC

FRBNY BLACKBOOK

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EXHIBITS

EXHIBIT OVERVIEW

1. Policy Recommendation and Rationale

Our policy recommendation for the upcoming FOMC meeting is to reduce the FFR (federal funds rate) 25 basis points (bps) to 2.00% and is consistent with the policy path advocated in the March Blackbook. From there, our recommendation is for a flat FFR through 2009Q1, albeit with a modestly higher likelihood of lower rather than higher rates around this path. Starting in the second quarter of 2009, a renormalization of the rates and a withdrawal of some of the additional liquidity capacity would be appropriate if conditions evolve according to our central forecast. In fact, given that we expect that the output gap will not be fully closed over the forecast horizon, this pace of renormalization would be somewhat quicker than the prescription of our standard policy rule in order to reaffirm the price stability goal. In the short-run, financial markets expectations appear to be in line with our policy recommendation. Therefore, the April FOMC statement should aim to be market neutral.

Over the inter-meeting period, the data releases have been broadly in line with our outlook. We are now more certain to be in the opening stages of a recession, given that March was the third consecutive month of negative growth in payroll employment and the unemployment rate further increased. Moreover, business surveys and household spending and confidence indicators continued to signal weakness. However, job losses so far have been relatively contained even compared to the mild 2001 recession. Consumption has come in line with our March projections and has not yet exhibited the kind of weakness consistent with our *Credit Crunch* scenario. Therefore, our central forecast continues to show a mild recession in 2008H1, with a relatively modest recovery starting in 2008H2 and taking hold in 2009. Because we expect the recovery to be modest, we anticipate that the output gap that opens up during the expected recession will not be fully closed even into 2010.

The inflation outlook remains uncertain. As we projected in the central forecast in the March Blackbook, softening overall economic conditions have led to a recent moderation of inflation, reflected in the core PCE and CPI data for February and March. In addition, long-horizon inflation expectations appear to remain contained and the trade-weighted foreign exchange value of the dollar has been fairly stable. These developments have led us to lower the near-term inflation forecast while maintaining the general contours of our medium-term forecast. We also lowered the scale of upside risks to inflation compared to the last FOMC meeting. Nevertheless, the recent sharp increases in the prices of food, oil and other commodities continue to exert short-run pressures on total inflation and pose some upside risk to the inflation outlook.

For financial markets, the inter-meeting period has been relatively calm, consistent with an apparent reduction in the implied probability of the most extreme negative events from that of mid-March. There was some improvement in market conditions including higher long-term real rates, more-normal levels of repo rates, and improved functioning in repo and other markets. To some extent, these developments suggest some positive impact from the various liquidity initiatives and other nonstandard policy moves by the Federal Reserve in early- to-mid March. Nevertheless, rising LIBOR-OIS spreads, still-low long-term real rates, low short-term Treasury rates, and high credit spreads indicate that financial market conditions remain fragile and susceptible to further negative shocks.

The fragility of financial market conditions and the downside risks to the real outlook reflect continued concerns about the development of an adverse feedback loop between financial markets and the real economy. Again, it appeared that the policy moves in mid-March alleviated some of the more extreme fears about such a negative development. However, developments in the housing market, which have been a major fundamental factor behind the problems in the mortgage market and financial markets more generally, indicate that the possibility of a feedback loop developing remains a major risk for the outlook. In particular, the acceleration of home price declines raises the risk of a further negative impact on financial markets as well as on home price expectations, which could lead to greater spillovers into other sectors of real activity.

Under our central forecast, with the FFR maintained at 2.00%, the combination of monetary easing and fiscal stimulus already in the pipeline enables the economy to begin to recover in the second half of the year. With the recovery becoming more established in 2009 and financial market functioning returning close to normal, we recommend that the FOMC begins the process of renormalizing the FFR, raising it to 3.50% by the end of 2009 and to 4.25% by the end of 2010. Because we do not expect the output gap to be fully closed over this horizon, this pace of renormalizing the FFR is somewhat contractionary compared to the prescription of our standard rule as well as to our forecast in the March Blackbook (where we expected the output gap to be completely closed by 2010), but similar to that suggested by the opportunistic disinflation rule, with the goal of re-affirming the price stability objective.

In contrast to recent periods, our medium-term policy recommendation and the market implied FFR path are broadly consistent with the recommendations of nearly all our policy rules. Markets expect the FFR to bottom out slightly below 2.00% in the summer of 2008 and to rise slowly but steadily from there to reach about 3.25% in mid-2010. This represents an upward shift of between 30 and 95 bps in expectation relative to that prevailing before the March FOMC. At the same time, measures of implied skewness remain large and negative, suggesting that market participants see a higher probability of large negative rather than large positive interest rate changes in the near future. This expectation is in line with the sizable downside real risks incorporated in our forecast, which, if realized, would call for further aggressive reductions in the FFR.

This alignment between our recommendation and the expected path of policy might represent an opportunity to reduce some of the communication burden on the FOMC statement. Presumably, market participants would not significantly alter their views on the likely evolution of policy in the absence of a specific assessment on the balance of risks facing the economy. To the extent that those views are shared by the Committee, and in light of the highly uncertain outlook for both inflation and real activity, a statement with no explicit guidance on future policy might be a reasonable communication tactic to achieve a market-neutral outcome.

In the meantime, as the current easing cycle apparently approaches its end, the FOMC should begin to think about the process of renormalizing the FFR and the communication strategy to support it. The aggressive monetary easing undertaken since January was largely an attempt to provide insurance against an extremely severe financial shock that had the potential for a large spillover on the real economy. The amount of this insurance is hard to quantify, but if the shock and the possibility of an adverse feedback loop recede as expected in our central forecast, then the FOMC will need to consider removing that insurance to avoid over-accommodation.

In our recommended path, the removal of accommodation does not begin until 2009Q2, with the economy well on its way to recovery. However, this new tightening cycle should be preceded by a clear signal on the need to move the FFR above 4% relatively quickly, unless the recovery materially slows. If appropriately communicated, this signal would complement the eventual increases in the FFR as a restraining influence on demand, through its immediate impact on the longer-term rates that are more relevant for spending decisions. Moreover, such a communication strategy would have the advantage of avoiding an experience similar to that of 2004-06, when the realized pace of the FFR increases was systematically underestimated by both financial markets and the FOMC.

Substantial uncertainty about our projected policy path remains, both on the downside and on the upside. On the downside, a more aggressive policy easing would be required if the signs of significant spillovers from financial market turbulence, tighter credit conditions, and the housing downturn to the broader economy become more evident, particularly if they indicate a feedback loop. On the upside, the main source of uncertainty for our projected policy path is the possibility that the recent improvements in core inflation prove transitory, in particular if we continue to see low real interest rates, a faster-than-expected depreciation of the dollar, and a run-up in the price of commodities, all of which could contribute to higher inflation expectations. In regard to oil prices, policy should respond to the extent that oil price increases represent rising aggregate demand pressures and/or become embedded into inflation expectations; if they instead represent changes in relative prices (i.e., reflect greater scarcity of the resource for U.S.

consumers), then policy should enable such a relative price shift to occur with minimal resource cost.

During this period of financial turbulence, there have been several surprising developments that have impacted financial markets and economic conditions, and thus have influenced policy. Given the possibility of further such surprises as well as the uncertainties discussed previously, policymakers probably will have to remain flexible in the current environment.

2. Significant Developments

2.1 Economic Developments

The economic indicators released during the inter-meeting period had relatively small effects on our outlook and risk assessment. The labor market and real activity indicators generally were consistent with our outlook of a mild recession in the first half of 2008 followed by a modest recovery in the second half; they indicated some reduction to the still-considerable downside risks to the real activity outlook. The inflation data indicated some moderation in core inflation over the inter-meeting period after being somewhat elevated in recent periods. Consequently, the data led us to reduce the near-term inflation outlook, although it had little effect on the medium-term outlook. The data also suggested that the inflation risks remain roughly balanced.

Inflation. Core inflation measures moderated some in the inter-meeting period, and indicated some reduction in underlying inflation pressures. Core PCE inflation was subdued in February; combined with revisions to prior months, the 12-month change in the core PCE deflator returned to just within the top of the mandate-consistent range of 1.5-2.0% [Exhibit A-1]. Changes in the PCE deflator at other horizons were just above the top of this range. Core CPI rose moderately in March, the second month of subdued readings. Consequently, changes of the core CPI at all horizons were modestly under 2.5%, which we interpret as the top of its objective range.

A number of factors appeared to be behind the recent moderation in core inflation. Core goods prices, which had increased in the latter part of 2007, fell in February and March, probably reflecting the impact of slower demand growth. This pattern is especially evident in apparel prices. For core services, medical care services prices have shown little increase in the past two months; this pattern may reflect lingering seasonal adjustment problems. Nevertheless, the continuing moderation of rent inflation over recent months suggests that core services price inflation may remain restrained.

Although most of the alternative underlying inflation measures declined somewhat, the measures provided differing signals of the extent to which the moderation in core inflation reflected transitory factors. Median and trimmed mean measures fell similarly to their respective core measures; however, they remain above their respective core measures. The FRBNY smoothed inflation measures were little changed, and also remained at levels indicating underlying inflation above the mandate-consistent range. The FRBNY signal component (SiCo) measure for PCE inflation increased, indicating that much of the February decline in core PCE inflation reflected transitory factors. In contrast, the FRBNY underlying inflation gauge (UIG) continued to decline over the inter-meeting period and was near the core inflation measures, indicating underlying inflation within the mandate-consistent range. The differing behavior of the UIG reflects the influence of weak real activity indicators (that typically signal reduced inflation pressures) within the measure that more than offset the effect of higher commodity prices. The divergence across these measures suggests that considerable uncertainty about the inflation outlook remains.

Energy and food prices continued to produce upward pressure on overall inflation measures. Consequently, the 12-month changes in overall CPI (through March) and the PCE deflator (through February) were well above their corresponding core measures. Even so, the behavior of the alternative underlying inflation measures that take into account these prices suggest that they are not yet having much impact on underlying inflation, and we have not raised our outlook on the account of the developments in food and energy. Nevertheless, continued increases in energy prices and prospects of continued tight supplies in food are risk factors for the inflation outlook.

Long-term financial market inflation compensation measures fell modestly over the inter-meeting period, consistent with inflation expectations remaining contained, although the measures remain somewhat elevated [Exhibits A-2 and A-3]. Based on Board staff measures, medium-term (4-5 year) inflation compensation increased less than 10 basis points (bps) over the inter-meeting period, but was down about 20 bps from the mid-March peaks prior to the last FOMC meeting. Long-term (5-10 year and 9-10 year) inflation compensation declined about 30-40 bps over the inter-meeting period. The FRBNY Markets and Barclay's measures displayed somewhat smaller declines of around 15-20 bps. Even though all of these measures are down from their recent peaks, they are still in the upper half of the ranges that have prevailed over the past two years. FRBNY analysis suggests that much of the increase in the past few months reflects rising inflation risk premia (the portion of compensation that historically is not related to future inflation) rather than higher inflation expectations; however, the continued elevated level of compensation may indicate some increase in inflation expectations over the past year. Still, the recent modest decline and stabilization in inflation compensation suggests that expectations remain contained, and is one reason why the recent increases in oil and commodity prices have not raised upside inflation risks much. According to the Michigan survey, one-year inflation expectations rose sharply again in April, reflecting the impact of rising gasoline and food prices. These developments may be beginning to affect long-term household expectations as measured in the Michigan survey: these rose to 3.2% in April, which is just above the narrow range (2.8-3.1%) observed over the past 1½ years. Because of the impact of expectations on inflation dynamics, this development will have to be monitored over the coming periods to see if it is sustained.

Commodity prices and import prices remained sources of concern about the inflation outlook. Commodity prices, after falling in the first part of the inter-meeting period, rose in the second half to end somewhat higher for the period although still below the early March peaks—one exception was oil prices, which achieved new highs at the end of the period. As in the last period, much of the recent increases reflected perceived changes in the real fundamentals in these markets; however, there were also indications that some market participants perceived commodities as a hedge against inflation and dollar depreciation. Import price inflation continued to increase, reflecting the rise of commodity prices and the effect of dollar depreciation over the past year. The effects of dollar depreciation were evident in the further rises in import price inflation for Chinese goods as well as for motor vehicles, capital goods, and consumer goods. Although we expect import price inflation to subside, reducing domestic inflation pressures from this source, it is an upside risk factor for the outlook.

Labor market. A major factor behind our high assessed probability of recession, weak outlook for real activity, and continued downside risks to the outlook was the labor market. The labor market report for March indicated a further deterioration of conditions. Overall payroll employment declined in March, the third consecutive monthly decline, while private payrolls declined for the fourth consecutive month. Downward revisions to prior months' employment also indicated greater weakening in labor market conditions. The downturn in payroll growth has been of an extent that is typical with the onset of a recession. At the same time, the magnitude of the downturn has been relatively modest (compared to previous recession episodes) so far and thus consistent with our outlook for a mild recession.

The weakness in employment has spread from housing- and mortgage-related industries (the initial epicenter for labor market softness) to most cyclically-sensitive industries. Employment continued to fall in goods-producing industries, with the declines intensifying further in manufacturing and construction. Employment in private service-providing industries again fell in March; outside of mostly non-cyclically sensitive industries such as education and health care, the declines in this sector were widespread. Another sharp decrease in temporary help service may portend further deterioration in overall employment growth in the coming months. With the widespread weakness, the one-month employment diffusion index for March was under 50 for the fifth consecutive month, the three-month index was under 50 for the third consecutive month, the six-month index also fell under 50, and the 12-month index was just above 50.

The unemployment rate rose to 5.1% in March. Rises in the unemployment rate of the magnitude of the past year historically have been precursors to recessions and considerable further increases in the unemployment rate. Other aspects of the household survey also point to labor market weakness. The labor force participation rate remained around 66%, which is consistent with our outlook of little change in this rate. The employment-population ratio fell again in March, continuing its downward trend of the past year. Household employment on a payroll-comparable basis rose in March as it remained volatile, but its 12-month change continued to fall in another signal of labor market weakness.

The four-week moving average of initial claims for unemployment insurance generally increased over the period until the very end; with the exception of the post-Katrina spike, they are the highest since late-2003. Nevertheless, the behavior of initial claims so far has been consistent with a mild recession scenario, especially given the latest decline. Continuing claims rose in a somewhat more pronounced manner, and they reached nearly 3 million. The pattern suggests that the deterioration of job growth so far is associated more with slower hiring than with greater layoffs. The JOLTS data for February appear to be consistent with this hypothesis: the private-sector hiring rate remained relatively low as does the separations rate.

As the labor market remained weak, labor cost data indicated that labor cost pressures have decreased slightly. The 12-month change in average hourly earnings was 3.6% in March, the lowest it has been in the past two years.

Real Activity. The real activity indicators during the inter-meeting period generally were consistent with our outlook and thus led to little substantive change in our central forecast and real activity risk assessment. These data suggest that real GDP growth in

2008Q1 was near zero (the advance estimate will be released on April 30, the last day of the FOMC meeting).

A factor behind the expected minimal (or negative) real growth in 2008Q1 was the indicated slowdown in consumer spending. The average of real personal consumption expenditures (PCE) in January and February was only about 0.8% (annual rate) above that of 2007Q4. The available indicators for March suggest that real PCE continued to rise at that sluggish pace over the rest of the first quarter. Motor vehicle sales declined slightly in March; for all of 2008Q1, they averaged 15.2 million units (annual rate), well under the levels of most of the past decade. Retail sales excluding motor vehicles also were sluggish in March, especially after accounting for the expected effect of higher gasoline prices on nominal sales. Of additional concern for the outlook were further sharp declines in consumer confidence indices in March and April that put them at levels that historically have been associated with more severe recessions than the one incorporated in our central outlook. Overall, consumer spending indicators along with anecdotes on consumer behavior continued to suggest the possibility of spillovers from the weak housing market and tight credit conditions. This possibility, along with continued weakness in labor markets, is a factor contributing to our maintaining substantial downside risks to real activity.

The spillovers from housing remain relevant as the housing market remained very weak. Although some indicators suggest activity may be beginning to stabilize at a low level, such signs are very tentative and contradicted by other indicators. Single-family housing starts and permits fell again in March, continuing to reflect the effects of tight credit conditions, declining home prices, and slower income growth. Both starts and permits are only modestly above the extraordinary low levels of January 1991, with the cumulative decline since the January 2006 peak in housing starts over 60%. The homebuilders' index was unchanged in April at a low level, indicating considerable builder pessimism; however, it remained slightly above its recent lows and some of its prospective components have risen slightly, providing some hope that the bottom may be near. Another tentative sign of possible stabilization was existing home sales, which have fluctuated within a narrow range over the past few months. Pending home sales declined some in February, which suggests that the stabilization of existing home sales is tentative. A further indication that sales activity may not have reached a bottom was new home sales, which dropped sharply again in February and March to its lowest level since 1991; these also have dropped over 60% since its peak in July 2005. Although they have been volatile, purchase mortgage applications were somewhat lower in the inter-meeting period, which also suggest that sales probably will remain weak. Inventories-sales ratios for new and existing home remained high in March, indicating little reason for greater building activity. Consequently, we still expect the slump in residential construction to continue through 2008 before the lower interest rate environment allows for some recovery in 2009 (see Section 3.1).

With housing market activity remaining weak, measures of home price appreciation generally were negative and the declines appeared to intensify in the first part of 2008. One exception to this pattern was the monthly OFHEO index, which rose in February, although its 12-month change was still -2.4%. In contrast, the 12-month changes in the S&P/Case-Shiller composite metropolitan area indices for January were below -10%. The differences in some of details in the construction of the OFHEO and Case-Shiller indices may explain part of the differences, but given the anecdotes and other data about the state of the housing market in February, the OFHEO measurement is surprising. The four-quarter change in the Census constant-quality new home price index was -7.6% in 2008Q1, a record low that indicates steeper declines in the first part of the year. The year-over-year change in the Radar Logic 25-metropolitan area composite index was below -10% in late February, considerably lower than it was in the last inter-meeting period. Forward prices based on this index indicate that market participants expect home prices to fall about 20% over the next two years through March 2010, although these expectations have improved modestly in the past couple of weeks. Nevertheless, if such expectations become embedded in home purchasing decisions, they could impede any potential recovery in the housing market. The declines in home prices also point to the downside real risks from spillovers from the housing market to the broader economy.

Although conditions improved along some dimensions since mid-March, mortgage markets generally remained stressed over the inter-meeting period [Exhibit A-11]. Delinquency and foreclosure rates on subprime and prime mortgages continued to rise, although delinquency rates for prime fixed-rate mortgages appeared to flatten some in the most recent data; still, these rates exceeded previous highs. Reported mortgage-related write-downs and losses at financial institutions and financial guarantors for 2008Q1 were large, even though market participants appeared to begin to believe that much of the damage already has been reported. Even so, market participants remained reluctant to hold most mortgage-related assets. The ABX indices for AAA-rated tranches rose from the recent lows, but remain at levels around those of mid-February. In contrast, the ABX indices for tranches rated below AAA remained at their depressed mid-March levels. Spreads for agency-backed MBS and conforming mortgages relative to Treasuries declined from the very high levels of early- to mid-March, but remain at levels above those from earlier in the financial crisis. The spread between prime jumbo mortgage rates and conforming mortgage rates remained near its widest levels of the financial crisis period. More encouragingly, the spread between repo rates collateralized by agency securities and MBS to those collateralized by Treasuries declined considerably and are close to more “normal” levels, suggesting that the establishment of the Term Securities Lending Facility and the Primary Dealer Credit Facility as well as other liquidity initiatives improved the liquidity of the better-quality MBS [Exhibit A-12]. Nevertheless, the possibility of further negative impacts from tighter credit conditions on home sales, construction, and prices point to the potential of negative spillovers to the broader economy and thus indicate significant downside risks to the real activity outlook.

The business activity measures released during the inter-meeting period indicated that conditions continued to be sluggish to declining. Manufacturing production fell on net in February and March, with the March rise only partially offsetting a sharp drop in February. With sales weak, motor vehicle production fell in both months (a strike at a major parts manufacturer also contributed to the weakness). Production also fell at other sectors excluding high-tech industries. In contrast, production in high-tech industries remained robust, which is also consistent with the FRBNY Tech Pulse index. Despite the slowdown in production, inventory growth in February was still relatively high. With some rise in inventories-sales ratios and apparent considerable business caution in the current environment, some cutback in inventories in the coming months may occur; however, because inventories-sales ratios are still low, such cutbacks probably will be limited unless there are signs of greater reductions in future final demand.

Business survey indicators generally signaled sluggish to negative conditions. The ISM manufacturing index was little changed in March at a level consistent with a modest manufacturing contraction. Regional indicators for April were mixed but still do not indicate a manufacturing rebound: the Empire State and Richmond Fed indices at levels consistent with sluggish conditions; meanwhile, the Philadelphia Fed index fell to a multi-year low. The ISM non-manufacturing index also was little changed in March at a level consistent with an unusually sluggish services sector.

Capital spending indicators suggest that equipment and software expenditures probably were sluggish in 2008Q1. Capital goods shipments and orders were little changed in 2008Q1, consistent with sluggish real equipment spending. Fairly robust high-tech production growth, a solid Tech Pulse index, and fairly solid earnings reports from major tech firms suggest that high-tech equipment spending was fairly well maintained in the quarter. In contrast, data on nonresidential structures prompted more concern about this previously strong-growth sector, especially given reports of the effect of tighter credit on the sector. In particular, nonresidential construction spending fell in February for the third consecutive month.

Trade. Recent data releases for net exports suggest the recent narrowing of the real non-petroleum trade deficit – down over 10% over the past year – will continue. Although real imports rose unexpectedly in February, we expect this to be a temporary uptick: weak U.S. domestic demand and the size of the dollar depreciation over the past year imply slower import growth going forward. On the export side, as global economic growth slows, the recent deceleration in capital goods exports will be magnified. The current account deficit narrowed in 2007Q4 to less than 5% of GDP, the smallest it has been since 2004Q1, reflecting the narrowing of the trade deficit over the past year.

Foreign economies. Global growth data for 2008Q1 were mixed. In the euro area, higher food and energy prices restrained consumer spending, despite continued improvement in the unemployment rate. Industrial production and exports, though, continued to do well. Credit growth remained robust despite reports of tighter loan standards. However, declines in business sentiment measures in Germany and France for April raised some concern about business prospects. In Japan, data on retail sales, production and exports were solid, but the April drop in the Tankan measure of business confidence was worrisome; however, the drop was driven by higher input costs, with otherwise encouraging responses to questions on employment and operating capacity. Core CPI inflation in Japan was positive, although only slightly, for the first time in 10 years. China's real GDP increased 10.6% over the year in 2008Q1, down from 11.7% in 2007Q4. The economy did well in managing unusually severe weather, higher food prices, and soft export sales. Their trade balance has been stable in recent months after increasing by 50% in 2007.

2.2 Financial Markets

Financial market functioning and conditions improved some during the inter-meeting period as market participants appeared to reduce the implied probabilities of more extreme negative events to the economy and financial markets, reflecting some impact from the Fed liquidity initiatives (e.g., TSLF and PDCF) as well as the resolution of the Bear Stearns situation. One consequence of these developments was an increase in expected policy rates over the period. Nevertheless, financial market conditions remained tenuous, and the levels of many spreads, interest rates, and asset prices indicate that financial and credit conditions are still tight.

U.S. Markets. The expected FFR path rose over most of the inter-meeting period from the very low levels at the time of the March FOMC meeting [Exhibit A-5]. The higher path reflected the apparent reduction of market participants' implied probabilities of the more extreme "tail risks" of severe financial distress that could lead to adverse consequences for the real economy and thus prompt further policy rate cuts. The path also indicates that with the reduction of such risks and the possibility that financial and economic conditions could return to closer to "normal," market participants foresee that the FOMC may be able to begin the process of renormalizing the FFR sooner than was anticipated earlier. The trough of the market-implied FFR path is in August 2008 at 1.95%, more than 50 bps above its level before the March FOMC meeting. The trough is close to our recommended FFR path but somewhat above that in the primary dealer survey. The market-expected FFR begins to rise in early 2009 (somewhat earlier than in our recommended path), and reaches 3.38% in August 2010, which is about 90 bps above the level before the March FOMC meeting. Nevertheless, the pace of normalization implied by the market is slower than that in our recommended path. It is also possible that the issues surrounding the fixing of LIBOR rates may have exacerbated the increased in the FFR at the longer horizons (since these calculations use Eurodollar futures based on LIBOR fixings), but it still appears that, given the behavior of Treasury rates (see below), the market-expected FFR has risen considerably.

Over the near term, market participants place a fairly high probability of a relatively modest 25 bps reduction in the FFR at the April FOMC meeting [Exhibit A-5]. The probability of a target rate of 2.00% is about [70%], which is somewhat higher than it was at the time of the March meeting. Most of the rest of the probability (about [25%]) is on an unchanged FFR of 2.25%, which is also higher than it was at the time of the March meeting; however, most of the increased occurred in the past week. With the increases in these probabilities, the implied probability of a large cut (50 bps or more) fell over the period. There remains considerable uncertainty about the FFR after the June FOMC meeting. The highest probability is for it to be at 2.00%, but that probability is only about [50%]. There is considerable probability for both higher (about [25%]) and lower (about [15%]) rates after that meeting.

Policy uncertainty measures provided less clear signals in the period because of the concerns related to the accuracy of the LIBOR fixings [Exhibit A-6]. The FRBNY measure of the 6-month LIBOR confidence interval increased 31 bps to 2.77%. The Board staff measures of LIBOR confidence intervals at various horizons were unchanged to somewhat lower. Measures of short-term uncertainty using FFR options (which are not affected by LIBOR accuracy issues) were mixed: falling recently for the June meeting, but rising for the July meeting. Still, in general, these measures still point to considerable uncertainty about the FFR path, reflecting the still-considerable uncertainty about the evolution of the economy and financial markets as well as the FOMC response to possible developments. Market participants also continued to display concern about negative events that may require a large policy rate reduction in response: implied skewness remain fairly large and negative at around -5.1%, signaling a higher implied probability over the near term of a large FFR cut than of a large FFR increase.

With the apparent reduction of the more extreme downside risks and some improvement in financial market conditions, market participants engaged in less risk-averse behavior than they did in early- to mid-March. These factors led to increases in long- and short-term nominal Treasury rates over the inter-meeting period [Exhibit A-4]. The 10-year on-the-run nominal Treasury rate increased from 3.31% (its lowest since the “deflation” scare in 2003) to 3.83%. Even with this increase, the 10-year rate is still around its levels in late February. The 2-year Treasury rate increased more than the 10-year rate, rising from 1.48% to 2.39%. The larger increase in the shorter-maturity rate was consistent with the change in policy expectations over the inter-meeting period. This pattern also implied that short- and medium-horizon nominal forward rates increased considerably over the period while long-term forward rates declined.

Although short-term Treasury bill rates increased during the period, reflecting some reduction in risk aversion among market participants, these rate remain quite low, indicating that participants remain wary about economic and financial market conditions [Exhibit A-4]. The 3-month T-bill rate increased 25 bps over the inter-meeting period to 1.25% (it is up about 70 bps from the lows set on March 20 and 21), and the 6-month rate rose about 40 bps to 1.68%. In both cases, the rates are still below those of early March, indicating considerable stress remains in financial markets. The 10-year/3-month term spread remained quite positive.

Consistent with some reduction in the more extreme downside real risks, real interest rates increased, but they also remained at low levels that suggest continued wariness about the outlook. The carry-adjusted 5-year real yield increased almost 70 bps over the inter-meeting period to 1.07%, and the carry-adjusted 10-year real yield increased about 45 bps to 1.67%. Nevertheless, both real yields are well below estimates of the equilibrium long-term real rate. The 10-year real yield is about equal to that from late February while the 5-year yield is about equal to that from mid-January. The real 4-5 year forward rate increased about 55 bps over the period while the real 9-10 year forward rate rose only about 5 bps; both remain below their levels from the summer, indicating continued concern of market participants about the longer-run real outlook [Exhibit A-4].

Corporate credit spreads declined over the inter-meeting period, more so for speculative-grade corporate bonds than for investment-grade corporate bonds [Exhibit A-7]. Nevertheless, both spreads remained elevated and comparable to the levels seen during the onset of the 2001 recession. CDS spreads for nonfinancial firms in the U.S. and Europe also declined but remained elevated. Credit spreads and CDS spreads for financial institutions dropped sharply during the period, reflecting that these firms went through their earnings reporting period without more firms entering into severe distress as well as the continued ability to secure additional capital to offset losses and write-downs. Again, however, these spreads remained at very elevated levels, indicating the continued stresses in financial market conditions. One exception to this pattern was the financial guarantors, whose spreads rose after reports of large losses. Even so, the general decline in credit spreads was consistent with the declines in the extreme downside risks.

Short-term funding markets displayed differing behavior over the inter-meeting period. In the secured funding market, conditions improved marked, possibly reflecting the impact of the introduction of the Term Securities Lending Facility (TSLF) and the

Primary Dealer Credit Facility (PDCF). Rates on overnight repos collateralized by Treasuries increased from the abnormally low rates in mid-March to more normal rates [Exhibit A-12]. In addition, spreads on overnight repos collateralized by agency debt and MBS declined to more normal levels. However, conditions for term repos collateralized by MBS remained strained. Both developments suggest that the liquidity initiatives were successful in improving the liquidity of higher-quality non-Treasury assets, which helped to reduce concerns about severe distresses impacting upon other important counterparties in the repo market. Consequently, the later TSLF auctions were undersubscribed.

In contrast, term dollar LIBOR-OIS spreads increased over most of the inter-meeting period, putting at their highest levels of the year, even before reports of questioning LIBOR accuracy led to further increases in LIBOR [Exhibit A-11]. This development occurred even though the size of Term Auction Facility (TAF) auctions was increased and there were renewed auctions in the euro area and Switzerland. TAF auctions during the period had sizable participation with elevated bid-offer ratios and stop-out rates, indicating considerable demand from banks for unsecured funds. Given these developments, the rise in these spreads may reflect continued concern about counterparty and credit risk in markets where funding is not secured.

The reduction in extreme downside real risks also led to robust increases in equity markets [Exhibit A-7]. Broad stock market indices increased from about 7% to 11½% on net over the inter-meeting period. Nevertheless, sizable daily fluctuations indicated that market participants remained wary about economic and financial conditions. Equity index implied volatilities still declined from their mid-March peaks, and are at relatively low levels for this financial turbulence period, although still well above normal levels.

Foreign Markets. Global funding conditions improved during the inter-meeting period, mostly since the passing of the March quarter end, but remain strained. Trading remained illiquid in both the euro and sterling money markets. Banks remain reluctant to lend cash in light of uncertain financial conditions and continued counterparty credit concerns, bolstered by ongoing announcements of write-downs related to losses in structured credit products (UBS, Deutsche Bank and some of the main Landesbanks are among the latest to make such announcements). Liquidity remains poor also in the foreign exchange swap market although it has improved after the passing of the March quarter-end. Conditions in global ABCP market have improved only marginally after the passing of quarter-end, with most ABCP investors remaining in short-dated paper. Rates on ABCP have declined slightly in recent weeks, but remain elevated and ABCP outstanding has increased only marginally in recent weeks.

Equity markets benefited from the partial improvement in funding markets and continued to build on the recovery staged after the official policy actions taken in March to improve liquidity conditions. (As of April 25, European stocks have gained about seven percent since the last FOMC meeting and Japanese stocks about fifteen percent.)

Long-term interest rates rose in main industrial countries, by some 30-40 basis points. Data from inflation-linked bonds reveal that such rise reflects both an inching up in inflation expectations and a rise in real rates, which have recovered from their decline in previous periods, as expectations of a worst case scenario for global financial markets and growth have weakened.

Strong commodity prices and still favorable (albeit slowing) growth conditions continued to support the relative performance of emerging markets. Emerging equity markets gained broadly during the period, while external emerging markets debt spreads continue to outperform the U.S. high yield market, although they remain near their highest level since mid-2005. One exception to improving equity markets was China, whose main equity index declined through most of the period; however, it rallied late in the period after a stock transaction tax was reduced. After a weak performance in March, bond issuance has recovered in recent weeks.

With expectations of future U.S. policy easing already priced in from the previous period, the dollar moved within recent ranges with respect to main partner currencies, although it crossed briefly the 1.60 barrier against the euro on April 22. The dollar was also stable in trade-weighted terms, gaining about two percent. Euro-area officials continue to voice concern about dollar weakness, but the likelihood of imminent official intervention to check main currency movements remains small. The renminbi continues to gain on the dollar at an accelerating pace, with NDFs pricing an expected gain of the on the dollar of about nine percent over the next year. Option-implied volatility for both yen/dollar and dollar/euro has fallen from its previous period's peaks, but remains elevated in historical terms. Data from risk reversals show that investors continue to seek short-term insurance against euro weakness and yen strength.

Energy prices reached new highs during the inter-meeting period, with oil prices for May delivery reaching almost $120/barrel on April 22. Supply constraints in both non-OPEC countries (such as Mexico and Russia) and in the OPEC area, and continued strong demand from developing countries (especially China and oil-producing countries) contribute to sustain oil prices. However, speculative movements by investors seeking insurance against dollar weakness continue to be reported.

2.3 Global Economic Policy

The ECB and the Bank of Japan remained on hold during the inter-meeting period, with official commentary in Europe now emphasizing more concern with inflationary pressure than with slowing growth. Markets still expect euro area policy to stay unchanged until late 2008. The Bank of England continues to face tension between simmering inflation pressure and slowing growth. However, expecting inflation to fall back towards target in 2009, and concerned with tightening credit conditions, the Bank cut rates by 0.25 percent on April 10 and may do so again in May. The Bank of Japan is expected to stay its current policy course until late-2008, although a surprise positive reading for core inflation in March bolstered expectations of a rate hike in by early 2009. Outside North America (where the Bank of Canada cut rates by 50 basis points on April 22), inflation concerns prevail: the central banks of Brazil, South Africa and Iceland all hiked rates, in the case of Iceland also to sustain the krona after recent sharp losses. Both the PBOC and the Central Bank of India raised reserve requirements by 50 basis points during the period.

3. Evolution of Outlook and Risks

3.1 Central Forecast

Conditioning assumptions. Compared to the March Blackbook there are relatively few changes in key conditioning assumptions underlying our central forecast. Inter-meeting developments in the real economy and financial markets have been roughly in line with expectations such that there are few significant changes in our central forecast. We continue to expect that by the end of 2008Q2 the FFR will be reduced to 2.00%, where it will remain through early- to mid-2009. Moreover, we continue to anticipate that the FFR will then rise to 3.50% by the end of 2009 and 4.25% by the end of 2010.

Our assumed path for the FFR is somewhat above the path implied by prices in futures markets, which moved up over the inter-meeting period. Relative to the Board staff we are 25 bps above their assumed path over 2008 but then rise to 175 bps above by the end of 2009. We continue to believe that over the medium term the neutral funds rate lies somewhere in the 3.75% to 4.75% range. However, we suspect that the recent tightening of credit conditions has temporarily lowered the neutral rate for the very near term, perhaps as low as 2.75% to 3.75%. However, our forecast presumes that the significant easing of monetary policy, combined with aggressive fiscal stimulus, will result in the economy regaining forward momentum while financial markets gradually return to more normal functioning. In that case, policy needs to move back relatively quickly toward neutral so as to avoid a serious unmooring of inflation expectations.

The assumed path of oil prices over the forecast horizon has been raised once again. Oil prices are now expected to average nearly $110/barrel in 2008Q2, $7 higher than in the March Blackbook. With slower growth in the US, somewhat slower growth in the rest of the world, and the assumption of demand and supply responses to higher prices, markets continue to anticipate that oil prices will trend lower over the forecast horizon, averaging about \$101/barrel in 2009Q4, \$3 per barrel above the level assumed in the March Blackbook. Our assumed path for oil prices averages about \$10/barrel below that assumed in the Greenbook forecast.

The foreign outlook is essentially unchanged since the last FOMC. We project foreign growth will slow from 3.4% in 2007 to 2.3% in 2008. There were some modest changes in the outlooks for individual countries. Data releases caused downward adjustments to the forecasts for Japan (confidence survey), Canada (net trade), and the United Kingdom (retail sales, housing). Offsetting upward adjustments were made for China (Q1 GDP), Korea (exports), and Mexico (services).

As is our usual practice, our assumptions for equity prices and home prices are similar to those of the Greenbook. In this cycle, the Board staff has lowered their assumed path for the OFHEO purchase-only home price index such that this index declines about 11% from its mid-2006 peak by the end of 2009 rather than the 10% decline assumed in the March Greenbook. Note that the corresponding decline of the Case-Shiller index is likely to be 2 to 3 times larger. As in the Greenbook, we expect the real-exchange value of the dollar to depreciate over the forecast horizon. However, given our higher path for the FFR, our assumed depreciation is somewhat less than that in the Greenbook. Our assumptions regarding the stance of fiscal policy are very similar to those incorporated into the Greenbook.

We maintain our estimate of potential GDP growth at 2.7%: 1.2% trend hours growth (although we assume it will begin to decline in 2009-2010) and 1.5% trend productivity growth (GDP basis, which is equivalent to 1.8% on a nonfarm business sector basis). We also believe that the economy is currently operating near potential. Given our estimate of potential, we expect an output gap approaching 1½% of GDP to emerge over the course of 2008. About one-third to one-half of that output gap would then be closed over 2009. As always, there is substantial uncertainty around our estimate of potential GDP growth and estimates of output gaps.

We expect the lower inflation persistence evident since the early 1990s to continue; this assumption is in contrast to the greater inflation persistence assumed in recent Board staff forecasts. Financial market inflation compensation over most horizons declined over the inter-meeting period, although inflation expectations at longer-term horizons remain somewhat elevated. In our central scenario inflation expectations decline as overall inflation slows. This return of inflation expectations to the mandate-consistent range plays an important role in the gradual moderation of inflation toward the midpoint of the FOMC's objective for core PCE inflation of 1.5% to 2%. Finally, we expect the term premia to remain relatively low. As measured by the Board staff's three-factor model, term premia rose from low levels over the inter-meeting period.

Inflation. Data on core inflation for February and March were considerably lower than expected, resulting in a significant downward revision in our projection for the rate of increase of the core PCE deflator for 2008Q1. Rather than the 2.7% (annual rate) projected in the March Blackbook, we now expect the core PCE deflator to rise just 2.1% in 2008Q1. For 2008 as a whole, this reduces our projection for core PCE deflator inflation to 1.9% (Q4/Q4) from 2.1% in March. For 2009 that inflation measure is unchanged at 1.8%. The rates of increase of both core goods and core services have begun to subside in recent months, likely reflecting the weakening of overall demand. In particular, both medical care services price inflation and rent inflation have been moving lower, both of which carry substantial weight in the PCE deflator.

Real activity. Our reading of the data on the real economy leads us to conclude that the economy is now in recession. Private nonfarm payroll employment declined an average of 95,000 per month in the first quarter. The unemployment rate moved up to 5.1% in March, from around 4 ½% in mid 2007, and hours worked in the nonfarm business sector likely declined at a 1½% annual rate in 2008Q1. These are all conditions associated with the onset of recession. As was the case last year, the drag on growth from the steep decline of housing starts remains substantial. More recently, consumer spending has faltered under the weight of slower growth of nominal income, sharp increases in energy and food prices, and the tightening in the supply of credit. Sales of new light-weight vehicles were a sluggish 15.2 million units (annual rate) in 2008Q1, down from an average of 16.1 million units in 2007. Industry sources cite difficulty in obtaining financing as a key source of this weakness. Real consumer spending likely grew at a paltry 0.5% (annual rate) in 2008Q1. The rate of growth of business investment in equipment and software is expected to have been quite low in 2008Q1, if not negative, while business investment in new nonresidential structures also appears to have weakened. In contrast, export growth remains solid while growth of imports remains surprisingly slow, such that net exports continue to be an important source of support. On balance, we expect growth of real GDP for the first half of 2008 at -0.5% (annual rate) with the unemployment rate reaching 5½% by mid-year. For the first half of the year our forecast is essentially the same as the current Greenbook forecast.

However, unlike the Greenbook, we foresee a significant rebound during the second half, with growth at an annual rate of about 3%. As mentioned above, we expect that the aggressive easing of monetary policy combined with the fiscal stimulus package will provide a significant boost to growth. Moreover, we assume that over the course of coming months, financial market functioning will gradually return to more normal conditions. Finally, we expect housing construction to finally reach a bottom around mid-year. Even if there is not any rebound in housing construction after that, the drag on growth from residential investment will quickly subside.

This outlook for the second half of 2008 is considerably more favorable than the Greenbook forecast and rests on the assumption of a strengthening of consumer spending and only a very gradual increase in the personal saving rate. Growth for all of 2008 is now projected to be 1.2% (Q4/Q4) [Exhibits B-1, B-2, and B-3].

Our projected growth for 2009 is essentially unchanged at slightly above potential. Monetary policy is expected to remain accommodative while financial market functioning continues to normalize and consumer and business confidence is restored.

3.2 Alternative Scenarios and Risks

The changes in our risk assessment since the last Blackbook have been relatively small [Exhibit C-1]. The main changes consist in lowering the probabilities assigned to the *Loss of Credibility* and *Credit Crunch* scenarios. We reduced the weight on the *Loss of Credibility* scenario because of the relatively low core CPI and PCE readings in February (as well as in March for the CPI) and because of the decline in financial market inflation compensation from their peaks in early March. The *Credit Crunch* by far remains the most likely scenario, but we lowered its probability because the data over the inter-meeting period generally indicate that, even though the U.S. economy may have entered a recession, the downturn does not appear to be severe (as envisioned in this alternative scenario). While the turmoil in financial markets has eased somewhat following positively-interpreted earnings reports from financial firms and indications of slightly less-stressed funding conditions, we believe it is too early to reduce substantially the *Credit Crunch* scenario probability. Developments in the coming months, including indications of more financial market stresses and spillovers from financial markets into the real economy, will be more definitive on the appropriate weight for this scenario.

The real GDP growth and core PCE inflation paths associated with each of the scenarios are similar to those in March [Exhibit C-2]. As a consequence, changes in the uncertainty surrounding the forecasts relative to last Blackbook mainly reflect the differences in the weights associated with the scenarios [Exhibit C-3]. Not surprisingly, given the reduced weights on the *Loss of Credibility* and *Credit Crunch* scenarios, the downside risks to output have decreased and the upside risks to inflation have declined somewhat. Perhaps the most significant change in the risk assessment is the decline in the probability that the four-quarter change in core inflation will rise above 3%. Conversely, the probability that core inflation will remain below 2% through 2008 has increased from roughly 30% to about 50%; this reflects both changes in the risk assessment as well as a lower near-term outlook. Both the central scenario and the expected path for inflation through 2008 have declined somewhat from the last Blackbook. The medium and long run forecasts have not changed to any great extent.

Real GDP forecasts have changed modestly in the inter-meeting period. Both the central scenario path and the expected path are slightly above their March levels. The forecast bands have moved in, implying that the uncertainty surrounding the real GDP forecasts is somewhat reduced, although it is still considerable. The chances of entering a NBER recession have increased slightly to 82% from 81% in March. The probability distribution over the depth of a recession has changed modestly, with the likelihood of a “moderate” recession increasing slightly relative to that of a “severe” or “mild” contraction.

The evolution of the forecasts relative to a year ago shows the dramatic change in real GDP forecasts, both in terms of the central scenario and expected value [Exhibit C-4]. This analysis also indicates that we saw only a fairly small likelihood that the actual and forecast path would change that dramatically. Core PCE inflation forecasts are only slightly different in 2008, when we expected inflation to be temporarily above 2%, but are unchanged otherwise.

Special Topic

The 1990-91 Recession

Richard Peach, Redacted *and Charles Steindel,* Redacted

The current situation shares a number of similarities to the more severe 1990-91 recession; in particular, the presence of financial headwinds. However, the differing policy responses are consistent with our central forecast of a mild recession.

Within our risk assessment, the mean recession is comparable to that of 1990-91, which was more severe than the 2001 downturn and the expected downturn in our central forecast, reflecting the downside risks in our forecast. Of concern for our central forecast is that the current situation shares a number of similarities with the 1990-91 period; in particular, the presence of financial headwinds. In this note, we discuss the key features of the period around the 1990-91 recession and compare these to both the 2001 episode and recent events. Although the broad contours of the current slowdown are comparable to 1990-91, the differences in policy responses suggest that our central forecast of a mild recession should be the more likely scenario.

One apparent similarity between the current situation and the 1990-91 downturn that distinguishes them from the 2001 recession is the behavior of household spending. Real personal consumption expenditures were sluggish in 1990-91—the 12-month changes were negative in a few months during the recession—a trait that appears to be occurring in the current episode, as real PCE growth has been negligible in recent months. In contrast, real PCE growth remained fairly solid during the 2001 recession.

Housing was uite weak in 1990-91. Housing starts fell from a 1.4 million annual rate in 1990Q1 to about 900 thousand in 1991Q1—quite comparable to the decline we have seen over the past year, though not coming on the heels of earlier sharp drops. In addition, the median price of existing homes sold declined, although to a lesser extent than in the current episode. In contrast, starts were essentially unchanged during the 2001 recession.

The weakness in household spending in 1990-91 was partly offset by the strength of the foreign sector. Reflecting foreign strength and a weaker dollar, the net export growth contribution was positive throughout the 1990-91 recession; this contribution was generally negative in 2001. Real net exports have recently made a substantial positive contribution to GDP growth. The relative strength of net exports in 1990-91 and the current situation probably have contributed to the relatively mild effects on manufacturing production (it has fallen only about 0.6% from its July 2007 peak).

The most notable similarity between the current situation and the 1990-91 episode is financial conditions. The late 1980s and early 1990s experienced considerable financial stresses, including the thrift industry crisis, widespread failures of large regional commercial banks, and problems at securities firms. It is hard to develop or articulate an aggregate measure of financial problems. However, the NFIB index of small business financing problems (the net fraction of respondents reporting that credit is harder to get), which is broadly similar to the Senior Loan Officer Opinion survey credit tightening index (which only starts in 1990), was at unusually elevated levels from the spring of 1990 through the start of 1992. The recent readings of this index have been elevated relative to values observed before 2006.

The major differences between 1990-91 and the current episode involve the policy responses. Monetary policy was relatively slow to respond to the softness emerging in 1990; the nominal FFR fell from 9.75% in early 1989 to 8% in mid-1990. The funds rate then was reduced to 6% in March 1991 and then to 3% in September 1992. This caution may have reflected fairly high inflation; core PCE inflation during the recession was above that in the second half of 1989, and it did not fall much until after the recession. In contrast, policy responded fairly aggressively in 2001, with the FFR moving from 6% in December 2000 to 3¼% prior to the 9/11 attacks. Of course, the response of monetary policy in this episode appears to be along the 2001 lines rather than those of 1990-91.

In addition, the current stance of fiscal policy is also quite different from what it was in the early 1990s. Fiscal policy in the earlier period was relatively contractionary; a tax increase was enacted in the summer of 1990 and defense spending generally drifted down during the period with the obvious interruption of the Gulf War. Of course, with the recent stimulus package, fiscal policy may now be viewed as somewhat expansionary. The more stimulative stances of monetary and fiscal policy are reasons we expect the current downturn to be mild, despite the apparent similarities with the 1990-91 episode.

4. Forecast Comparison

4.1 Greenbook Comparison

There are substantial differences between the Greenbook and our central forecast, especially with respect to the outlook for real activity. As in March, the difference between our projections for real GDP growth and those of the Board staff reflect very disparate views of the path of real activity over the coming year. The Greenbook projects real GDP to be 0.4% (annual rate) higher in 2008Q1 and then to sharply decline by -1.5% (annual rate) in 2008Q2. Our real GDP forecast projects a mild -0.3% decline in real GDP for 2008Q1 and only a -0.7% decline for 2008Q2. Hence, our projection for real GDP in 2008H1 is 0.4 percentage points above the Board staff's. The main difference between the Greenbook and our forecast is the projection for 2008H2. As in the past few months, our current forecast has a rebound in economic activity in 2008H2, while the Greenbook projections delay a significant economic recovery until the second half of 2009. Our forecast projects real GDP growing 3.4% (annual rate) in 2008Q3 and 2.4% in 2008Q4. The Board staff forecast is substantially lower, with real GDP growing 1.2% for 2008Q3 and 0.7% (annual rate) for 2008Q4. The Greenbook also projects GDP growth to be 2.8% (annual terms) for 2009, 0.2 percentage points below our central forecast.

With respect to core PCE inflation, the Board still expects inflation to be more persistent in 2008 and 2009 than it is in our projection. Although the Board staff has revised down their 2008Q1 estimate of core inflation to 2.2% (in line with our estimate), their core inflation forecasts for 2008 and 2009 of 2.3% and 2% respectively are 0.2 percentage points higher than our staff forecast in both years.

Conditioning assumptions. As in March, the Greenbook forecast is based on a lower FFR trajectory compared to our assumption. The Board staff currently assumes that the FFR will be lowered to 2% at the upcoming meeting and then will be cut further to 1.75% at the June meeting. The FFR is assumed to remain at this level through the end of 2009. This path is below market expectations as measured by FFR futures. Markets expect the FFR to bottom out slightly below 2% in the summer of 2008 and then to gradually increase from there, reaching 3% in 2010. Our assumed path for the FFR appears to be more in line with market expectations; our terminal rate of 2% is slightly higher than the Board staff's assumption and, perhaps more importantly, it is also follows a steeper trajectory as it begins increasing by 2009Q2.

As in the past few months, neither our staff nor the Board's has changed the outlook for potential growth. Our estimate of the potential growth rate of real GDP is 2.7% (annual rate), while the potential growth rate used in the Greenbook is lower at 2.3% for 2008 and 2.2% for 2009. These disparities primarily reflect differing assumptions concerning labor force growth.

Both the Greenbook and our staff forecast incorporate the effects of the fiscal stimulus package, which is assumed to affect PCE around 2008Q3. As in March, the Board staff maintains a slightly higher contribution of federal spending to real GDP growth for both 2008 and 2009, because of recent evidence of growing defense spending. The Board forecast of federal spending contributions is 0.2% higher for 2008 and 0.1% higher for 2009 compared to our measures. However, our projection for total government spending is in line with the Board staff's in both 2008 and 2009 because we forecast higher state and local spending.

With respect to asset prices, the Greenbook assumes a faster pace of decline in home prices than in the March Greenbook, which is a further revision since the January Greenbook. Home prices are now assumed to decline 6.5% in 2008 and 4.75% in 2009. Equity prices are assumed to be higher over the forecast horizon, reflecting the market's reduced fears about a financial meltdown. Equity prices are assumed to rise 7% (annual rate) in 2008 and 11.5% in 2009.

The Board staff projects lower foreign GDP growth in 2008 than we do; we anticipate foreign growth to slow from 3.4% (annual rate) in 2007 to 2.3% in 2008 (unchanged since March), while the Board Staff growth forecast is 2.1% (2.0% in March) for 2008 using our GDP weights. We tend to be somewhat more optimistic about the Euro area, Japan and China. The greatest difference in outlook stems from the Board's much more pessimistic view of the Canadian economy, assuming essentially no GDP growth, while we have growth of around 1.0%. The Board staff previously had a lower growth outlook for China as well, but they have now moved it closer to our forecast in response to 2008Q1 GDP data.

Inflation. Although the Greenbook forecast for headline and core inflation for 2008H1 was revised down, the Board staff has raised both measures for 2008H2. The upward revision reflects recent movements in energy and core nonfuel import prices, which are expected to be higher this year than anticipated in the March Greenbook. Overall, the revisions leave core inflation at 2.3% in 2008 (Q4/Q4), unchanged with respect to the March Greenbook. The recent movements in prices are not assumed to persist past 2008, leaving no significant change in the inflation forecast for 2009. In fact, in 2009 (Q4/Q4) core inflation is assumed to slow to 1.9%. Our forecast incorporates a faster moderation of core PCE inflation, resulting in a projected increase of 1.9% for 2008 (Q4/Q4) and 1.8% for 2009 (Q4/Q4). Our forecast reflects the view that weaker economic activity, stable inflation expectations and softer recent inflation readings should lower inflationary pressures over the forecasting horizon.
Finally, both our forecast and the Board staff forecast assume that commodity prices will taper off or even decrease in 2008H2, lowering both inflation forecasts for 2009 below 2%.

Real activity. The Board staff projects real GDP growth of 0.4% (annual rate) in 2008Q1 and -1.4% in 2008Q2. As in the March Greenbook, the Board staff projects continued weakness in 2008H2, resulting in real GDP growth of 0.2% for 2008 (Q4/Q4). Concerning 2009, the Greenbook forecasts a slow but steady recovery. Real GDP is projected to be 2.8% for 2009 (Q4/Q4), 0.2% lower than the March Greenbook forecast.

Compared to our March forecast, we currently project higher growth in both 2008H1 and 2008H2. Our staff forecasts 1.2% growth in real GDP for 2008 (Q4/Q4), which is one percentage point higher than that of the Board staff. As in March, the delayed and slower recovery embedded in the Greenbook forecast relative to ours is mainly due to the Board staff's personal consumption expenditure projections. The Board staff assumes substantial negative wealth effects on consumption expenditures coming from declining home prices, tight credit conditions, and rising import, fuel and food prices. Moreover, a weak labor market and rising unemployment rate are expected to further weaken consumption expenditures, as signaled by low consumer sentiment indicators. These combined effects are assumed to outweigh the expansionary effects coming from the fiscal stimulus package and monetary policy stance, inducing zero growth in consumption expenditures in 2008 (Q4/Q4). Notwithstanding the current weak economic conditions, zero growth in consumption expenditures is historically a rare phenomenon for the US economy.

The Board staff expects unemployment to peak at 5.7% at the end of 2008 and to gradually go down to 5.5% at the end of 2009. This is in line with our staff forecast for unemployment over the forecasting horizon. However, the Greenbook forecast for nonfarm payroll employment for both 2008 (Q4/Q4) and 2009 (Q4/Q4) is significantly lower than our staff forecast. This lower employment growth does not imply a substantially higher unemployment rate than our projections, though, because the Board staff also assumes a lower participation rate over the forecasting horizon.

As in the last Blackbook, the FRBNY forecast for net exports growth contribution differs substantially from the Board's for 2008, especially for Q2, when the Board expects net exports to contribute 2.3 percentage points to real GDP growth while FRBNY anticipates a 1 percentage point contribution. This disparity results from our very different outlooks for imports: The Board expects non-petroleum imports to contract in every quarter of 2008, with overall imports falling by more than 8% (annual rate) in 2008Q2. The Board also anticipates considerable weakness in services imports throughout 2008. The FRBNY forecast expects a less dramatic slowing in non-oil goods and services imports as well as somewhat different seasonal adjustment factors for oil imports. The Greenbook's weaker path for imports reflects its more pronounced deceleration in consumption growth and business equipment investment growth over 2008.

Finally, the Board expects the real and nominal exchange rates to depreciate substantially over the two next years, while FRBNY anticipates a more muted depreciation. Their path for the exchange rate reflects in part their lower expected path for U.S. interest rates in late 2008 and 2009.

Uncertainty around forecasts. The overall degree of uncertainty around the Greenbook forecast for output is mostly unchanged. For inflation, uncertainty around the Greenbook forecast is unchanged for 2008 but has widened substantially for 2009, in particular on the downside. Conversely, the degree of uncertainty around our forecast has remained fairly stable on the inflation front. The uncertainty around our GDP growth forecast has been slightly reduced for 2008 but is unchanged for 2009.

The 70% probability intervals around the forecasts for 2008, 2009 and 2010 are shown in Table 1, with March values in parentheses. For core PCE inflation, the width of the FRBNY interval is substantially larger than that of the Board for 2008, mainly due to a relatively higher weight on inflation below 1.8% in our assessment. This difference reflects the fact that we put a higher weight on downside risk to real GDP growth and thus a higher weight on easing of inflationary pressures due to weakness in real activity. For 2009, the Board's assessment of uncertainty has converged towards the FRBNY interval, giving more weight on inflation below 2%.

The higher weight that we put on downside risk is reflected in the 70% probability intervals for real GDP growth in Table 1. The FRBNY interval is not only wider than the Board's, but includes a more negative lower bound of -1.9%, compared to -1.2% for the Board. However, the distance between our lower bound and the Board's has reduced since March, as we have increased our lower bound while the Board has slightly decreased their lower bound. For 2009 we maintain a wider interval for real GDP than the Board. Again, the difference stems from the fact that we place a higher weight on output growth below 1.4%.

To gauge the importance of the differences between our outlook and the Greenbook forecasts, we calculate the percentile of the Greenbook forecasts for inflation and output in our forecast distribution. The results are shown in Table 2, with the March values in parentheses.

As can be seen from Exhibit C-3, the FRBNY forecast for core PCE inflation is close to the expected value from the forecast distribution. This suggests that the modal FRBNY forecast is approximately the median of the forecast distribution. Since the Board projects more persistent and higher core PCE inflation going forward, and has additionally increased the inflation projections for 2008 and 2009 in the current Greenbook, the Board staff forecast is now higher than the 60th percentile, an increase with respect to the March Blackbook.

The Greenbook forecast for real GDP growth for 2008, which is lower than our modal forecast, is approximately the median of the FRBNY forecast distribution. This reflects the substantial downside risk to output embedded in the FRBNY analysis. In fact, the predicted path for real GDP growth in the Greenbook is similar to that implied by our Credit Crunch and Productivity Slump scenarios. The Board's forecast for real GDP growth in 2009 is 2.8%, at the 60th percentile of the forecast distribution, suggesting that we consider it more likely that real GDP growth in 2009 will be below the forecast rather than above.

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

	Core PCE Inflation		**Real GDP Growth**	
	FRBNY	*Board*	*FRBNY*	*Board*
2008	1.1-2.6 (1.1-2.8)	1.8-2.8 (1.8-2.8)	-1.8-2.1 (-2.2-2.2)	-1.2-1.6 (-1.3-1.6)
2009	1.0-2.5 (1.1-2.5)	1.1-2.8 (2.0-2.7)	0.3-4.3 (0.4-4.2)	1.4-4.2 (1.6-4.4)
2010	1.2-2.5 (1.3-2.5)	N/A (N/A)	0.4-4.0 (0.5-4.0)	N/A (N/A)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2008	70 (63)	49 (48)
2009	62 (56)	59 (63)
2010	47 (46)	69 (66)

Alternative Greenbook forecasting scenarios. The Greenbook presents seven alternative scenarios. The first four scenarios explore the risks to the forecast concerning the size and duration of the credit crunch and different assumptions about consumers' spending behavior. The next two scenarios focus on risks related to inflation dynamics and inflation expectations. Finally, the last scenario describes the effects of higher potential output than in the baseline forecast.

The *Greater financial distress* scenario assumes a more severe credit crunch, implying more credit losses and higher risk spreads which further weaken aggregate demand. The *More-cautious consumers* scenario features an increase in consumers' saving rate, which has negative effects on spending. (This second scenario might capture the smaller effects that the fiscal stimulus package would have on growth if households decided to save part of their tax rebates.) In both scenarios real GDP growth is negative in 2008 (close to 1%) and weaker than baseline in 2009, substantially lowering the path for the FFR. In both scenarios the FFR drops to 0.9% in 2008H2 and further decreases in 2009. In the *Greater financial distress* scenario the nominal interest rate hits the zero bound in 2009.

In the *Near-term upside risk* scenario business and household spending is more robust than baseline, assuming that policy may have overreacted to signs of a recession. As a result, GDP growth is stronger, reaching 1.5% in 2008, and policy adjusts promptly by increasing the FFR to 3.1 by 2008H1. Interestingly, GDP growth is lower than the baseline in 2009 under this scenario, because of the less accommodative monetary policy stance. Tighter policy keeps prices in check, maintaining stable inflation over the forecasting horizon. The *Less financial restraint scenario* describes a stronger and more persistent economic expansion where, in addition to higher spending, risk premia are assumed to decline more quickly than in the baseline scenario, further stimulating consumption and investment. Real GDP growth is vigorous (reaching 3% in 2009) and the policy response is a higher path for the FFR which reaches 3.3% in 2009. Despite the higher policy rate, inflation is higher than baseline, remaining at 2% through 2012.

The *greater inflationary pressures* scenario describes a more persistent increase in oil and food prices, which causes a 0.25 percentage point increase in long-term inflation expectations relative to baseline. Core inflation increases substantially over the entire forecasting horizon, peaking at 2.5% in 2009, while real activity remains in line with the baseline forecast. This is consistent with the policy path in this scenario. As opposed to the previous two scenarios, the policy response is gradual; the FFR increases to 2% and remains at this level through 2009, before reaching 3% in 2010. The *Lower inflation* scenario proposes the reverse experiment by assuming lower inflation pressures relative to baseline. Lower inflation does not have substantial effects on real economic activity, as the FFR shifts down in response to lower inflationary pressures.

Finally, the *More room to grow* scenario assumes higher potential output growth (at 2.75%, closer to our staff assumptions.) Under this scenario, output growth is higher than baseline, roughly in line with the higher potential output, while inflation moderates as unit labor costs are lower. Consequently, policy responds with a lower path for the nominal interest rate.

4.2 Comparison with Private Forecasters[1]

Our GDP growth forecast is a bit more downbeat than most of the private forecasts [Exhibit B-8]. Our projections are lower than those of most private forecasters for 2008H1 as well as for 2008 (Q4/Q4) as a whole. Our GDP forecast for 2009 (Q4/Q4),

[1] Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (4/10), SPF (2/12), and Macro Advisors (4/24).

however, is at the high end of the private forecasts. For core inflation, our forecast basically coincides with private forecasters' projections, except for some greater persistence in the private forecasts in 2009 similar to the persistence exhibited in the Greenbook inflation forecasts. For total CPI, our projections are above those of the private forecasters for 2008H1 and 2008 (Q4/Q4). This is because we assume a higher path of energy and food prices during 2008H1.

Real GDP Growth. Relative to most private forecasters, we project a more substantial slowdown in 2008H1 and, partially as a consequence of this, a firmer rebound in 2009. For 2008Q1, our real GDP growth forecast has been upwardly revised to 0.2% (annual rate) from -0.4% in the March Blackbook. This is roughly in line with Blue Chip (0.1%), above the PSI model (-0.4%) and below SPF (0.7%) and Macroadvisers (0.4%). As more data have come in for 2008Q1, our staff forecast and private forecasts have steadily converged. Our 2008Q2 forecast has been revised down to -1.2%, which is substantially lower than all private forecasts and, together with the PSI model, is the only forecast to predict negative growth. The Blue Chip (0.1%) is closest to our forecast, while the Median SPF is substantially higher (1.3%); Macroadvisers has the highest forecast at 2.3% and is the only forecast that has been revised upwards (from 1.7%).

Our 2008 (Q4/Q4) real GDP growth projection is 1.2%, roughly the same as in the March Blackbook (1.3%). As in March, this is at the lower end of the spectrum of forecasts, in line with Blue Chip (1.1%) and substantially below Median SPF (1.8%) and Macroadvisers (2.1%). All forecasts have been revised down with respect to March, resulting in a slight reduction in the gap between our 2008 (Q4/Q4) projection and private forecasts. For 2009 (Q4/Q4) real GDP, we forecast 3% growth, the same as in the March Blackbook. This is qualitatively very similar to the Blue Chip (2.6%), Median SPF (2.8%), and Macroadvisers (3.2%) projections. The latter is the only forecast for 2009 (Q4/Q4) that was significantly revised, down 0.3 percentage points from March.

Core PCE Inflation. Our forecast for 2008Q1 core inflation is now 2.1%, down from 2.7% in the March Blackbook. This is in line with Median SPF (2.2%), reflecting the availability of preliminary PCE inflation data for all months in 2008Q1. For 2008Q2, we forecast core PCE inflation at 2.1%, the same as Median SPF. Overall, our core PCE forecasts for 2008 (Q4/Q4) and 2009 (Q4/Q4) are in line with Median SPF. Similar to our projections, private forecasters assume a slowdown and eventual decline of energy and commodity prices, as well as limited pass-through of these prices into core PCE.

CPI Inflation. Overall CPI inflation came in at 4.5% (annual rate) for 2008Q1. This is slightly higher than the Blue Chip (4.1%) and Macroadvisers (4.3%) forecasts. It is much higher than the Median SPF (3.5%), but this reflects the early date of the forecast, which preceded the most recent increases in energy and commodity prices.

For 2008Q2, we forecast CPI inflation of 4%, a substantially higher rate than in the March Blackbook. This number is higher than all private forecasts, with Blue Chip at 2.5%, Median SPF at 2.4% and Macroadvisers at 1.8%. This disparity, in large part, reflects the fact that private forecasters assume relatively larger energy and commodity price declines in 2008Q2, resulting in lower inflation in the food and energy CPI component. It should be noted that some of the discrepancies in the forecasts for total inflation reflect the timing of the forecasts (release dates are given in footnote 1); because our forecast was compiled after most of the private forecasts, we were able to incorporate more recent information.

Our 2008 (Q4/Q4) projection for CPI inflation is 3.4%, revised up by 0.5 percentage points with respect to the March Blackbook. Our inflation forecast is substantially above Blue Chip (2.8%), Median SPF (2.5%) and Macroadvisers (2.9%). For 2009 (Q4/Q4), our projections of 2.2% CPI inflation are in line with private forecasters.

Core CPI Inflation. Core CPI inflation was 2.5% (annual rate) in 2008Q1, in line with Median SPF (2.4%) and Macroadvisers (2.6%). Our forecast for core CPI inflation for 2008Q2 is 2.1%, roughly in line with Median SPF (2.2%) and Macroadvisers (2.3%).

The 2008 (Q4/Q4) core CPI projection is 2.2%, in line with Median SPF (2.2%) but substantially below Macroadvisers (2.8%). The same pattern applies for 2009 (Q4/Q4). Our forecast (2%) is in line with Blue Chip (2.1%) but 0.4 percentage points below Macroadvisers

5. Robustness of Policy Recommendation

5.1 Sensitivity to Alternative Scenarios and Policy Rules

Compared to recent Blackbooks, the gaps between the near-term paths implied by most of the policy rules and our short-run policy recommendation are smaller than they have been. This narrowing mainly reflects the gradualist nature of the rules, which now incorporate more information on the dramatic easing of the FFR target in 2008Q1, leading to an overall lower path than in previous Blackbooks. In these exercises, the parameters of rules are unchanged from the January and March Blackbooks, and we feed in a 2008Q1 FFR of 2.25% (i.e., the terminal FFR in the quarter rather than its average). In addition, the alternative policy rules remain the same as in the recent Blackbooks.

Another possible contributing factor to the prescription of a lower FFR path from our policy rules is the lower real GDP growth and core PCE inflation forecasts. However, section 3 shows that these changes have been modest, and hence they cannot account for the changes in the FFR path implied by the rules. Therefore, the gap has closed primarily because of the largely mechanical reason highlighted above: the assumed gradualism in many of our rules. This gradualism implies that roughly 80% of the easing occurred in 2007Q4 and 2008Q1 is incorporated into the current policy prescription from the rules (i.e., the persistence coefficient in the *Baseline* rule is 0.8). Consequently, both the nominal and real FFR paths implied by the *Baseline* rule under the central scenario for 2008Q2 are about 100 basis points lower than they were in March. By reflecting the influence of previous changes in policy, the prescriptions of the rules are less informative about the current stance of policy. We will revisit this issue in discussing the DSGE-VAR results.

Exhibit D-1 shows that the nominal FFR path implied by the *Baseline* rule under the central scenario is between 2% and 2.5% in 2008 and 2009, and then rises to 2.75% by the end of 2010. The paths under most of the other scenarios are similar, especially in the short run. One exception is the *Loss of Credibility* scenario, where the higher projected inflation drives the FFR higher. The other exception is the *Credit Crunch* scenario, where the lower output and inflation projections under that scenario drive the FFR lower.

Most scenarios under *Baseline* rule imply a real FFR path that is close to zero in the short run, with the exception of the *Productivity Boom* (which currently has a relatively low probability). The real FFR path rises quickly under the *Loss of Credibility* scenario, given that the policymakers are forced to fight the higher inflation and demonstrate a renew inflation-fighting commitment, but it rises only slowly under the Central Scenario. Under the other scenarios, the real FFR path remains close to zero through the forecast horizon.

Next, we turn to the FFR implied by the different rules under consideration. Under the expected value of the forecast distribution, the prescriptions of most of our alternative policy rules are similar to our policy recommendation over the short run [Exhibit D-2]. This is the case for the *Baseline* rule as well, given that the expected path of the output forecast is lower than that implied by the central scenario. The *Outcome-based* rule is an exception, as it is prescribes a path below the policy recommendation in the short-run but has a quicker reversal than the other rules. The lower near-term path under this rule reflects its acceleration effect: the sharp decline in the FFR in 2008Q1 leads to further sharp declines under this rule. In the longer run, the FFR increases slowly under all the rules relative to our policy recommendation because of the persistence of the FFR built into all of these rules.

The FFR path implied by the different scenarios under the *Opportunistic Disinflation* and the *Dove* rule [Exhibit D-3] generally are not very different from those under the *Baseline* rule. In contrast, the *Outcome-based* rule implies a lower path in the short run, reflecting the same dynamic discussed in regard to the rule under the expected value of the forecast distribution. The *Opportunistic Disinflation* rule reacts relatively strongly under the *Loss of Credibility* scenario because of its stronger response to higher inflation.

Finally, we use the counterfactual experiment under DSGE-VAR to assess the current policy stance. This counterfactual experiment amounts computing the FFR implied by an estimated policy rule (using post-1987 data) after removing deviations from such rule for the previous four quarters. We find that under the central scenario, the counterfactual path is about 75 bps above our policy recommendation, roughly the same figure as in March, suggesting that our recommendation is more "accommodative" than the historical average. If we condition on the *Credit Crunch* scenario the short-run paths of the counterfactual exercise and the policy recommendation are similar, indicating little additional accommodation in our policy recommendation.

5.2 Comparison to Market Expectations

The FFR path priced into financial markets has moved up since the March Blackbook. In addition, the market's short-term uncertainty around that path has receded somewhat from its relatively high levels. The expected FFR for late 2008/early 2009 is around 2-2.5%%, compared with an expectation of 1.5% before the March FOMC meeting. The market path is now much closer to our policy recommendation. We do not view the remaining discrepancy between our policy recommendation and market expectations as significant, given the high uncertainty and difficulties in assessing term premia in long Eurodollar futures. However, in contrast to the last few Blackbooks, the average forecast from the Dealer Survey for the FFR over the next year is below our policy recommendation and the market path (at least in part, this might be a timing issue since the market path has moved up since the Dealer survey was collected).

The near-term market-implied path is also close to the paths of our *Baseline* rule under both the central scenario and the mean of our forecast distribution, but diverges in the medium run [Exhibits D-1 and D-2]. This divergence reflects mainly the mechanics of the gradualist rule that only slowly raises rates as the economy recovers.

The market path is now above the short-run prescription of the *Outcome-based* rule—the Board's rule that sets the FFR based on a statistical description of the FOMC's behavior from 1988-2006—evaluated under the expected value of our forecast distribution (i.e. under our risk assessment) [Exhibit D-2]. In practice, this *Outcome-based* rule has an acceleration term following rate cuts that captures some of the risk-management behavior of the FOMC in previous episodes. In the current environment, it does not seem probable that such acceleration would occur. Further, it is still the case that if the FOMC was following something close to the *Outcome-based* rule, markets should be pricing in significantly more volatility in the FFR than they currently do.

The path prescribed by the *Opportunistic Disinflation* rule is closest to the market path in 2009 under scenarios with higher inflation [Exhibit D-3]. For the *Average* rule, we weight the *Baseline* rule and the two variants equally to match the market path as closely as possible [Exhibit D-4]. The weights on the alternative rules are substantially changed from the March Blackbook; again this is partly a mechanical effect of gradualism as our outlook has not changed substantially and partly because the market path has firmed in the inter-meeting period.

The implied volatility term structure around the market-implied path has tilted down in the short run and also moved down at medium horizons [Exhibit A-6]. It is qualitatively comparable to the reduction in uncertainty around the prescriptions of our rules produced by the forecast distribution but larger than the reduction we assess [Exhibit D-5]. Furthermore, the implied distributions of our rules show less skewness than in March as we have reduced the tail risk on output; however, markets seem to have reduced the tail risk by more than our assessment. In contrast the Dealer survey showed more weight on rates below 2% than the path priced into options markets.

In the last Blackbook we noted that the market appeared to be appropriately pricing in a risk-management strategy by the FOMC in 2008 through the middle of 2009 but were not sure if markets were aware that rates might be renormalized more quickly than implied by the prescription of a gradualist policy. The increase in expected rates over the inter-meeting period is consistent with markets becoming more aware of this possibility.

6. Key Upcoming Issues

In this Blackbook, we recommend that the FOMC lowers the FFR target by 25 bps to 2.00% and signal that it expects to maintain the rate at that level in the near future. This is the same path that we recommended in the March Blackbook; the economic developments during the inter-meeting period have been broadly in line with our March outlook. We still expect a mild recession in 2008H1 and a recovery in 2008H2 and 2009. Because the macroeconomic developments have been consistent with our outlook and there has been some evidence of improvements of conditions in financial markets, we have reduced slightly the downside risk to our real GDP growth forecast. We continue to put substantial weight on a more protracted and severe economic slowdown than reflected in our central forecast, mainly because of the likelihood of being in the *Credit Crunch* scenario.

The recommended policy path is only slightly above the expected path priced into futures markets over the near- and medium-term forecast horizons but reflects a steeper renormalization of policy from 2009H2 onwards than is priced into the markets. Just like in the March Blackbook, we still anticipate the FFR target to bottom out at 2.00% and remain there through mid-2009. Given the economic recovery in 2009 in our central forecast, we anticipate the FFR target to rise to 3.50% by the end of 2009 and to 4.25% by the end of 2010. The markets expect the FFR to bottom out at 2.00% and to start slowly increasing by the beginning of 2009 to about 3.25% in 2010H2. The market path has increased over the inter-meeting period, possibly reflecting a response to the FOMC communication that a mitigation of downside risks to output growth would reduce the need for further insurance.

In recent months, the FOMC has communicated that a severe slowdown in real activity coming from the deterioration in financial and housing markets is the immediate risk for policy and has acted accordingly. Since March, we have seen signs of slowly abating stresses in financial markets, while the economic data generally have come in consistent with our outlook. Given these developments, in addition to our proposed 25 bps rate cut, we believe the FOMC statement should communicate a small reduction in the downside risks to output growth. The statement also should reflect a willingness to act both on evidence on the establishment of an adverse feedback loop as well as on potential increases in inflation expectations.

Besides this willingness to act both on the real activity as well as the price stability mandates, we believe that the FOMC should also consider the communication strategy for transitioning from the current easing cycle to a process of renormalizing the FFR. The most recent easing reflected a precautionary lowering of the FFR meant to reduce the risk of the occurrence of an adverse feedback loop. If there is more evidence that this risk subsides and, consistent with our forecast distribution, there is no threat of deflation we should be ready to take back some of the insurance reflected in our current policy stance to avoid over-accommodation. Properly conveying this intent will be the key communication challenge for the Committee during the coming cycles. In light of this, we anticipate that, during the coming cycle, the monetary policy discussion will center around three main issues.

The first is the continued stresses in financial markets and their implications for the stance of policy. Over the inter-meeting period, the evidence on stresses in financial markets has been mixed. Credit spreads have come down for both financial and non-financial corporations, suggesting that overall credit risks have subsided somewhat. However, there remain significant stresses in funding markets, reflecting considerable risks. The effective stance of policy depends crucially on the degree to which the alternative liquidity measures (TAF, TSLF, and PDCF) mitigate these risks. Given the rise in the LIBOR-OIS spreads and the lack of clarity of the reason for this up-tick, significant uncertainty about the effectiveness of the alternative liquidity measures, and thus the stance of policy, remains. If these risks lessen then we may wish to consider an upward revision to our policy path that would reflect a quicker return to neutral. It is important to note, however, that markets do not assign a high likelihood to such a quick reversal of policy. A reduction of liquidity risk would, presumably, contribute to a steepening of the expected path of the FFR for 2009H1 through 2010.

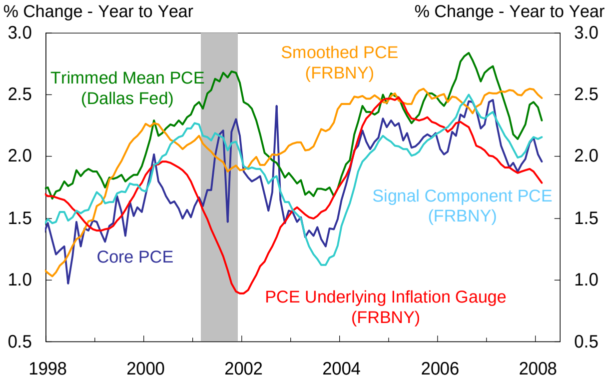
The second issue is the depth and length of the current slowdown in real activity. Our main concern remains that continued fragility of financial and credit markets will quell consumer and business spending through tighter credit and by having a negative impact on confidence. In the absence of such an adverse feedback loop, we expect the severity of this slowdown to be in large part determined by conditions in the housing market. Since April through July are the seasonal peak months in the U.S. housing market, housing data released during the next inter-meeting period should provide us considerable information about the current slowdown. An implication of our current central projection is that the FOMC may have to consider holding the FFR steady even if employment is still falling and if other evidence consistent with our projection of a mild recession arrives. This policy path would be unprecedented and might subject the FOMC to pressures to act. Maintaining the FFR in such a situation (if suitable) with appropriate communication of the outlook and policy strategy would be helpful in the eventual renormalization process.

The final issue is the potential upside risk to inflation. Our current forecast distribution has fairly balanced risks to inflation, even though recent increases in energy and commodity prices to all-time highs may argue for more upside risk. Our risk assessment is consistent with these commodity price increases either being temporary due to speculative behavior and supply disruptions or being more permanent reflecting a structural realignment of relative prices. In neither of these cases would we expect these commodity prices to put substantial upward pressures on core inflation in the medium- to long-run. If, however, these commodity price increases reflect stronger global demand in general, besides food and energy, then we should expect broader price increases which should put upward pressure on core inflation. Moreover, such strong global demand will, most likely, lead to a further decline in the exchange rate and to growth in U.S. exports.

A. Significant Developments

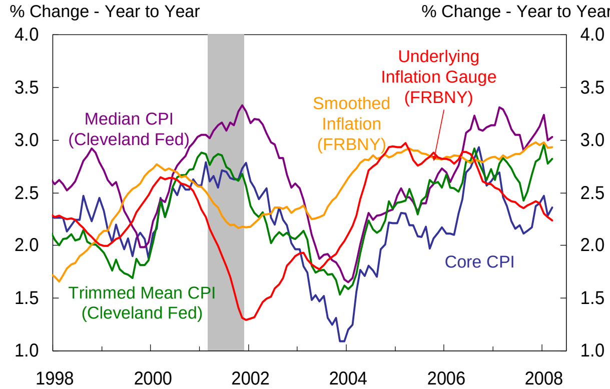
Exhibit A-1:
Measures of Trend Inflation

Alternative Measures of PCE Inflation



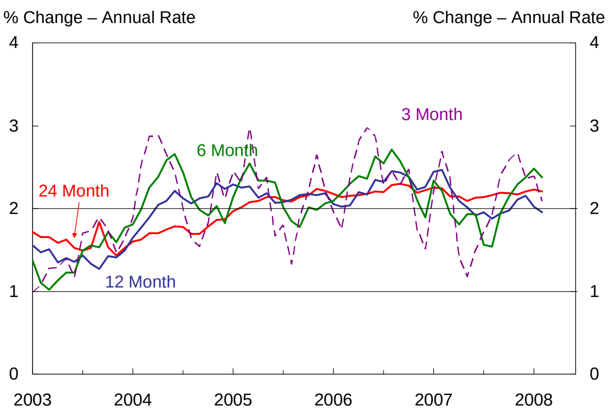
Source: Bureau of Economic Analysis, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Alternative Measures of CPI Inflation



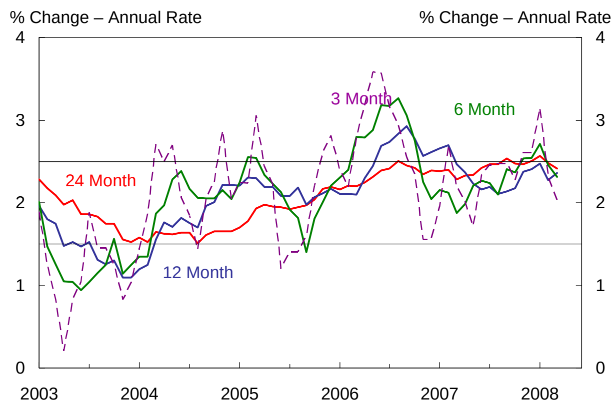
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



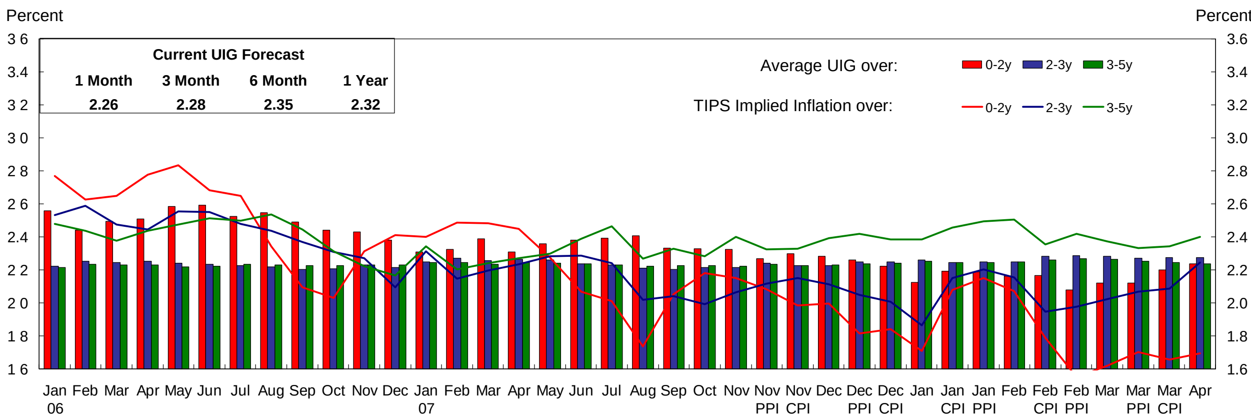
Source: Bureau of Economic Analysis

Core CPI over Various Horizons



Source: Bureau of Labor Statistics

Exhibit A-2:
Underlying Inflation Gauge (UIG)

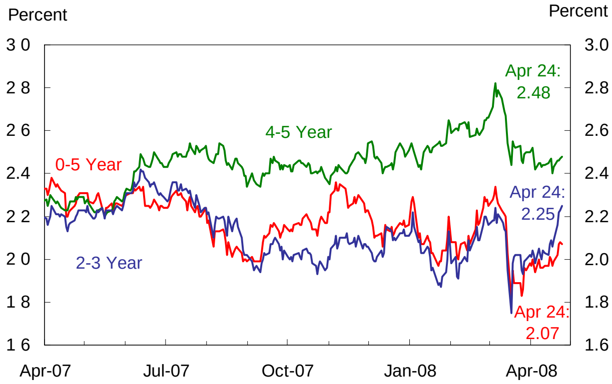


Source: MMS Function (FRBNY), Federal Reserve Board, and Swiss National Bank

A. Significant Developments

Exhibit A-3:
Implied Inflation Compensation

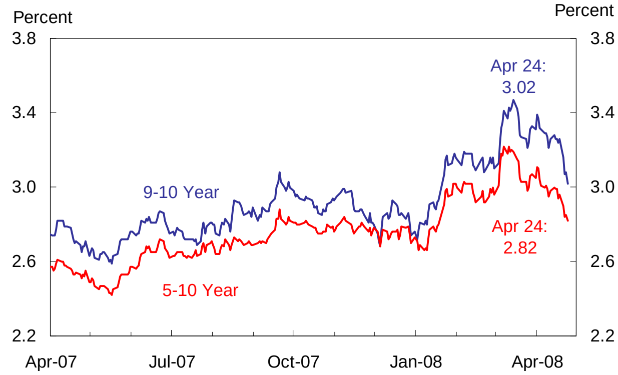
TIPS Implied Inflation Compensation: 0-5, 2-3, 4-5 Year Horizons



Source: Federal Reserve Board

Note: Carry-adjusted

TIPS Implied Inflation Compensation: 5-10, 9-10 Year Horizons

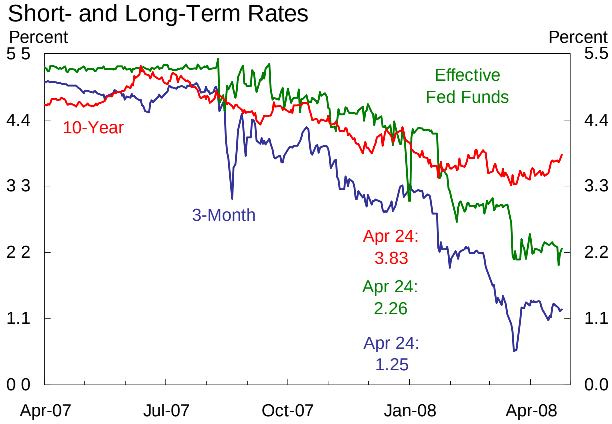


Source: Federal Reserve Board

Note: Carry-adjusted

Exhibit A-4:
Treasury Yields

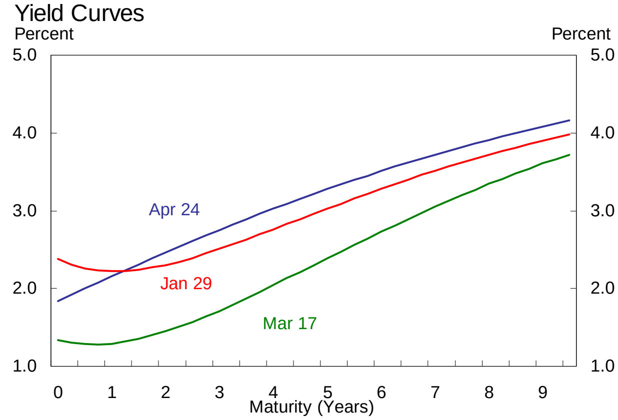
Short- and Long-Term Rates



Source: Bloomberg

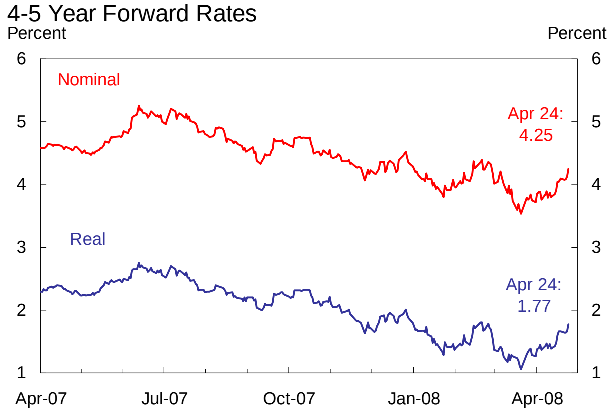
Note: Yields of on-the-run securities

Yield Curves



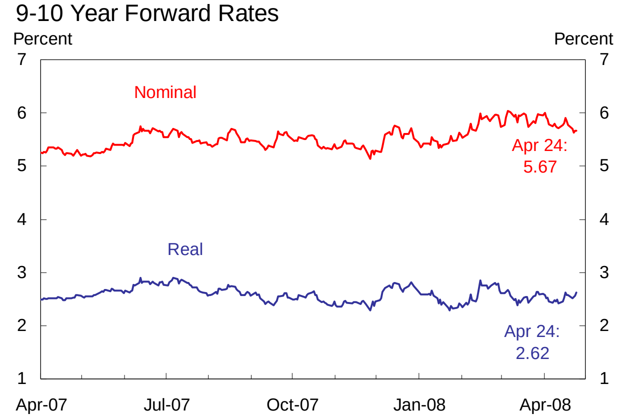
Source: Federal Reserve Board

4-5 Year Forward Rates



Source: Federal Reserve Board

9-10 Year Forward Rates

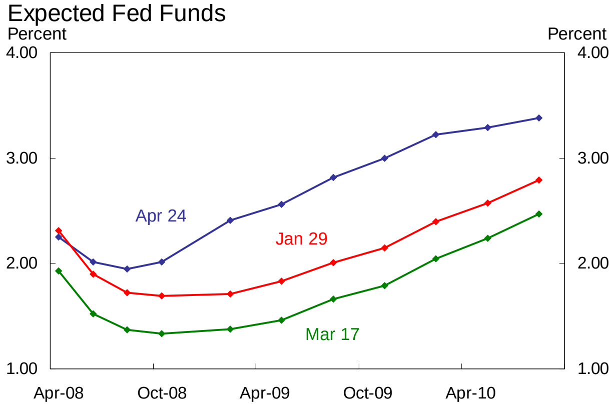


Source: Federal Reserve Board

A. Significant Developments

Exhibit A-5:
Policy Expectations

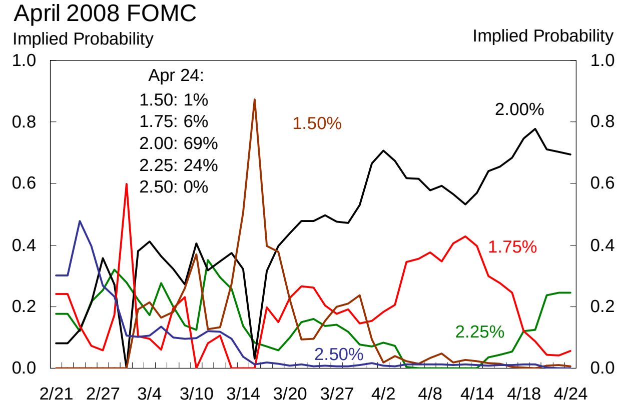
Expected Fed Funds



Source: Federal Reserve

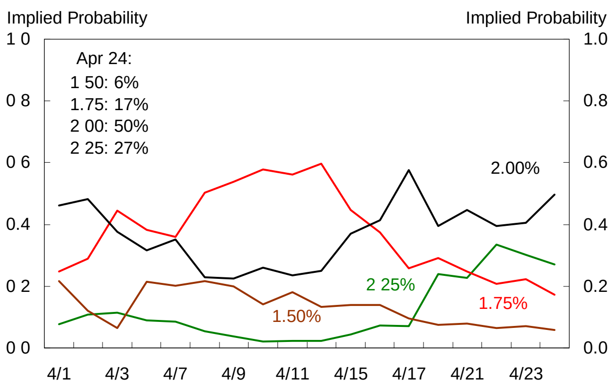
Note: Estimated using fed funds and Eurodollar futures.

April 2008 FOMC



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

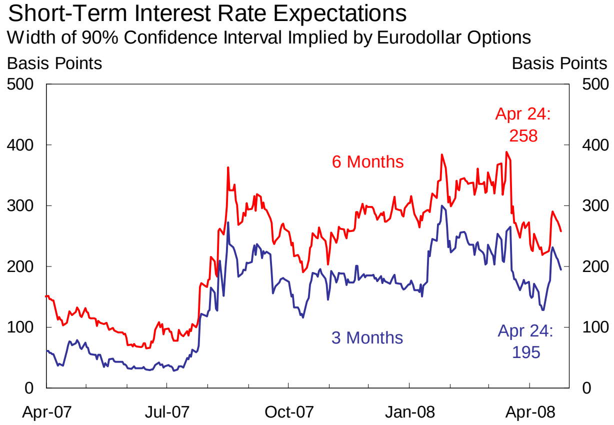
June 2008 FOMC



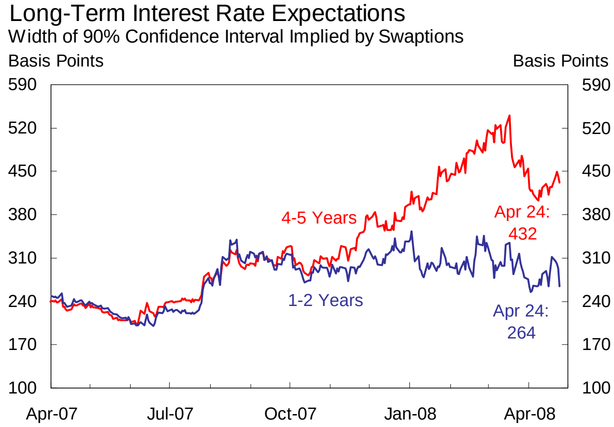
Source: Cleveland FRB Note: Estimated using options on fed funds futures.

A. Significant Developments

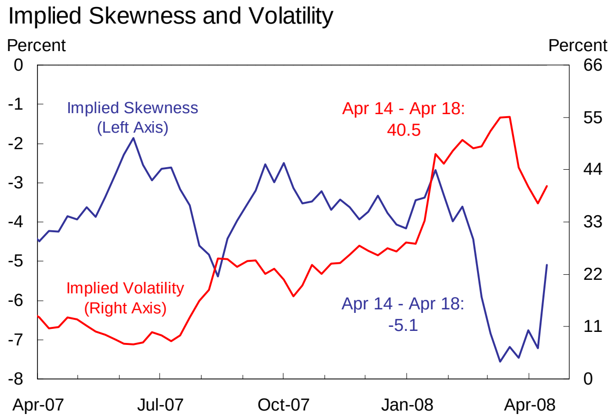
Exhibit A-6:
Policy Uncertainty



Source: Datastream, FRBNY calculations

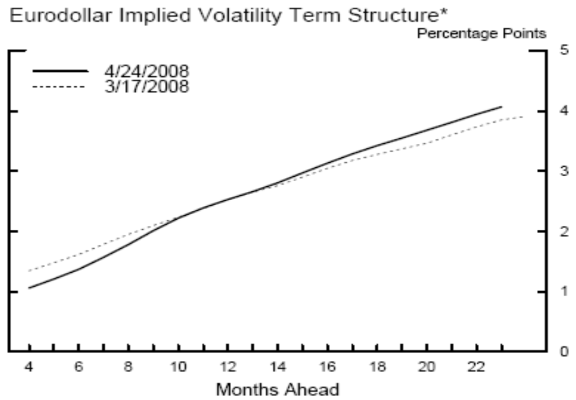


Source: Datastream, FRBNY calculations



Source: CME and FRBNY calculations

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

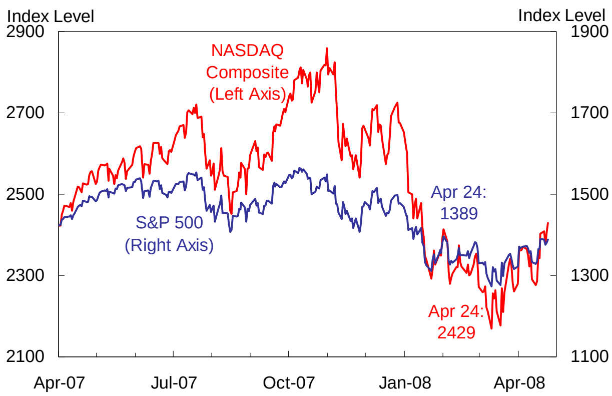


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

A. Significant Developments

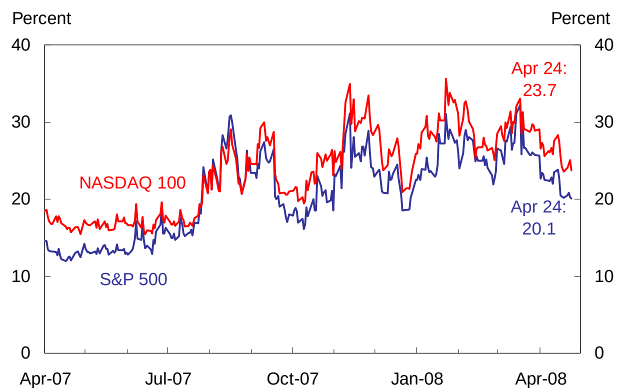
Exhibit A-7: Equity Markets and Corporate Credit Risk

Performance



Source: Bloomberg

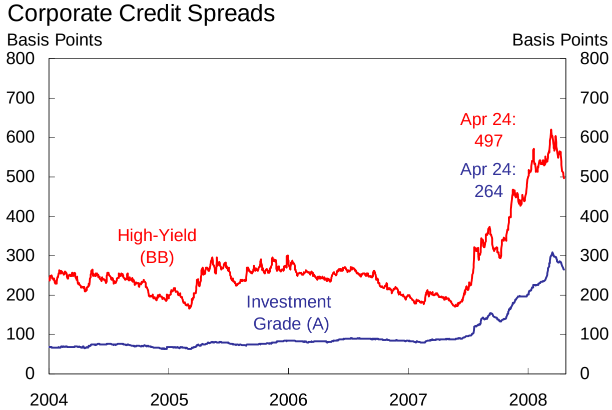
Implied Volatility: 1-Month



Source: CBOE

Note: Annualized

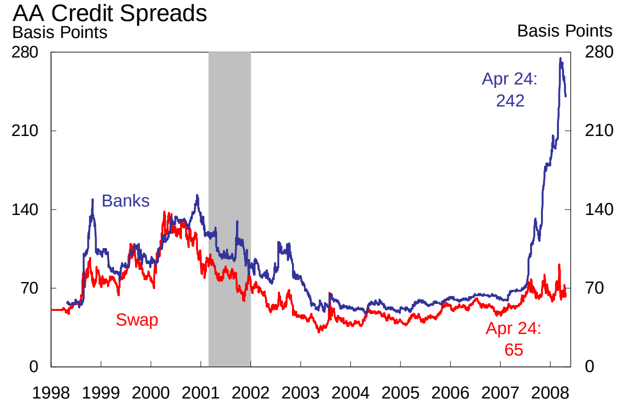
Corporate Credit Spreads



Source: Merrill Lynch

Note: Option-adjusted spreads

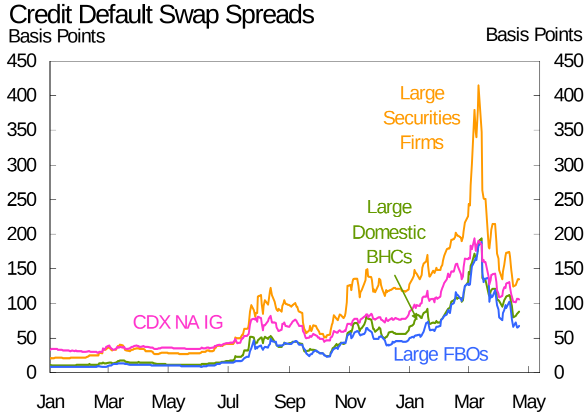
AA Credit Spreads



Note: Swap spread is 10-year swap rate minus 10-year Treasury yield and spread for banks is option-adjusted.

Source: Bloomberg & Merrill Lynch

Credit Default Swap Spreads

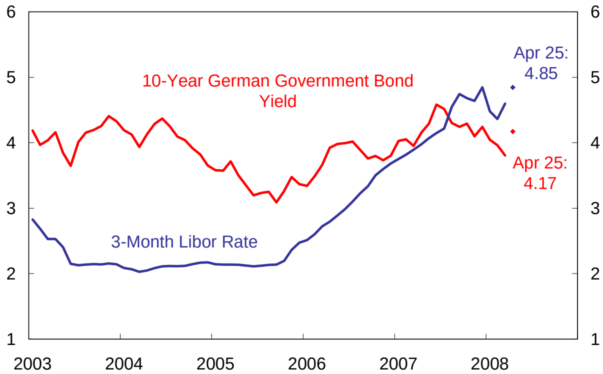


Source: Markit

A. Significant Developments

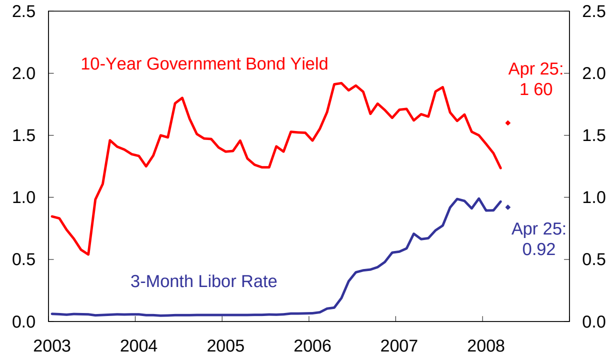
Exhibit A-8: Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates



Source: Bloomberg
Note: Data are monthly averages.

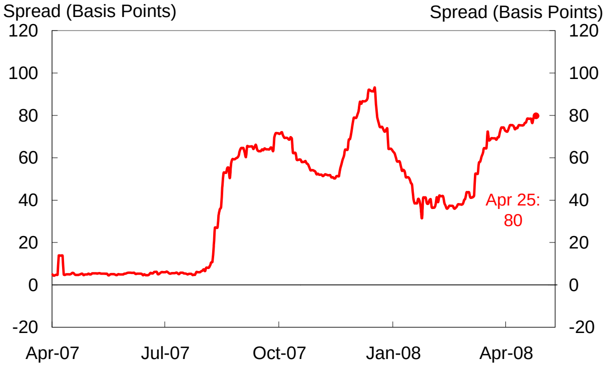
Japan Short- and Long-Term Interest Rates



Source: Bloomberg and Federal Reserve Board
Note: Data are monthly averages.

Euro Area

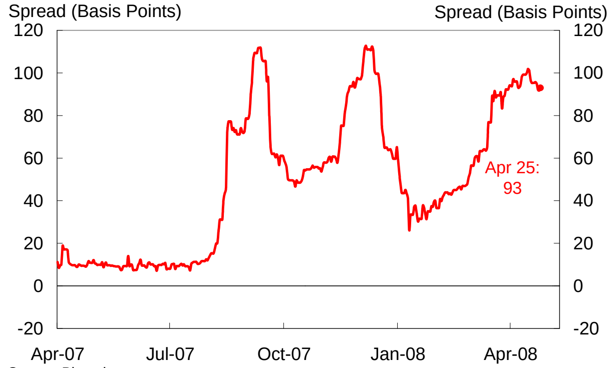
LIBOR Rate - OIS Swap Rate (3-month)



Source: Bloomberg

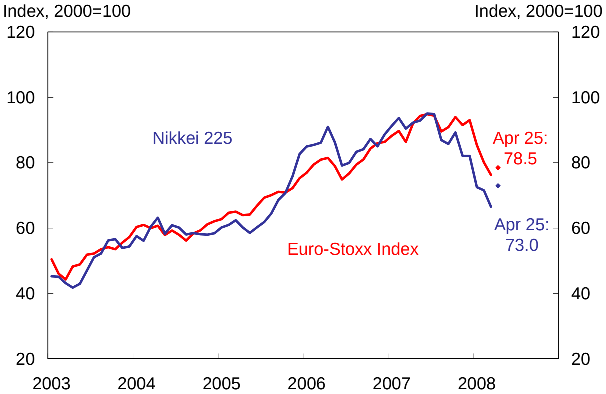
United Kingdom

LIBOR Rate - OIS Swap Rate (3-month)



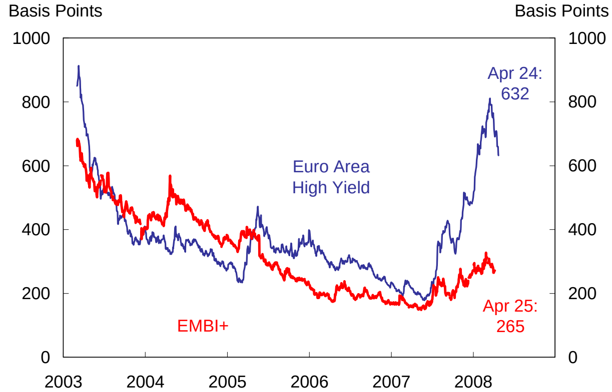
Source: Bloomberg

Euro Area and Japan Equity Indices



Source: BIS and Bloomberg
Note: Data are monthly averages.

EMBI+ and Euro Area Spreads

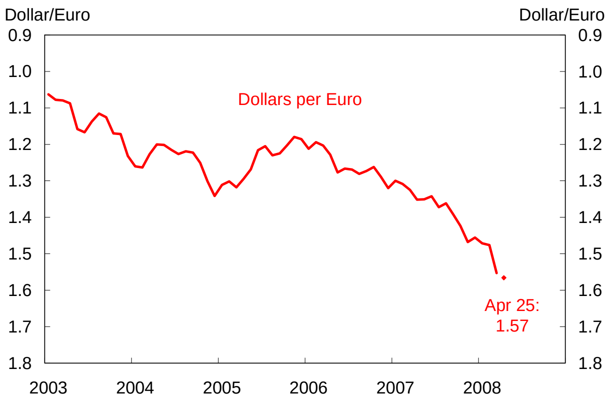


Source: Bloomberg
Note: Data are daily observations.

A. Significant Developments

Exhibit A-9:
Exchange Rates

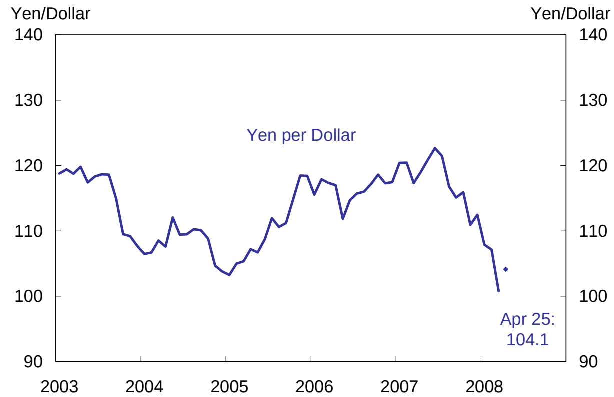
Dollar-Euro Exchange Rate



Source: Bloomberg

Note: Data are monthly averages. Exchange rate scale is inverted.

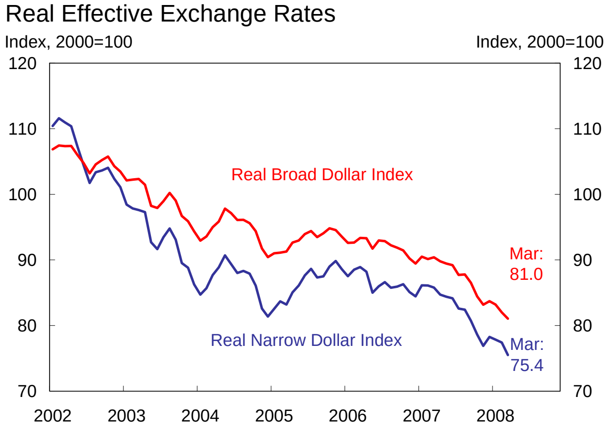
Yen-Dollar Exchange Rate



Source: Bloomberg

Note: Data are monthly averages.

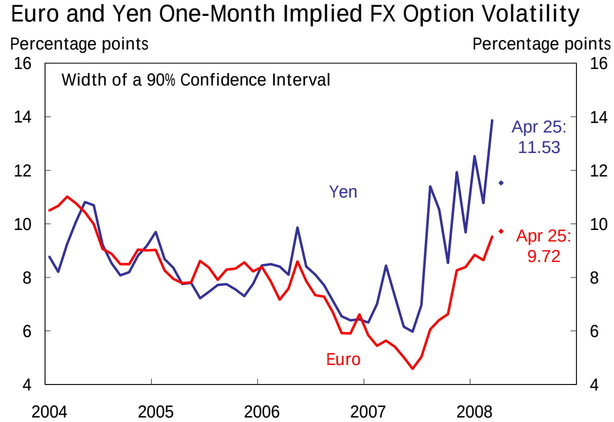
Real Effective Exchange Rates



Source: Federal Reserve Board

Note: Data are monthly averages.

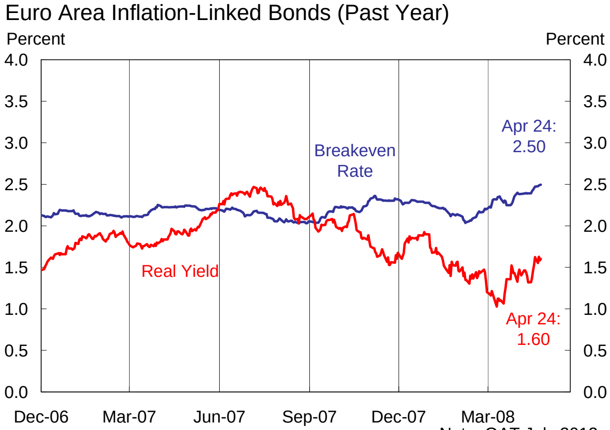
Euro and Yen One-Month Implied FX Option Volatility



Source: Reuters

Note: Data are monthly averages.

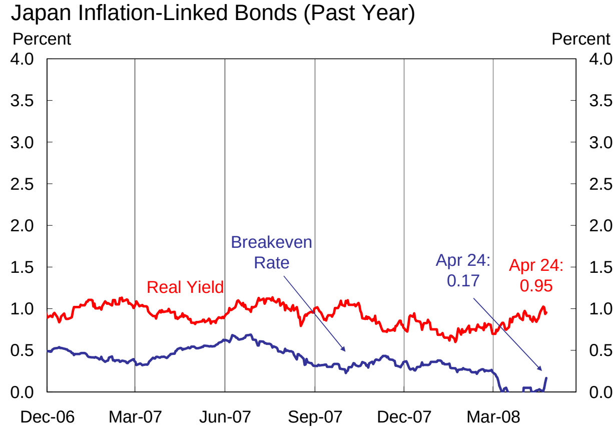
Euro Area Inflation-Linked Bonds (Past Year)



Source: Barclays, Daily Data

Note: OAT July 2012

Japan Inflation-Linked Bonds (Past Year)



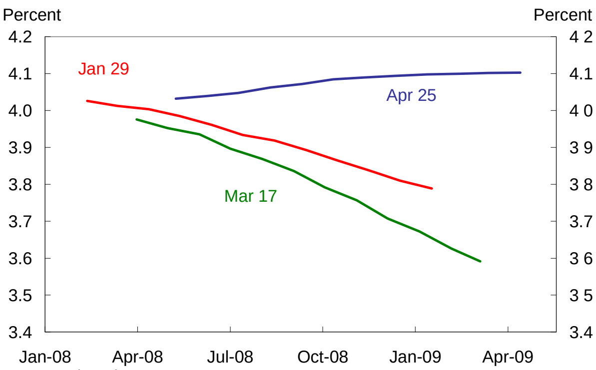
Source: Barclays, Daily Data

Note: JGB March 2014

A. Significant Developments

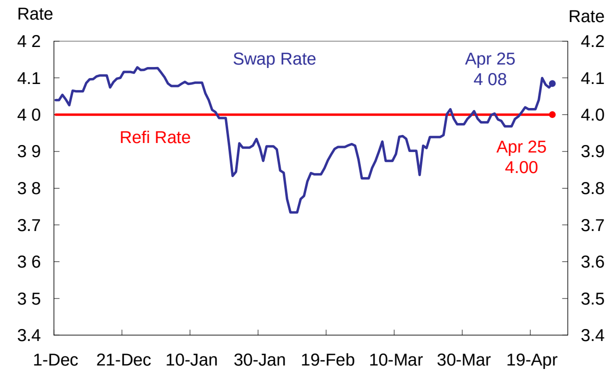
Exhibit A-10: Euro Area and Japan Swap Curves

Euro Area Swap Curve
Expected Average Overnight Rate Months Ahead



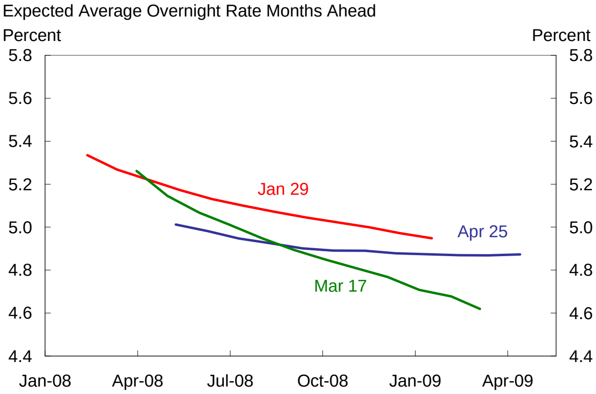
Source: Bloomberg

Euro Area: Expected Average Overnight Rate Over the Next Six Months (Swap Rate)



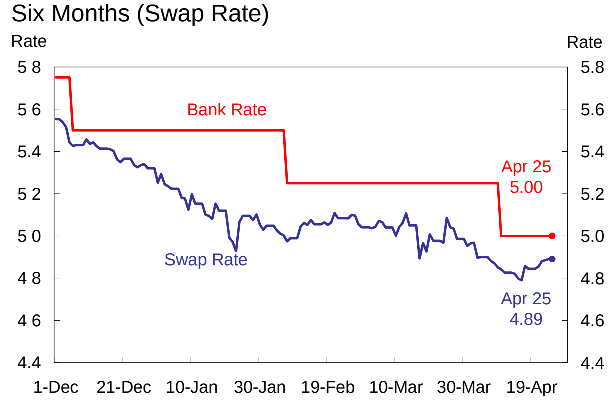
Source: Bloomberg

UK Swap Curve
Expected Average Overnight Rate Months Ahead



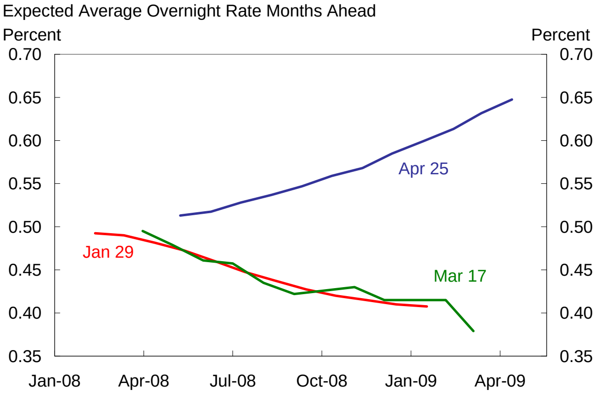
Source: Bloomberg

UK: Expected Average Overnight Rate Over the Next Six Months (Swap Rate)



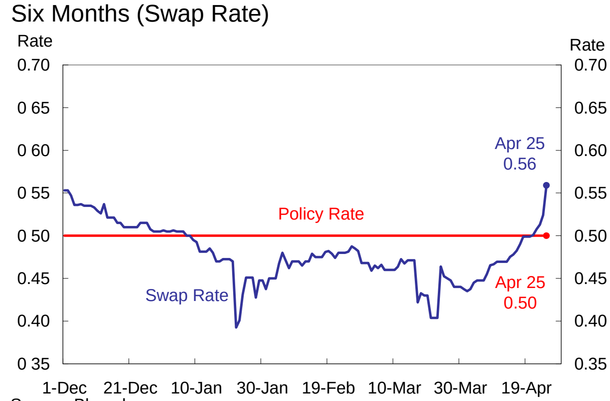
Source: Bloomberg

Japan Swap Curve
Expected Average Overnight Rate Months Ahead



Source: Bloomberg

Japan: Expected Average Overnight Rate Over the Next Six Months (Swap Rate)



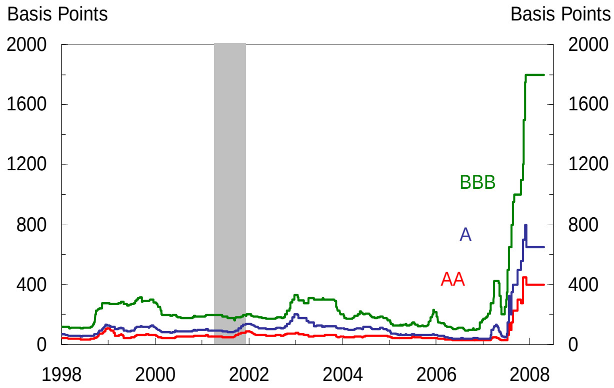
Source: Bloomberg

Note: Shading represents NBER recessions.

A. Significant Developments

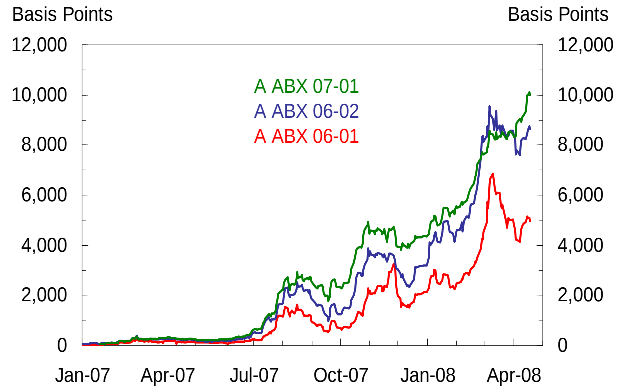
Exhibit A-11: Financial Market Indicators of Subprime Spillovers

Spreads on Subprime MBS Tranches



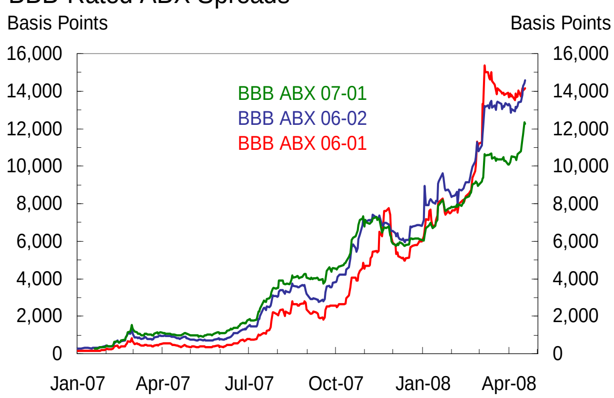
Source: JPMorgan

A-Rated ABX Spreads



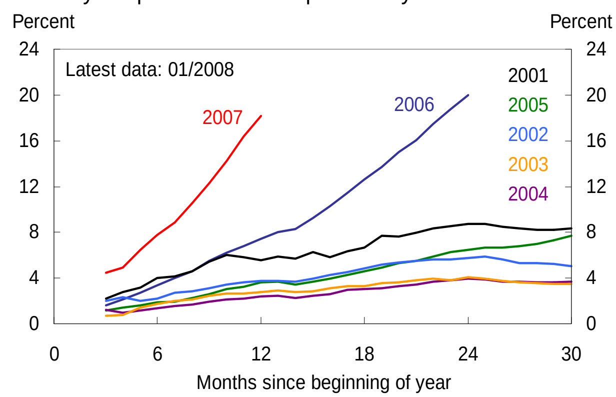
Source: JPMorgan

BBB-Rated ABX Spreads



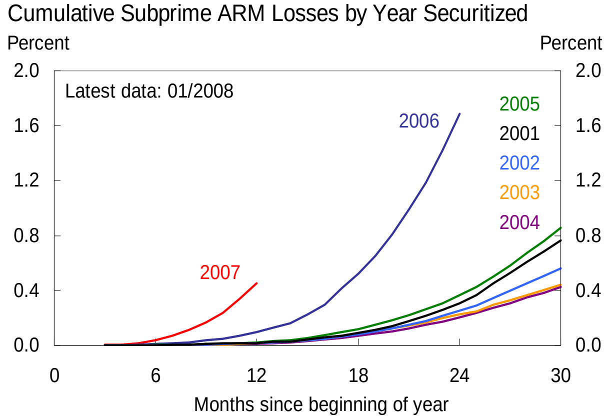
Source: JPMorgan

60+ Day Subprime ARM Delinquencies by Year Securitized



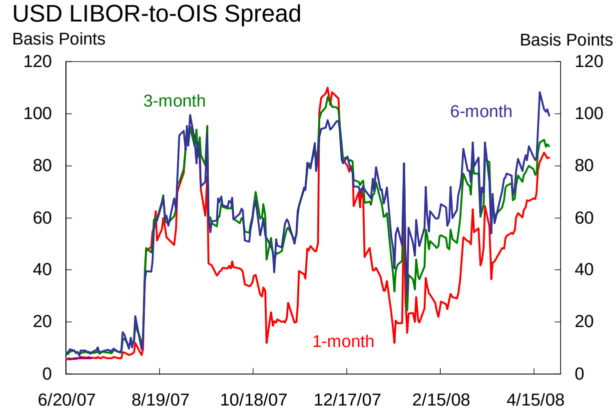
Source: Moody's Investors Service Note: Percent of original balance.

Cumulative Subprime ARM Losses by Year Securitized



Source: Moody's Investors Service Note: Percent of original balance.

USD LIBOR-to-OIS Spread

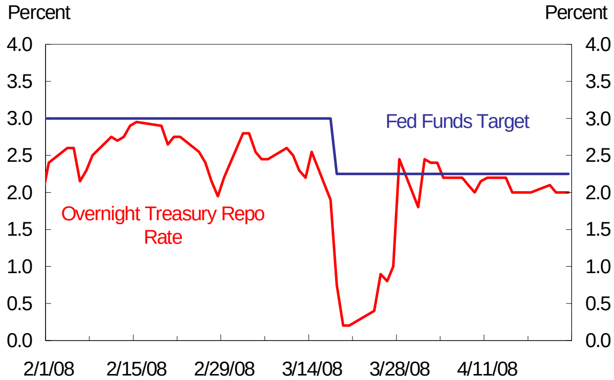


Source: Bloomberg

A. Significant Developments

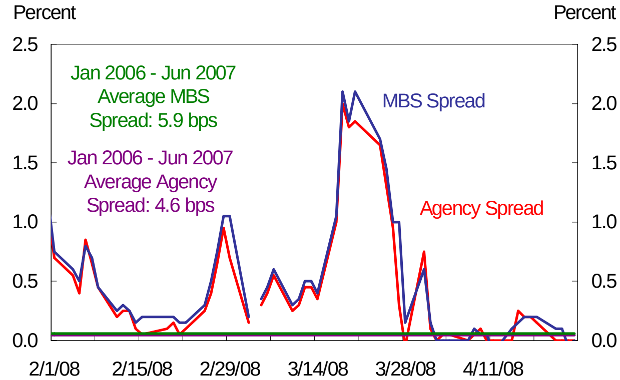
Exhibit A-12: Conditions in Repo Markets

Overnight Treasury Repo Rate



Source: Bloomberg, FRBNY

Overnight Agency and MBS to Treasury Spreads



Source: Bloomberg

B. FRBNY Forecast Details

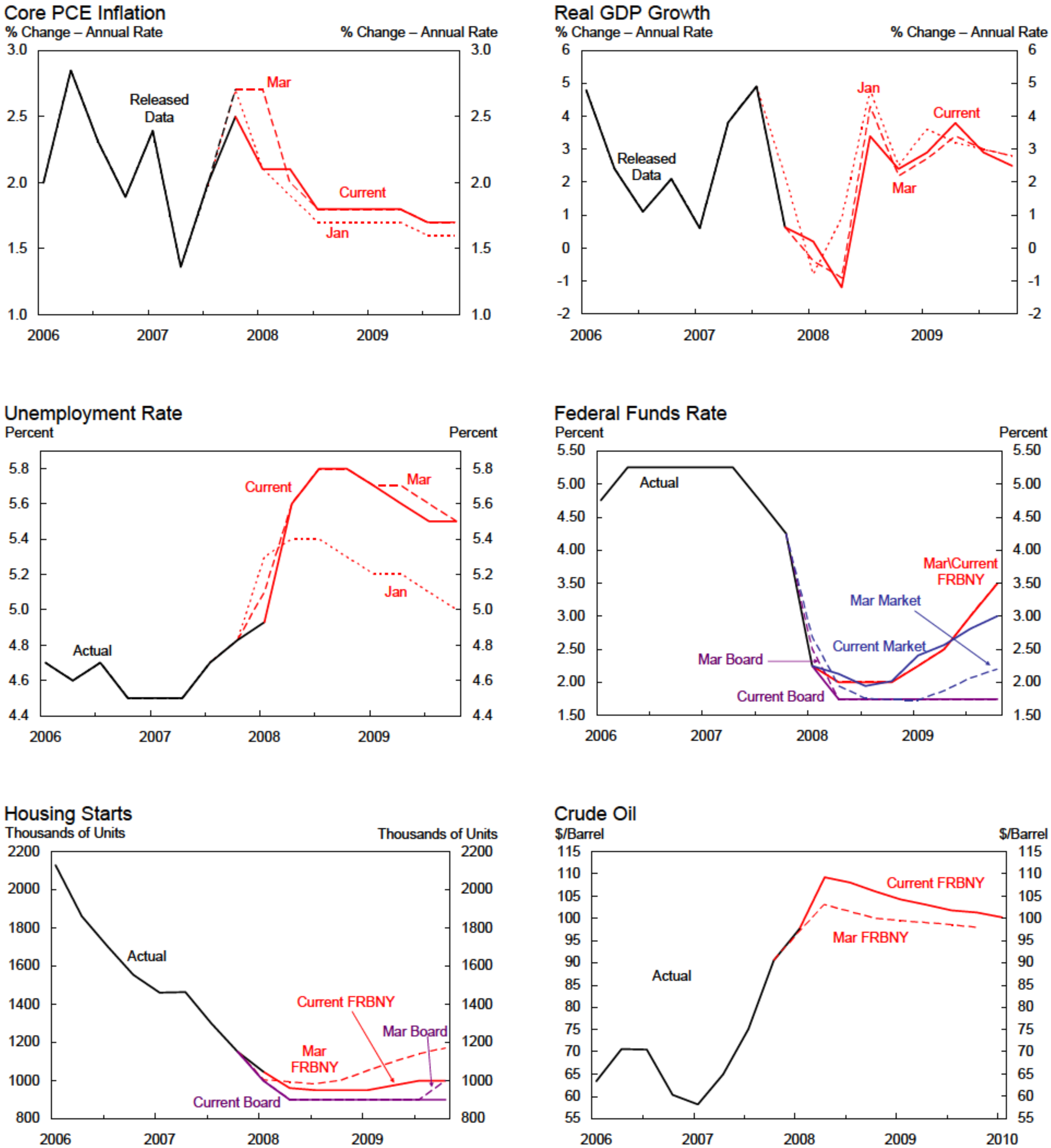
Exhibit B-1: Quarterly and Annual Projections of Key Variables

	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Jan	Mar	Apr	Jan	Mar	Apr	Jan	Mar	Apr	Jan	Mar	Apr
2007												
Q1	*2.4*	*2.4*	*2.4*	*0.6*	*0.6*	*0.6*	*4.5*	*4.5*	*4.5*	*5.3*	*5.3*	*5.3*
Q2	*1.4*	*1.4*	*1.4*	*3.8*	*3.8*	*3.8*	*4.5*	*4.5*	*4.5*	*5.3*	*5.3*	*5.3*
Q3	*2.0*	*2.0*	*2.0*	*4.9*	*4.9*	*4.9*	*4.7*	*4.7*	*4.7*	*4.8*	*4.8*	*4.8*
Q4	2.7	*2.7*	*2.5*	2.2	*0.6*	*0.6*	4.8	*4.8*	*4.8*	*4.3*	*4.3*	*4.3*
2008												
Q1	2.1	2.7	2.1	-0.8	-0.4	0.2	5.3	5.1	*4.9*	2.8	2.3	*2.3*
Q2	1.9	2.0	2.1	0.9	-0.9	-1.2	5.4	5.6	5.6	2.5	2.0	2.0
Q3	1.7	1.8	1.8	4.8	4.3	3.4	5.4	5.8	5.8	2.5	2.0	2.0
Q4	1.7	1.8	1.8	2.5	2.2	2.4	5.3	5.8	5.8	2.5	2.0	2.0
2009												
Q1	1.7	1.8	1.8	3.6	2.7	2.9	5.2	5.7	5.7	2.5	2.3	2.3
Q2	1.7	1.8	1.8	3.2	3.4	3.8	5.2	5.7	5.6	2.5	2.5	2.5
Q3	1.6	1.7	1.7	3.0	3.0	2.9	5.1	5.6	5.5	3.0	3.0	3.0
Q4	1.6	1.7	1.7	2.8	2.8	2.5	5.0	5.5	5.5	3.5	3.5	3.5
Q4/Q4												
2006	*2.3*	*2.3*	*2.3*	*2.6*	*2.6*	*2.6*	*-0.5*	*-0.5*	*-0.5*	*1.0*	*1.0*	*1.0*
2007	2.1	*2.1*	*2.1*	2.9	*2.5*	*2.5*	0.4	*0.4*	*0.4*	*-1.0*	*-1.0*	*-1.0*
2008	1.8	2.1	1.9	1.8	1.3	1.2	0.5	1.0	1.0	-1.8	-2.3	-2.3
2009	1.6	1.7	1.8	3.2	3.0	3.0	-0.3	-0.3	-0.3	1.0	1.5	1.5

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

B. FRBNY Forecast Details

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



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

B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)		Quarterly Growth Contributions (AR)	
	2008Q1	2008Q2	2008Q1	2008Q2
OUTPUT				
Real GDP	0.2	-1.2	0.2	-1.2
	(-0.4)	(-0.9)	(-0.4)	(-0.9)
Final Sales to Domestic Purchasers	-0.1	-0.4	-0.1	-0.4
	(-0.6)	(0.2)	(-0.6)	(0.2)
Consumption	0.7	1.3	0.5	0.9
	(0.5)	(1.5)	(0.3)	(1.1)
BFI: Equipment and Software	1.0	-5.0	0.1	-0.4
	(0.0)	(-5.0)	(0.0)	(-0.4)
BFI: Nonresidential Structures	1.0	3.0	0.0	0.1
	(4.0)	(3.0)	(0.1)	(0.1)
Residential Investment	-20.0	-30.0	-0.9	-1.3
	(-30.0)	(-22.5)	(-1.4)	(-0.9)
Government: Federal	-2.0	1.0	-0.1	0.1
	(0.0)	(1.0)	(0.0)	(0.1)
Government: State and Local	2.0	2.0	0.2	0.3
	(2.5)	(2.0)	(0.3)	(0.3)
Inventory Investment	--	--	0.3	-1.7
	--	--	(-0.0)	(-1.7)
Net Exports	--	--	0.0	1.0
	--	--	(0.2)	(0.7)
INFLATION				
Total PCE Deflator	3.5	3.8		
	(4.0)	(3.9)		
Core PCE Deflator	2.1	2.1		
	(2.7)	(2.0)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	2.0	1.0		
	(1.9)	(1.4)		
Compensation per Hour	3.8	3.8		
	(3.8)	(3.8)		
Unit Labor Costs	1.8	2.8		
	(1.9)	(2.3)		

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

B. FRBNY Forecast Details

Exhibit B-4: Real GDP and Inflation Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions		
	2007	2008	2009	2007	2008	2009
OUTPUT						
Real GDP	2.5	1.2	3.0	2.5	1.2	3.0
	(2.5)	(1.3)	(3.0)	(2.5)	(1.3)	(3.0)
Final Sales to Domestic Purchasers	1.9	0.7	2.4	2.0	0.7	2.5
	(1.9)	(0.9)	(2.6)	(2.0)	(1.0)	(2.8)
Consumption	2.6	1.6	2.4	1.8	1.1	1.7
	(2.5)	(2.0)	(2.6)	(1.7)	(1.4)	(1.9)
BFI: Equipment and Software	3.6	0.7	3.5	0.3	0.1	0.2
	(3.6)	(0.5)	(3.5)	(0.3)	(0.0)	(0.2)
BFI: Nonresidential Structures	15.1	2.5	3.0	0.5	0.1	0.1
	(15.7)	(3.2)	(3.0)	(0.5)	(0.1)	(0.1)
Residential Investment	-18.6	-20.9	2.5	-1.0	-0.9	0.1
	(-18.6)	(-20.9)	(6.2)	(-1.0)	(-0.9)	(0.2)
Government: Federal	1.7	0.5	1.5	0.1	0.0	0.1
	(1.8)	(1.0)	(1.5)	(0.1)	(0.1)	(0.1)
Government: State and Local	2.7	1.7	1.7	0.3	0.2	0.2
	(2.7)	(1.9)	(1.8)	(0.3)	(0.2)	(0.2)
Inventory Investment	--	--	--	-0.3	-0.1	0.3
	--	--	--	(-0.3)	(-0.1)	(0.3)
Net Exports	--	--	--	0.8	0.6	0.3
	--	--	--	(0.8)	(0.4)	(-0.1)
INFLATION						
Total PCE Deflator	3.4	3.0	1.7			
	(3.4)	(2.9)	(1.7)			
Core PCE Deflator	2.1	1.9	1.8			
	(2.1)	(2.1)	(1.7)			
Total CPI Inflation	4.0	3.4	2.2			
	(4.0)	(2.9)	(2.1)			
Core CPI Inflation	2.3	2.2	2.0			
	(2.3)	(2.2)	(1.9)			
GDP Deflator	2.6	2.0	2.1			
	(2.6)	(2.5)	(2.0)			

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		
	2007	2008	2009
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	4.25	2.00	3.50
	(4.25)	(2.00)	(3.50)
10-Year Treasury Yield (Avg. Q4 Level)	4.3	3.8	3.8
	(4.3)	(3.8)	(3.8)
PRODUCTIVITY AND LABOR COSTS*			
Output	2.6	1.5	3.3
	(2.6)	(1.6)	(3.3)
Hours	-0.3	-0.6	1.5
	(-0.3)	(-0.2)	(1.5)
Output per Hour	2.9	2.0	1.8
	(2.9)	(1.8)	(1.8)
Compensation per Hour	3.9	4.0	4.2
	(3.9)	(4.0)	(4.2)
Unit Labor Costs	0.9	1.9	2.4
	(0.9)	(2.2)	(2.4)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	4.8	5.8	5.5
	(4.8)	(5.8)	(5.5)
Participation Rate (Avg. Q4 Level)	66.0	66.0	66.0
	(66.0)	(66.0)	(66.0)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	104	-41	151
	(104)	(-10)	(147)
INCOME			
Personal Income	5.9	4.8	5.4
	(5.8)	(4.6)	(5.2)
Real Disposable Personal Income	2.2	1.6	3.7
	(2.1)	(1.4)	(3.5)
Corporate Profits Before Taxes	2.5	-1.3	0.0
	(1.8)	(-3.2)	(-0.4)

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

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Greenbook Forecast Comparison

	FRBNY			Board		
	2007	2008	2009	2007	2008	2009
OUTPUT						
Real GDP	2.5	1.2	3.0	2.5	0.2	2.8
	(2.5)	(1.3)	(3.0)	(2.4)	(0.1)	(3.0)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	2.0	0.7	2.5	1.9	-1.1	1.7
	(2.0)	(1.0)	(2.8)	(1.9)	(-1.0)	(1.8)
Consumption	1.8	1.1	1.7	1.8	0.0	1.4
	(1.7)	(1.4)	(1.9)	(1.7)	(0.0)	(1.4)
BFI	0.7	0.1	0.4	0.7	-0.4	0.1
	(0.8)	(0.2)	(0.4)	(0.7)	(-0.3)	(0.2)
Residential Investment	-1.0	-0.9	0.1	-1.0	-1.1	-0.1
	(-1.0)	(-0.9)	(0.2)	(-1.0)	(-1.1)	(-0.1)
Government	0.5	0.3	0.3	0.4	0.4	0.3
	(0.5)	(0.3)	(0.3)	(0.5)	(0.4)	(0.3)
Inventory Investment	-0.3	-0.1	0.3	-0.3	0.2	0.7
	(-0.3)	(-0.1)	(0.3)	(-0.3)	(-0.2)	(0.8)
Net Exports	0.8	0.6	0.3	0.8	1.2	0.4
	(0.8)	(0.4)	(-0.1)	(0.8)	(1.2)	(0.3)
INFLATION						
Total PCE Deflator	3.4	3.0	1.7	3.4	3.3	1.8
	(3.4)	(2.9)	(1.7)	(3.4)	(2.9)	(1.7)
Core PCE Deflator	2.1	1.9	1.8	2.1	2.3	2.0
	(2.1)	(2.1)	(1.7)	(2.1)	(2.3)	(1.9)
INTREST RATE ASSUMPTION						
Fed Funds Rate (End-of-Year)	4.25	2.00	3.50	4.25	1.75	1.75
	(4.25)	(2.00)	(3.50)	(4.25)	(1.75)	(1.75)
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	2.9	2.0	1.8	2.9	1.0	2.7
	(2.9)	(1.8)	(1.8)	(2.9)	(1.1)	(2.8)
Compensation per Hour	3.9	4.0	4.2	3.9	4.0	3.8
	(3.9)	(4.0)	(4.2)	(3.9)	(4.0)	(3.8)
Unit Labor Costs	0.9	1.9	2.4	0.9	2.9	1.0
	(0.9)	(2.2)	(2.4)	(1.0)	(2.8)	(0.9)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	4.8	5.8	5.5	4.8	5.7	5.5
	(4.8)	(5.8)	(5.5)	(4.8)	(5.7)	(5.5)
Participation Rate (Avg. Q4 Level)	66.0	66.0	66.0	66.0	65.6	65.4
	(66.0)	(66.0)	(66.0)	(66.0)	(65.6)	(65.4)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	104	-41	151	100	-75	108
	(104)	(-10)	(147)	(100)	(-67)	(92)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	1151	950	1000	1200	900	900
	(1152)	(1050)	(1150)	(1200)	(900)	(1000)

Note: All values are Q4/Q4 percent change, unless indicated otherwise. Numbers in parentheses are from the previous Blackbook or Greenbook.
*Nonfarm business sector

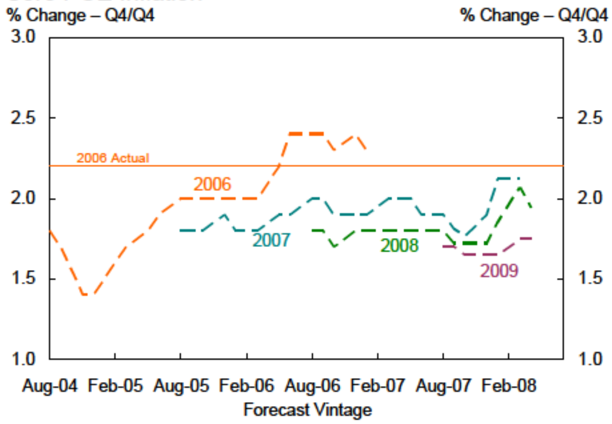
B. FRBNY Forecast Details

Exhibit B-7: Evolution of FRBNY and Board Forecasts since Mid-2004

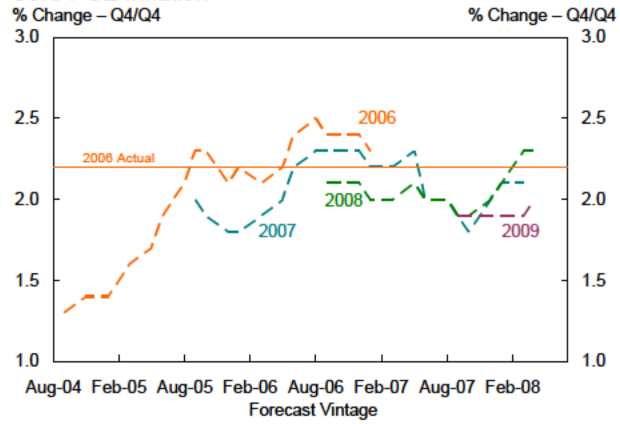
FRBNY

Board

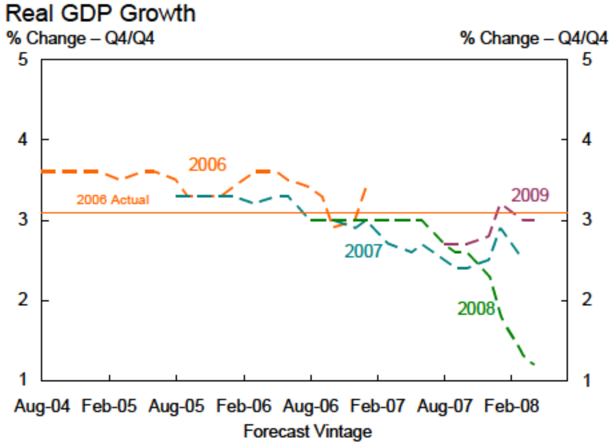
Core PCE Inflation



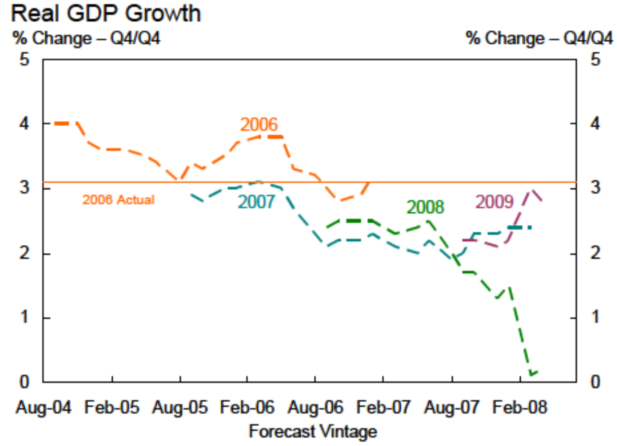
Core PCE Inflation



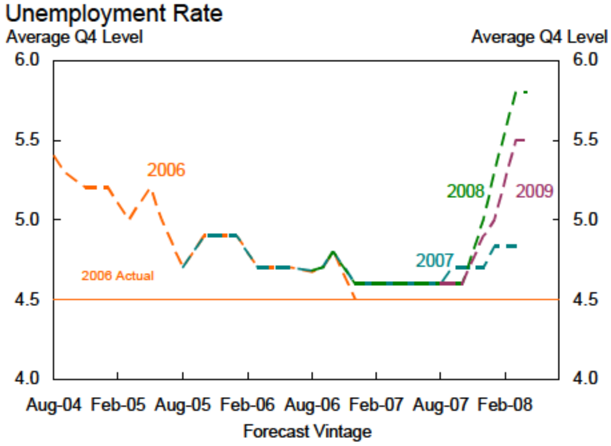
Real GDP Growth



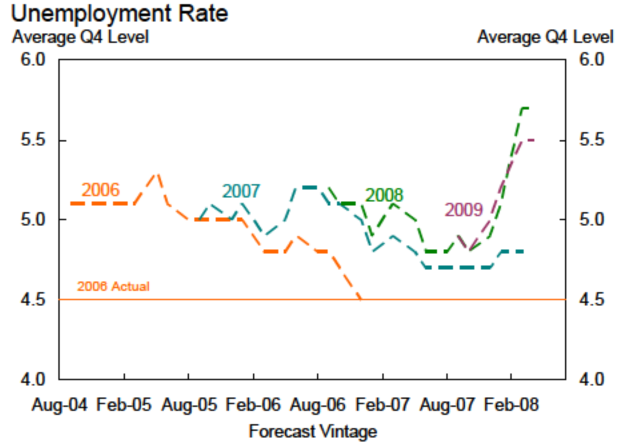
Real GDP Growth



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	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	4/25/2008	0.2	-1.2	1.2	3.0
		(-0.4)	(-0.9)	(1.3)	(3.0)
PSI Model	4/22/2008	-0.4	-0.4	--	--
		(0.1)	(0.9)	--	--
Blue Chip	4/10/2008	0.1	0.1	1.1	2.6
		(0.1)	(0.5)	(1.3)	(2.6)
Median SPF	2/12/2008	0.7	1.3	1.8	2.8
		(2.2)	(2.3)	(2.5)	--
Macro Advisers	4/24/2008	0.4	2.3	2.1	3.2
		(1.0)	(1.7)	(2.2)	(2.9)

Core PCE Inflation

	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	4/25/2008	2.1	2.1	1.9	1.8
		(2.7)	(2.0)	(2.1)	(1.8)
Median SPF	2/12/2008	2.2	2.1	2.0	2.0
		(1.9)	(1.9)	(1.9)	(1.9)

CPI Inflation

	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	4/25/2008	4.5	4.0	3.4	2.2
		(4.6)	(2.3)	(2.9)	(2.1)
Blue Chip	4/10/2008	4.1	2.5	2.8	2.4
		(4.0)	(2.4)	(2.7)	(2.4)
Median SPF	2/12/2008	3.5	2.4	2.5	2.3
		(2.9)	(2.4)	(2.5)	(2.3)
Macro Advisers	4/24/2008	4.3	1.8	2.9	2.2
		(4.3)	(2.5)	(2.9)	(2.1)

Core CPI Inflation

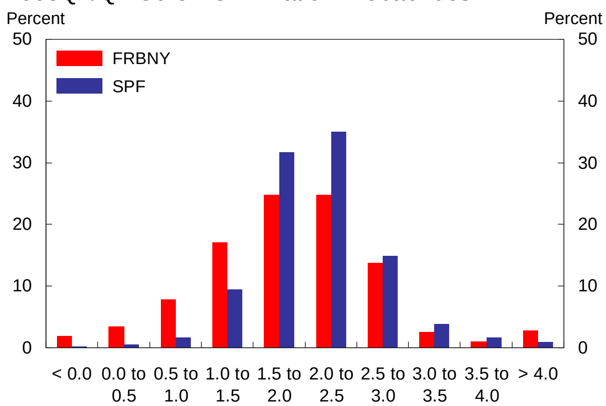
	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	4/25/2008	2.5	2.1	2.2	2.0
		(3.1)	(2.0)	(2.2)	(1.9)
Median SPF	2/12/2008	2.4	2.2	2.2	2.1
		(2.2)	(2.2)	(2.2)	(2.2)
Macro Advisers	4/24/2008	2.6	2.3	2.8	2.4
		(3.0)	(2.5)	(2.7)	(2.2)

Note: Numbers in parentheses are from the November release for SPF and the March release for all other forecasts. All values are quarterly percent changes at an annual rate.

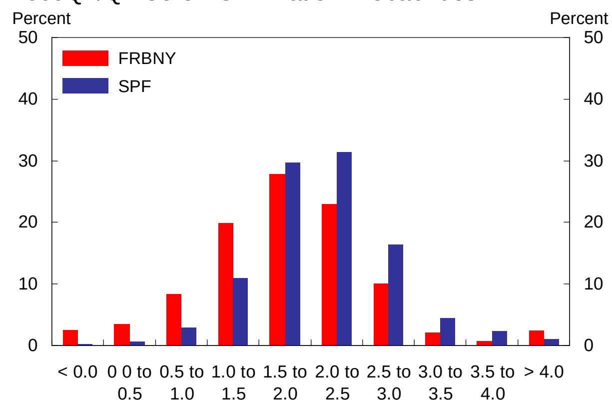
B. FRBNY Forecast Details

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

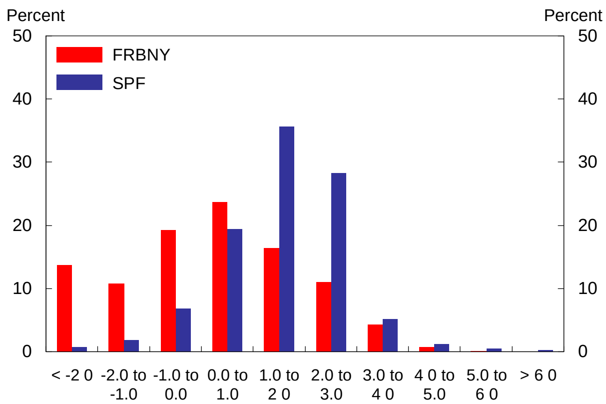
2008Q4/Q4 Core PCE Inflation Probabilities



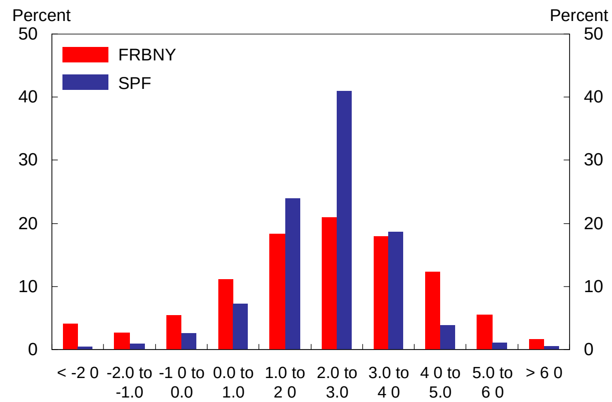
2009Q4/Q4 Core PCE Inflation Probabilities



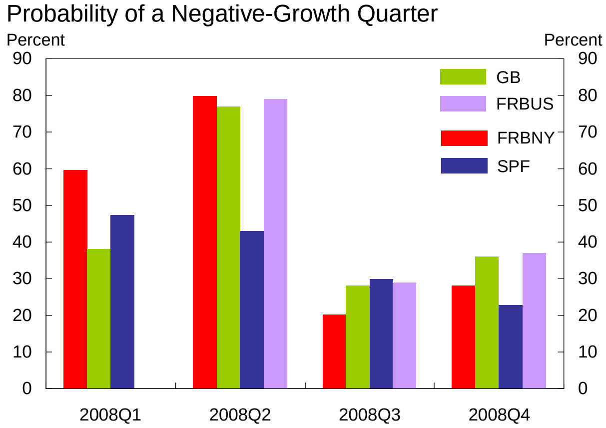
2008/2007 Real GDP Growth Probabilities



2009/2008 Real GDP Growth Probabilities



Probability of a Negative-Growth Quarter

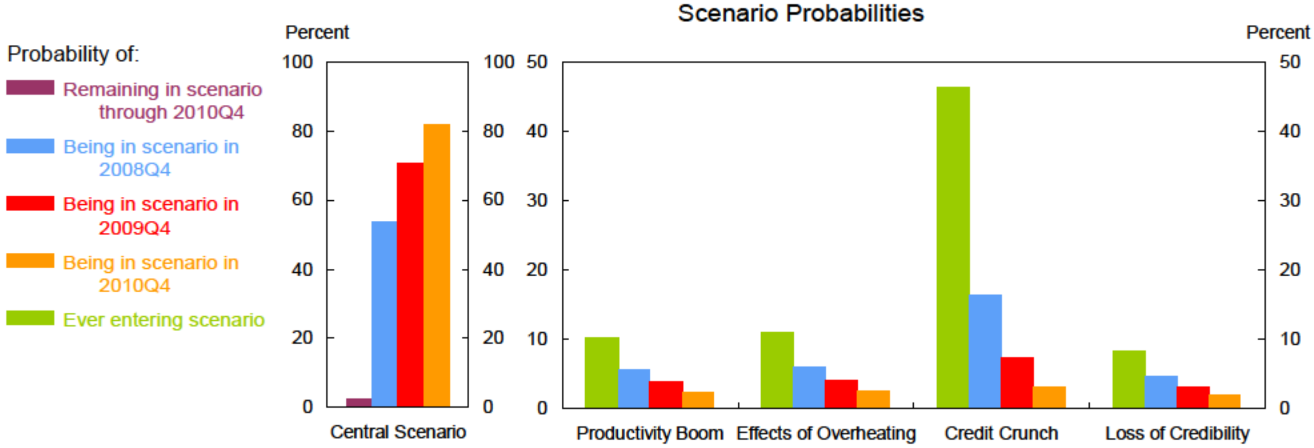


Source: MMS Function (FRBNY), FRB Philadelphia Survey of Professional Forecasters, and Federal Reserve Board
Note: SPF forecast was released February 12, 2007. Board forecasts are from the April Greenbook.

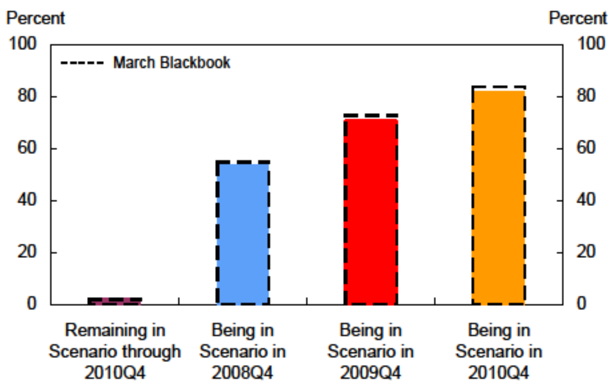
C. FRBNY Forecast Distributions

Exhibit C-1: Risks

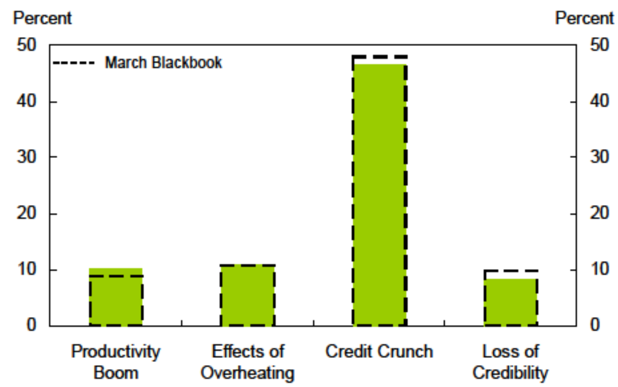
Scenario Probabilities



Change in Central Scenario Probabilities



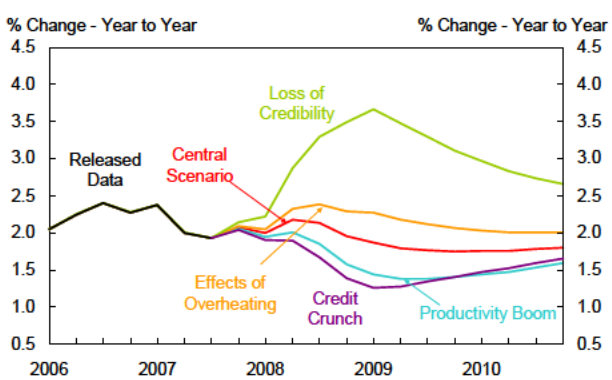
Change in Alternative Scenario Probabilities*



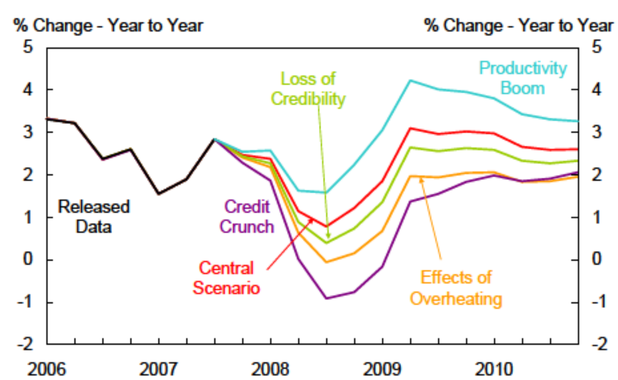
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

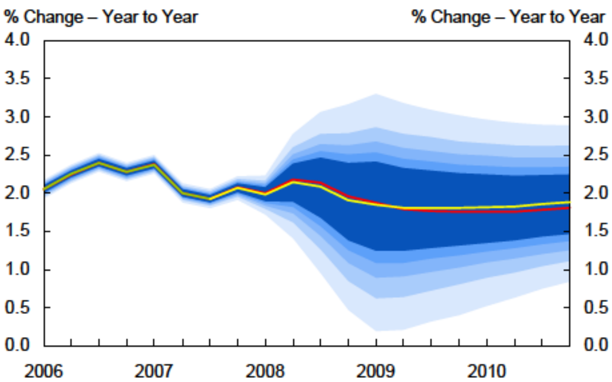


Source: MMS Function (FRBNY)

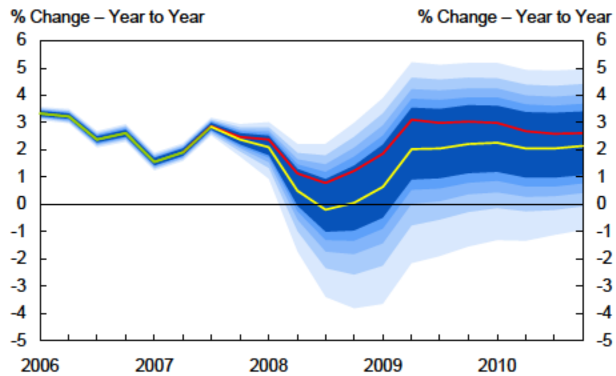
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

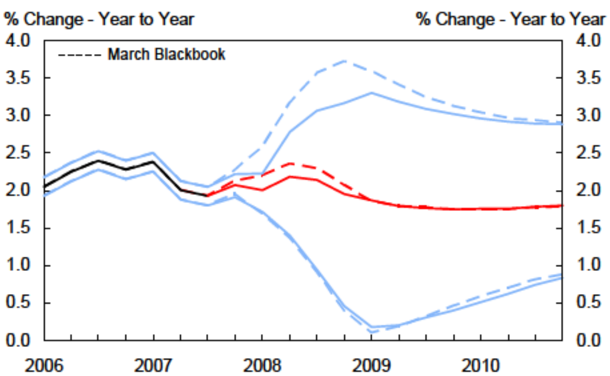


Real GDP Growth Forecast Distribution

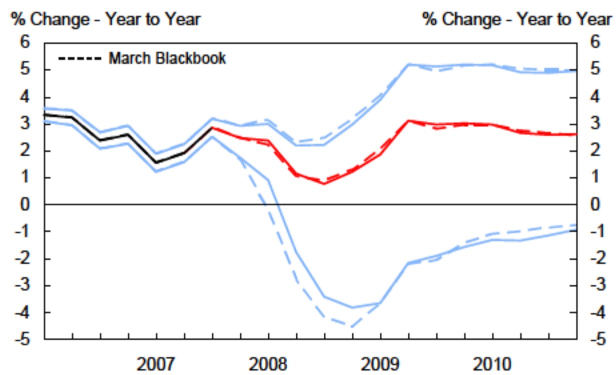


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

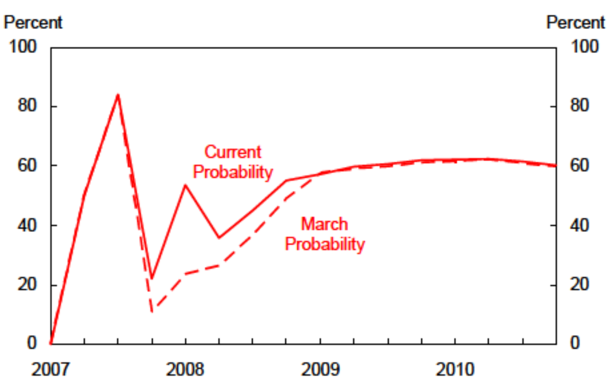


Change in Real GDP Growth Forecast Distribution

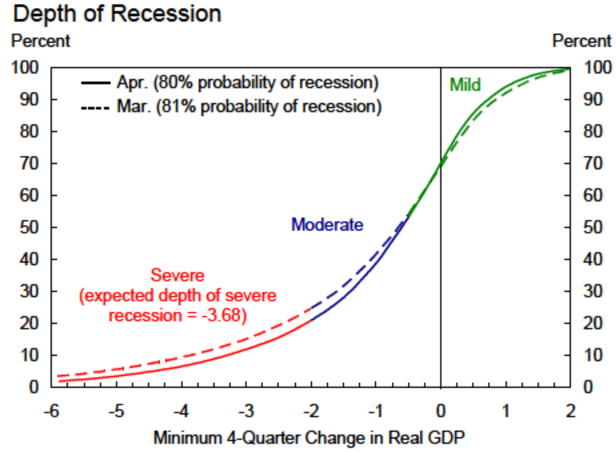


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Probability of Four-Quarter Core PCE Inflation below 2%



Depth of Recession

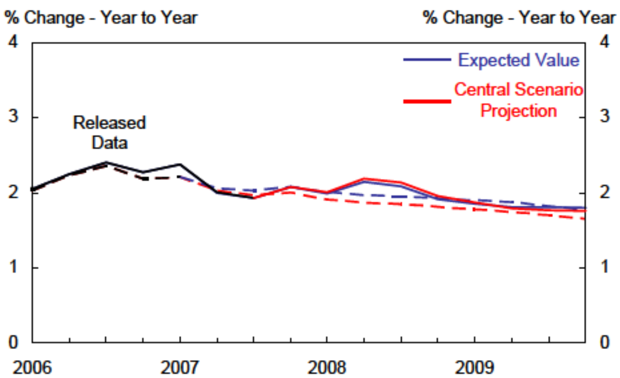


Source: MMS Function (FRBNY)

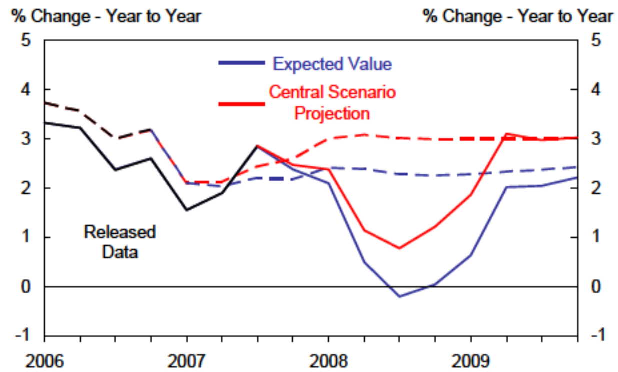
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

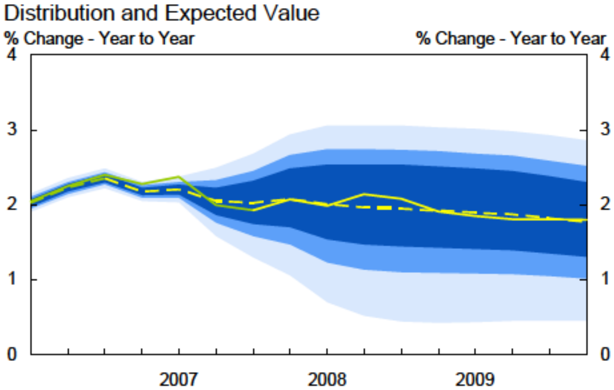


One-Year Comparison of Real GDP Growth Forecast

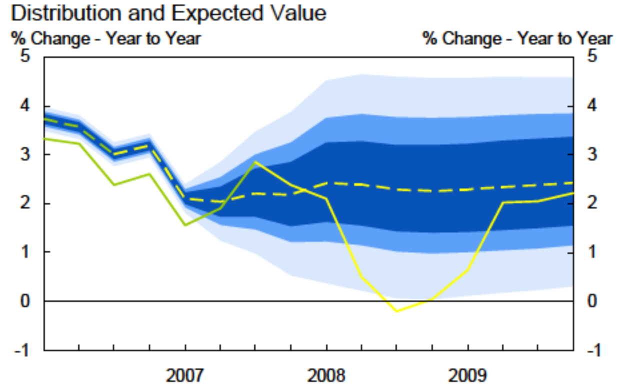


The solid lines are the **current** central scenario projection (red) and expected value of the forecast distribution, while the dotted lines are the same from the **May 2007** forecast.

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



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



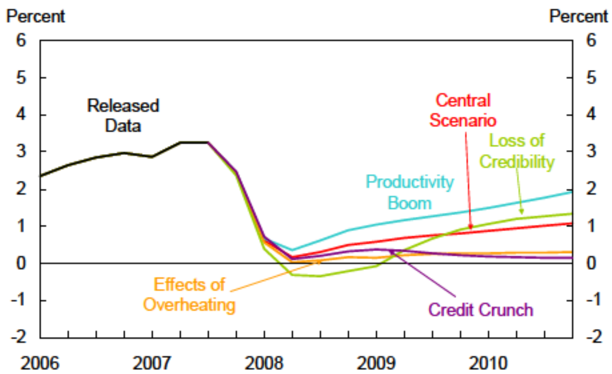
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the **May 2007** expected value. The shading represents the 50, 75 and 90 percent probability intervals from the **May 2007** forecast. The green lines are released data.

Source: MMS Function (FRBNY)

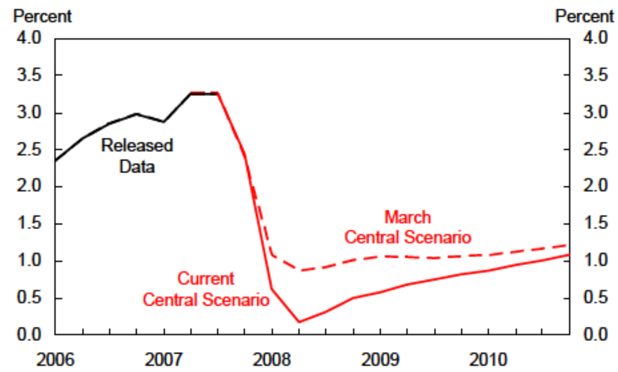
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

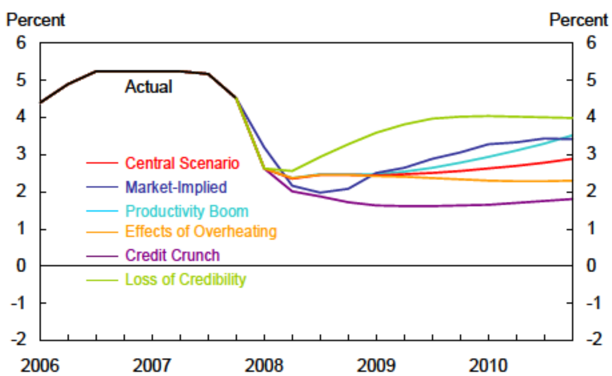
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

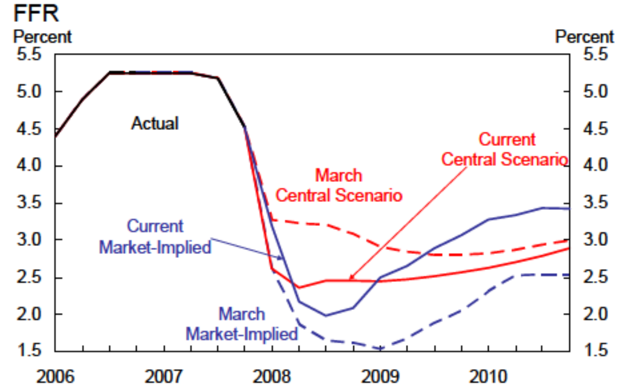
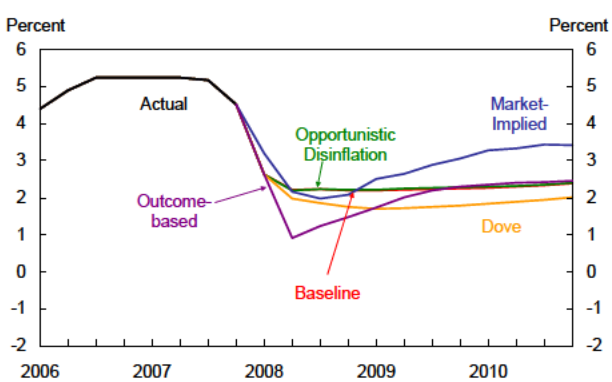


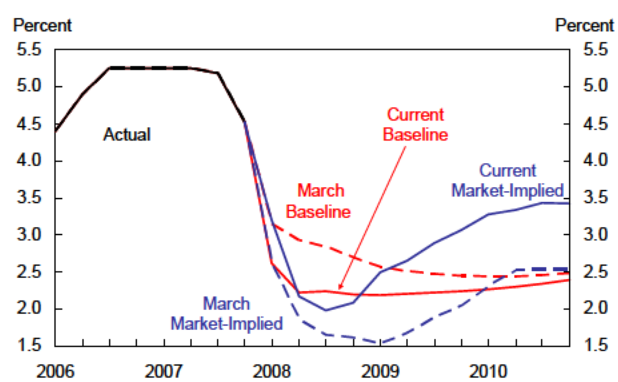
Exhibit D-2: Alternative Policy Rules under
Expected Value of Forecast Distribution

Nominal FFR using Alternative Policy Rules*



*Evaluated using yellow line from C-3

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



*Evaluated using yellow line from C-3

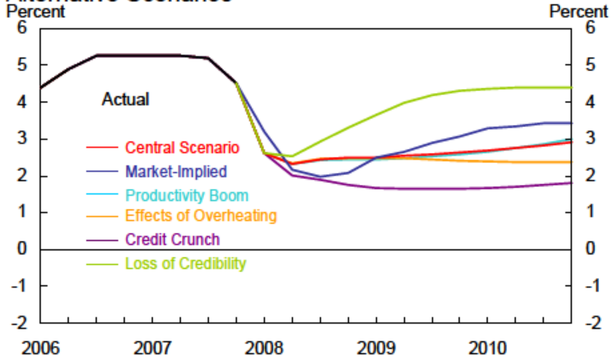
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

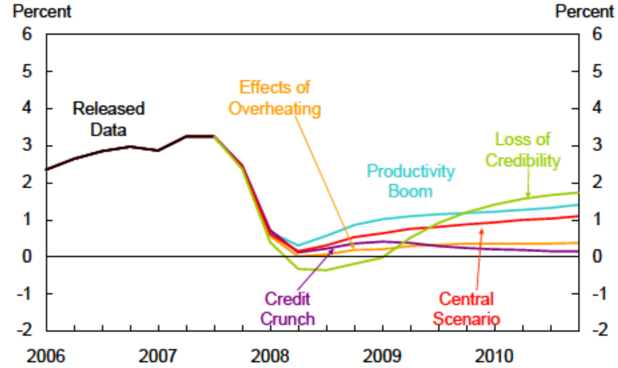
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Opportunistic Disinflation*

Nominal FFR under "Opportunistic Disinflation" in Alternative Scenarios

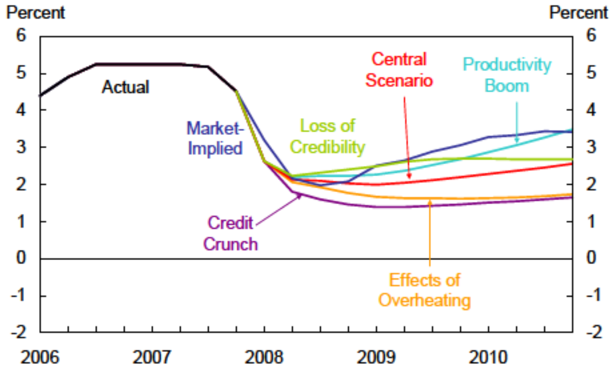


Real FFR under Alternative Scenarios

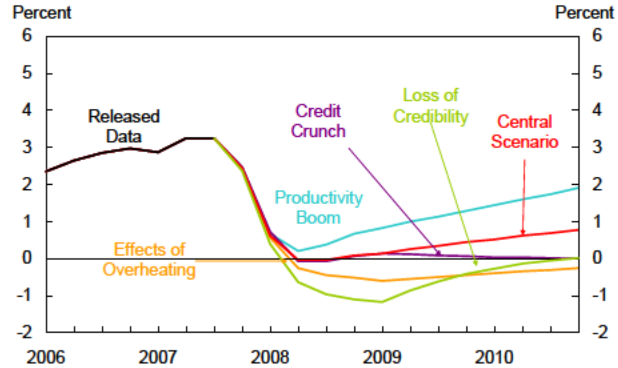


Policy Rule: *Dove*

Nominal FFR under Alternative Scenarios

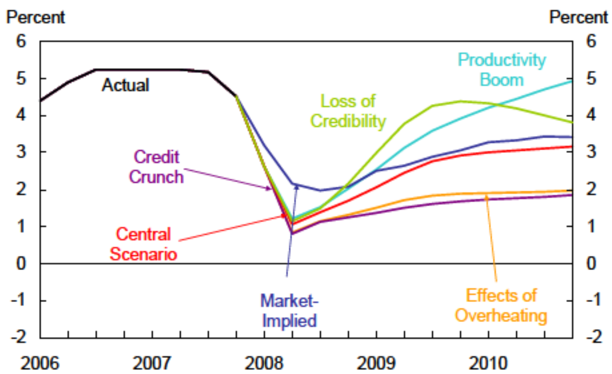


Real FFR under Alternative Scenarios

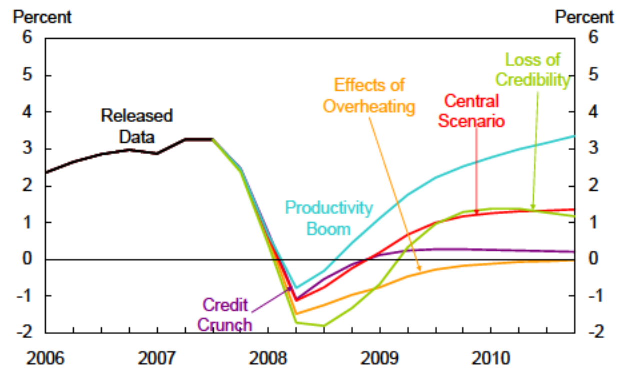


Policy Rule: *Outcome-based*

Nominal FFR under Alternative Scenarios



Real FFR under Alternative Scenarios



Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-4: Comparison between Market and Policy Rule FFR Expectations: 2008Q4

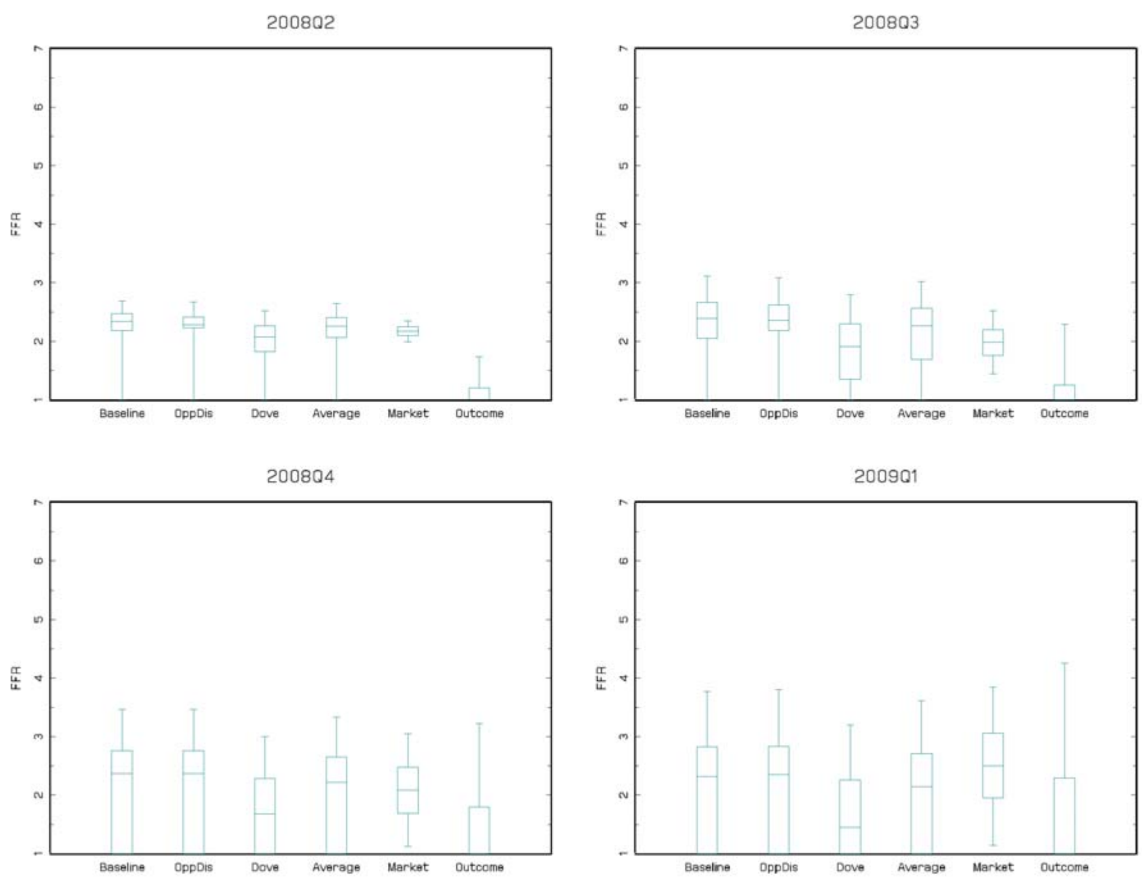
	Percentile of Rule Expectation in Market Distribution	Percentile of Market Expectation in Rule Distribution
Baseline	58 (94)	35 (27)
Opportunistic Disinflation	59 (96)	29 (27)
Dove	28 (77)	67 (37)
Outcome-based	15 (59)	80 (63)
Average	48 (80)	43 (37)

Note: Numbers in parentheses are from the previous Blackbook.

"Average" Weights:

Rule	Current	March Blackbook
Baseline	0.33	0.10
Opportunistic Disinflation	0.33	0.00
Dove	0.33	0.90

Exhibit D-5: FFR Distributions

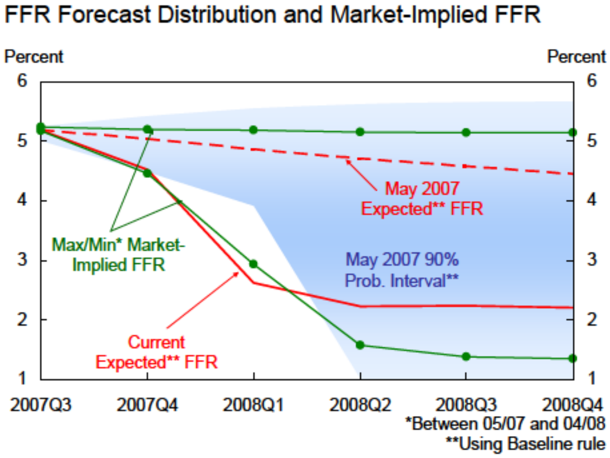


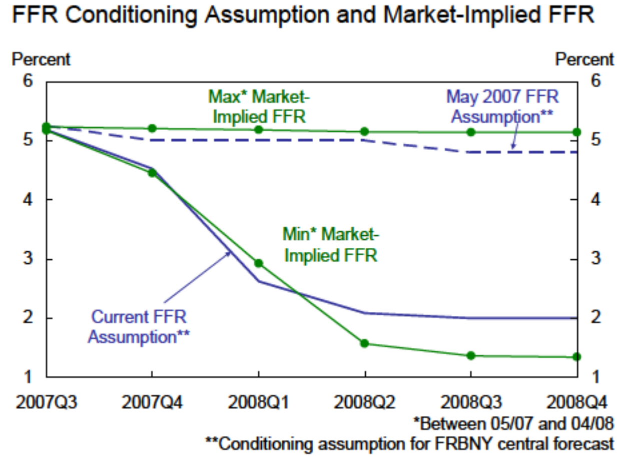
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-6: Evolution of FFR Expectations and Assumption





Source: MMS Function (FRBNY)

Alternative Scenario Descriptions

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

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

Alternative 1: *Productivity Boom*

The recent decline in productivity growth might prove to be a temporary, cyclical one. In this case, it is possible we will return to the strong productivity growth of the High II epoch, with some mixture of IT-driven production and applications leading the way. Support for this view comes from Moore's law on the doubling of computing power every 18th months. As such, we could see persistent productivity growth above our assumed trend, implying a higher potential growth rate and thus expected real growth that is higher than our current estimate. Strong productivity growth would also limit labor cost pressures and thereby help to subdue inflation.

Alternative 2: *Productivity Slump*

It is possible that the upswing in productivity that began in the mid-1990s has ended as the IT-driven surge has run it course. This would mean a period of productivity growth below the trend in our central forecast. Furthermore, the increase in the level and volatility of energy and commodity prices could continue and cause lower productivity growth, as occurred in the 1970s. Below-trend growth would not only imply a lower estimate of potential growth, but would also push inflation above the level projected in our central forecast.

We also consider three additional scenarios, two related to the impact of past monetary policy and possible misperceptions of its past and current stances, and one related to the impact of developments in the global economy.

Alternative 3: *Effects of Overheating*

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

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

Alternative 4: *Credit Crunch*

The financial turmoil that started in the summer of 2007 put a significant strain on the availability of credit. New issuances of commercial paper (CP) – in particular, asset-backed commercial paper (ABCP) – dropped sharply, and spreads between ABCP and AA-rated CP rose notably. Spreads on other credit products, including corporate bonds and CDS, also rose significantly. In addition, mortgage rates moved up, while credit standards began to tighten, making mortgages more difficult to attain. This combination of factors suggests the neutral rate is lower than before the financial turmoil began (we now estimate it to be between 3.5 and 4.0 in the near-term). The current FFR, which appears high relative to neutral, combined with the apparent lack of available credit creates a risk that output growth will slow significantly below the level projected in the central forecast; this would likely be accompanied by inflation below the level in the central forecast.

Alternative 5: *Loss of Credibility*

One interpretation of recent higher inflation, higher financial market inflation compensation, higher commodity prices, and dollar depreciation is that inflation expectations have risen despite the FOMC continuing to state its price stability mandate, raising concern that the FOMC has started to lose its credibility on inflation. Statements of the FOMC about the immediate growth risks as well as prospects of further reductions in the FFR further fuel such concerns. It is possible that these statements and actions of the FOMC may lead to further increases in inflation and inflation expectations, and lead firms and households to see the FOMC as not credible in regard to inflation. Such developments are likely to cause further rises in inflation and inflation expectations above forecast.

Alternative 6: *High Global Demand*

Recent global growth, most notably in China and other emerging markets, has been robust; at the same time, low unemployment rates and relatively high capacity utilization rates in advanced economies outside the U.S. indicate there is little slack in the global economy. If these developments continue, there is a risk that high demand for U.S.

exports will raise output growth above the level in the central forecast. At the same time, the strength in global demand could cause it to outpace supply, further pushing up commodity prices (and especially energy prices) and beginning to push up the price of imported manufactured goods. These increases would likely cause above-forecast inflation in the U.S.

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

1. *Productivity Boom*: inflation below central forecast, output above central forecast.
2. *Productivity Slump*: inflation above central forecast, output below central forecast.
3. *Effects of Overheating*: inflation above central forecast, output slightly below central forecast.
4. *Credit Crunch*: inflation below central forecast, output significantly below central forecast.
5. *Loss of Credibility*: inflation far above central forecast, output slightly below central forecast.
6. *High Global Demand*: inflation above central forecast, output above central forecast.

Policy Rule Descriptions

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

In both our *Baseline* and alternative policy rule specifications, the policy rate responds to deviations of inflation from target and of output from potential, while incorporating some degree of inertia. For each of the FFR paths and each of the policy rules, we determine these deviations using the corresponding inflation and output paths.

Policy Rule – Baseline Specification:

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

$\rho = 0.8$ (interest rate smoothing parameter)
$i^* = 3.75$ in short-term, moving to 4.25 (neutral FFR)
$\pi^* = 1.5$ (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
i_{t-1} : interest rate in previous quarter[2]

Because we know that, if the FFR target moves at the next meeting, its move will usually be in increments of 25 basis points, we round the first forecasted FFR value from the *Baseline* and alternative policy rule prescriptions.[3] This serves to both capture some of the discreteness in FFR movements and to smooth the FFR paths from the current to the

[2] For 2008Q1, we used a value of 4.25 instead of the interest rate in 2007Q4.

[3] For this Blackbook, we did not use this rounding rule. Instead, for each rule, we used the first forecasted FFR value exactly as given by the rule.

upcoming quarter. We currently perform this exercise according to the following table, where r* is the actual output from the policy rule:

Policy Rule Prescription	Average FFR in 2007Q4
r* < 3.00	r*
3.00 < r* < 4.00	4.50
4.00 < r* < 5.25	4.54
5.25 < r* < 6.00	4.75
r* > 6.00	r*

We then feed these modified values into the policy rules to calculate the remaining FFR values.

The two variants of the *Baseline* rule that we use this cycle are the *Opportunistic Disinflation* and *Dove* rules. The *Opportunistic Disinflation* rule reacts more strongly than the *Baseline* rule to deviations of inflation from target when inflation is above the upper bound of the implicit target range (taken to be 2%) and falling. In such circumstances, it tends to raise the policy rate higher, then lower it more slowly than the *Baseline* rule. Specifically, in each quarter over the forecast horizon, if the four-quarter average of core PCE inflation in the prior quarter is above 2% and higher than the current quarter value, we substitute the prior quarter's core PCE inflation value for the current quarter's value in the *Baseline* policy rule specification (i.e. set $\pi_t = \pi_{t-1}$). In all other cases we follow the *Baseline* rule prescription. Thus, if the four-quarter average of inflation in the last quarter is below the value for the current quarter or simply below 2%, the *Opportunistic Disinflation* rule offers the same prescription as the *Baseline* rule.

The *Dove* rule reacts more strongly than the *Baseline* rule to a negative output gap. When the output gap is negative, the *Dove* rule increases the weight on deviations of output from potential (φ_x = 1 instead of 0.5). When the output gap is positive, however, the *Dove* rule offers the same prescription as the *Baseline* rule (φ_x = 0.5, as usual).

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 previous quarters 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-6, 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)

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