

FRBNY Blackbook

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FRBNY BLACKBOOK

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1. Policy Recommendation and Rationale

Our policy recommendation for the upcoming FOMC meeting is to reduce the FFR (federal funds rate) 75 basis points (bps) to 2.25%, coupled with a downward signal. This recommendation reflects an additional 25 bps reduction in the nominal FFR relative to the policy path advocated in the January Blackbook. If we account for the recent increases in actual and expected inflation, this cut implies an even more accommodative real policy stance than previously proposed.

Over the inter-meeting period the data releases began to signal a more significant deterioration of real economic conditions than had been expected in the previous Blackbook. Most prominently, labor market conditions deteriorated significantly as private payroll employment now has fallen for three consecutive months with the declines becoming increasingly widespread; the slowdown in employment growth is consistent with the economy entering into a recession. This pattern indicates that the downturn in the housing market, which continued in the inter-meeting period, has begun to spill over into other sectors. In addition, many business and household confidence indicators have deteriorated to an extent consistent with an onset of a recession. Consequently, it is quite probable that the U.S. economy has entered a recession, or is about to enter one, and we have introduced a mild recession in 2008H1 into our central forecast.

Of additional concern for the outlook is the continued deterioration of financial conditions over the inter-meeting period. Credit spreads widened further during the period; the widening occurred not only in previously affected assets such as non-conforming mortgages and speculative-grade corporate bonds, but also higher-quality assets such as investment-grade corporate bonds and agency-backed MBS. There were further signs of de-leveraging in financial markets as there were disruptions in some markets (one notorious example being the auction-rate securities market where most reset auctions failed during the period), increased margin calls, and higher “haircuts” even on

supposedly high-quality collateral. In addition, long-term real interest rates from the TIPS market fell to extremely low levels (negative in the case for maturities of five years or less), suggesting that market participants have placed considerable probability on some of the more extreme downside risks.

This combination of deteriorating economic and financial conditions along with continued declines in home prices (which appeared to accelerate as 2007 ended) is consistent with the adverse feedback loop that is part of the *Credit Crunch* alternative scenario. Therefore, we have raised the already substantial probability we have placed on the *Credit Crunch* scenario. The increased probability on the scenario and lower central forecast mean that there is a higher probability that the anticipated recession could be severe; i.e., similar to the 1973-75 and 1981-82 recessions. It is the prospect of the dynamics of this scenario becoming more entrenched and leading to such a recession, along with the deterioration in the real outlook and financial market conditions, that has led us to recommend a more accommodative policy path than the one recommended in the last Blackbook.

At the same time, the developments for inflation during the inter-meeting period were somewhat troubling. Overall and core inflation over the past few months have been higher than we have projected. Many alternative measures of underlying inflation also have risen, suggesting underlying inflation has risen; one exception is our UIG, where the weak real activity factors have led to modest declines in that measure. In addition, longer-term inflation compensation implied by TIPS has risen to two-year highs during the period. Arguably (at least according to the Adrian-Wu model), much of the increase reflects rises in risk premia rather than expectations, but even this is of concern for policymakers. The rise in commodity prices and the depreciation of the dollar also are of concern for the inflation outlook, particularly because a number of market participants apparently now see commodities as a hedge for inflation.

In our central forecast, we still expect that core and overall inflation will moderate over the forecast horizon, in part because we now expect an output gap to develop with our

anticipated mild recession. Nevertheless, the developments over the inter-meeting period indicate that the risks to the inflation outlook have shifted somewhat to the upside. Therefore, we have raised the probabilities on the *High Global Demand* and the *Loss of Credibility* scenarios, which raise the probability that inflation will remain above the mandate-consistent range over the forecast horizon.

Under our central forecast, the combination of monetary easing and fiscal stimulus enables the economy to recover from the recession in the second half of the year after one additional cut in the FFR to 2.00%, with the recovery becoming more established by mid-2009. At that point, with financial market functioning close to normal, we recommend that the FOMC begin the process of renormalizing the FFR, raising it to 3.50% by the end of 2009 and 4.25% by the end of 2010. Given the lower recommended FFR after the March FOMC meeting, the pace of this renormalization is somewhat faster than that envisioned in the last Blackbook. Nevertheless, our policy path recommendation is above the market-implied path. The difference between our recommended path and market expectations probably reflects market participants placing higher weight on more extreme downside risks and/or expecting the FOMC to respond to developments in a manner that leads to a lower path (which would be consistent with the FOMC following the estimated *Outcome Based* rule).

We believe it is essential that the FFR is returned to near-neutral levels more quickly than it was during the 2001-2005 episode in order to ensure that inflation expectations do not become unmoored and to deter the formation of possible speculative bubbles in financial markets. In the current environment, it will be important for the FOMC to communicate this path and its rationale to help ensure that agents do not misconstrue the policy and lead to some unwelcome outcome. Given the tensions between the recommended path and the market-implied path as well as between the real outlook and the inflation outlook, the communications challenge is significant.

There is substantial uncertainty associated with our projected policy path on the downside and upside. On the downside, a more aggressive policy easing would be required if the

dynamics of the negative feedback loop appear to becoming more established. On the financial side, such signs of the loop would include further significant rises in credit spreads, signs of further credit tightening, and the disruptions of more financial markets. On the real economic side, acceleration of payroll and home prices declines along with indications of substantive declines in consumption and business investment would indicate such an entrenchment of the feedback loop.

The upside risk is the possibility that inflation and inflation expectations become unmoored. Under such a possibility, declines in the nominal FFR could become counterproductive in that rising inflation expectations would lead to increases in long-term nominal rates more relevant for economic decisions. In that circumstance, policy rates would have to be higher to reduce those expectations and long-term interest rates. It thus is prudent to communicate that the FOMC will respond if there is large upside movements in inflation expectations, although it probably poses a considerable communications challenge in the current environment, as it has in the inter-meeting period.

Despite this tension, we still see the critical risk in the current environment as the negative feedback loop between financial market function and the real economy, which is sufficient to justify our recommended policy easing. It is certainly possible that inflation may remain above the mandate-consistent range over the coming months. Once the threat to financial stability and real growth from the negative feedback loop subsides, we should address the possibility of elevated inflation. Given the risks and possible costs of a major economic and financial market disruption, we consider a relatively short-run departure of inflation from its objective to be an acceptable risk.

2. Significant Developments

2.1 Economic Developments

The economic indicators released during the inter-meeting period impacted our outlook and our risk assessment. Many of the labor market and real activity indicators provided signals that the probability of the U.S. economy entering a recession is now substantial. Our forecast thus now incorporates a mild recession in the first half of 2008. The data also were a contributing factor to another increase in the already substantial downside risks. The inflation data over most of the inter-meeting period generally were elevated, although the February CPI was subdued. Despite the February CPI, the inflation data led us to increase the entire profile of the inflation outlook. They also were factors in shifting the inflation risks from the downside in the last Blackbook to roughly balanced (although to upside by the end of the forecast horizon) in this Blackbook.

Inflation. The core inflation measures indicate that underlying inflation has risen in recent months, although the February core CPI was subdued. Core PCE inflation has been somewhat more elevated relative to objectives, as the 12-month change in the core PCE deflator remained above the mandate-consistent range of 1.5-2.0% through January [Exhibit A-1]. After there being some elevated monthly readings in the previous couple of months, core CPI was unchanged in February. With the subdued February data, the 12-month change of core CPI moved a little further below the 2.5% that we interpret as the top of its objective range.

The increases in core inflation through January appeared to be fairly widespread across spending categories, making it somewhat less likely that the increase reflects mostly transitory factors, although technical seasonal adjustment issues related to medical care may have exacerbated the increase (as they did in early 2007). As far as the February CPI, core goods prices fell in the month after some increases in the previous few months while core services prices rose modestly after some relatively large increases in recent

months. Although the subdued February CPI may have reflected some fortunate transitory factors, such as a sharp drop in lodging prices, it still reduces some concern about underlying inflation rising substantially above the mandate-consistent range.

Nevertheless, there were some divergences across the signals from alternative underlying inflation measures [Exhibit A-1]. The median and trimmed mean measures (those for the CPI declined in February but remain relatively high) as well as the FRBNY signal components (SiCo) measure for PCE inflation increased, indicating that a notable portion of the recent inflation rise may reflect more persistent factors. These measures also indicate underlying inflation is above the mandate-consistent range. The FRBNY smoothed inflation measures were little changed over the inter-meeting period, but it remained above the mandate-consistent range. In contrast, the FRBNY underlying inflation gauge (UIG) declined during the period and is within the mandate-consistent range. The differing behavior of the UIG reflects the influence of the recently-weak real activity indicators (that typically signal reduced inflation pressures) within the measure. This divergence may reflect the greater uncertainty in the current inflation outlook; the measures also are consistent with the risks to the inflation outlook being to the upside.

Even though consumer energy prices fell in February, a development that will be reversed in the next couple of months, energy and food prices generally continued to pressure overall inflation measures. Consequently, the 12-month changes in overall CPI (through February) and the PCE deflator (through January) were well above their corresponding core measures. According to many of our alternative underlying inflation measures that take into account energy and food prices, the developments in these prices have begun to impact underlying inflation (the exception being the UIG). Consequently, the inflation data appear consistent with a somewhat higher profile for inflation over the forecast horizon.

The behavior of financial market inflation compensation measures over the inter-meeting period was another factor that contributed to greater upside inflation risks [Exhibits A-2 and A-3]. Based on the Board staff measures, medium- (4-5 year) and long-term (5-10

year and 9-10 year) inflation compensation rose 15-20 basis points (bps) and are near their highs for the past two years. The FRBNY Markets and Barclay's measures also show similar patterns. FRBNY analysis still suggests that much of the increase in inflation compensation since the summer reflects rising inflation risk premia (the portion of compensation that historically is not related to future inflation) rather than higher inflation expectations. Nevertheless, the persistence of elevated compensation suggests that expectations have risen at least somewhat. It also reflects the concern of market participants about the inflation outlook and the response of the FOMC to developments over the past several months, and thus is a contributor to the upside inflation risks and greater outlook uncertainty. Long-term inflation forecasts in the Survey of Professional Forecasters (SPF) rose in the February survey, although they remain within the range of the past decade; those in the Blue Chip survey were unchanged from those of last year. Although one-year expectations rose sharply in early March, as gasoline prices rose, long-term household inflation expectations as measured by the Michigan survey were little changed over the inter-meeting period, remaining within the narrow range (2.8-3.1%) observed over the past 1½ years.

Commodity prices and import prices were other sources of concern for the inflation outlook. Commodity prices increased sharply during the inter-meeting period, with a number of agricultural, metals, and petroleum prices reaching all-time nominal highs. In part, the increases reflected perceived changes in the real fundamentals in these markets. However, of a worrisome note for policy, there were a number of reports indicating that market participants were entering the sector as an inflation hedge. Import prices continued to show some increases in a reflection of the impact of the depreciation of the dollar over the past year. In particular, Chinese import prices continued to show gradual increases. As discussed in the special topic, *The Recent Rise in Core PCE Inflation*, import price effects have been a factor behind the rise in U.S. core PCE inflation since mid-2007 according to our Phillips curve model. We expect that import price inflation to begin to subside, reducing pressures from this source. However, there is the risk that import prices may continue to rise—the special topic, *Exchange Rate Depreciation and Monetary Policy*, discusses a mechanism through which import price inflation may be

more elevated in the current foreign exchange policy environment—which could lead to greater upward inflationary pressures.

Labor market. A major factor behind our weaker outlook for real activity and increased downside risks to that outlook was the labor market. The labor market reports for the last three months have indicated a significant deterioration in conditions. Overall payroll employment declined in January and February, while private payrolls have declined for the past three months. The downturn in payroll growth, whether looking at these shorter-term changes or at longer-term changes, is of an extent that is typical with the onset of a recession, and thus is a primary reason that our assessment of the probability of a recession has increased significantly.

Employment continued to decline in goods-producing industries, with the declines appearing to intensify in the manufacturing and construction sectors. More notably, employment in private service-providing industries fell in February and the growth at longer-horizons has dropped considerably over recent months. Within this sector, recent sharp declines in temporary help services may portend further deterioration in overall employment growth in the coming months. With the widespread weakness, the one-month employment diffusion index for February was under 50 for the fourth consecutive month, and the three-month index was under 50 for the second month.

Although the unemployment rate fell to 4.8% in February, the data in the household survey were generally consistent with those in the establishment survey in showing weaker labor market conditions. Both the labor force participation rate and the employment-population ratio declined in February, and both now show downward trends since early 2007. Household employment on a payroll-comparable basis fell in February; its 12-month growth rate has dropped sharply in recent months in a pattern similar to that of payroll employment, providing confirmation for the deterioration in employment growth.

The four-week moving average of initial claims for unemployment insurance rose during the inter-meeting period to a multi-year high: with the exception of the post-Katrina spike, they are the highest since early-2004. Nevertheless, the increase in initial claims so far has been somewhat less than the typical increase at the onset of recessions. At the same time, continuing claims have risen in a somewhat more pronounced manner. The pattern suggests that the deterioration of job growth is associated more with slower hiring than with greater layoffs. The JOLTS data for January appear to be consistent with this hypothesis: the private-sector hiring rate fell and is near the low levels of late 2001-2003, while the separations rate was unchanged and remains below the levels of the previous two years.

As the labor market weakened, labor cost data indicated that labor cost pressures remained near recent levels. The 12-month change in average hourly earning was 3.7% in February, the same as the previous two months, which is at the low end of its range over the past two years. The 12-month change in the Employment Cost Index for private workers was 3.0%, about where it has been for the past 1½ years. The four-quarter change in compensation per hour in 2007Q4 was 3.9%, the lowest it has been over the past year. With productivity growth stronger, the four-quarter change in unit labor costs was only 0.9%, its lowest since 2004Q2.

Real Activity. Real GDP growth was only 0.6% (annual rate) in 2007Q4, and the recent data suggest growth will be worse in 2008H1. Despite the slow growth, a decline in hours in the quarter (another sign of real weakness) meant that nonfarm business labor productivity growth was 1.9% (annual rate) in 2007Q4, which is close to our estimate of trend productivity growth (1.8%). The four-quarter change in labor productivity was 2.9%, the same as in 2007Q3 and the highest since 2004Q2. Although it is still relatively high, the recent data have reduced the probability of the low-trend-productivity-growth state in the Kahn-Rich model as well as argue against the *Productivity Slump* scenario.

One factor in the recent sluggish growth has been a slowdown in the growth of consumer spending. Real personal consumption expenditures (PCE) rose 1.9% (annual rate) in

2007Q4, the third quarter of rather sluggish growth. The recent monthly releases suggest that real PCE growth will be less than that modest number in the current quarter. Real PCE was unchanged in January, the third month out of the last four that it has shown essentially no growth. Motor vehicle sales in January and February averaged less than 15.4 million units (annual rate), a pace well under even the sluggish pace of 2007. It is possible that reduced fleet sales explain part of the softness, but even accounting for that, these sales still appear to be very soft. Retail sales excluding motor vehicles also were quite soft in January and February, displaying only very modest growth from 2007Q4; if we account for price increases, real sales growth over these two months probably was negative. Of additional concern for the outlook were sharp declines in consumer confidence indices: their level and change over the past year are typical of those in prior recession episodes. Overall, the conditions for consumer spending have raised the probability of some spillover from the weak housing market and tight credit conditions, and have contributed to the greater downside real risks.

The spillovers from housing remain relevant as the housing market remained very weak with no bottom to the market apparent yet. Single-family housing starts and permits fell again in January, a development that reflects the effects of tight credit conditions, declining home prices, and slower income growth. Both starts and permits are at their lowest levels since early 1991, with the cumulative decline since the January 2006 peak in housing starts about 60%. Although the homebuilders' index rose slightly in February, its level still indicates considerable pessimism among builders about the housing market. The pessimism reflects the weakness in sales activity. New home sales fell again in January while existing home and pending home sales were little changed; all remain at low levels. For new and pending home sales, these developments were disappointing in that these sales reflect contract signing in January when mortgage rates were particularly low: the muted response to those rates portends continued weakness over the near term. The subsequent decline in purchase mortgage applications also suggests sales probably will remain weak. The combination of weak sales and continued high inventories-sales ratios for new and existing homes indicates that the housing market will remain weak. Consequently, we still expect the slump to be protracted, with the decline in residential

investment continuing through 2008 before the lower interest rate environment allowing for some recovery in 2009 (see Section 3.1).

With the continued weakness in housing market activity, measures of home price appreciation generally were negative, and the declines appeared to intensify through the end of 2007 and into the beginning of this year. The four-quarter change in the OFHEO index for 2007Q4 was +0.8%, but the increase reflected the inclusion of appraisals for refinancings: excluding those, the four-quarter change in the “purchase-only” OFHEO index was -0.3%. In addition, price declines occurred in more states and localities in 2007Q4, indicating a more widespread decline in home prices. Other home price indices indicated more substantial declines that are at historic lows for each of the series (although in many cases the history is rather short). The four-quarter change in the Case-Shiller national index was -8.9% in 2007Q4; the 12-month changes in the composite metropolitan indices for December were a little lower. The four-quarter change in the Census constant-quality index was -2.3%. The year-over-year change in the Radar Logic 25-metropolitan area composite index was about -7³/₄% in early January, considerably lower than it was in the last inter-meeting period; the pattern indicates that the declines steepened over the last month. Forward prices based on this index indicate that market participants expect home prices to fall over 20% through the end of 2009. 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.

The stresses in mortgage markets increased over most of the inter-meeting period [Exhibit A-11]. Delinquencies and foreclosure rates on subprime and prime mortgages continued to rise; in many cases, they exceeded previous highs. Mortgage-related write-downs and losses at financial institutions along with continued concerns about the financial guarantors (a result of their losses associated with insuring MBS and CDO issues) led market participants to fear more substantial future losses. Consequently, they continued to be reluctant to hold mortgage-related assets: the ABX indices for all ratings fell to new lows during the period, spreads for agency-backed MBS rose, and even the

haircuts to repo agency-backed MBS and agency securities rose. The spreads between prime jumbo mortgage rates and conforming mortgage rates continued to be wide. More worrying was that the spread between conforming mortgage rates and Treasuries (using the OAS [option-adjusted spread]) rose considerably during the period to extremely wide levels. The announcement of the Term Securities Lending Facility (TSLF) appeared to mitigate some of these trends in the mortgage market, apparently by providing some expectation of better liquidity for MBS, but the various spreads remain unusually elevated. The developments continue to suggest the possibility of further negative impacts from tighter credit conditions on home sales, construction, and prices, and increase the potential of negative spillovers to the broader economy and greater downside risks to the real activity outlook.

The business activity measures released during the inter-meeting period indicated that conditions were sluggish to declining. Manufacturing production rose slightly in January. The high-tech sector displayed robust growth in the month, but motor vehicle production declined sharply and the remaining sectors were flat. The decline in manufacturing hours for February suggests that production may have fallen in that month. Even though production growth was tepid, inventory growth in January apparently was relatively high. The January growth suggests that inventory investment will be less of a negative contributor to real GDP growth than it was in 2007Q4 (-1.49 percentage points). Although inventories-sales ratios remain low, business caution in the current environment probably implies some cutback in inventories in the coming months.

Business survey indicators generally were negative, with some indices at levels consistent with a substantial downturn. The ISM manufacturing index hit a new low in February for this cycle, and its level is consistent with a fairly modest downturn in the sector. In contrast, some of the regional indicators such as the Empire State and Philadelphia Fed indices reached levels indicative of a more substantial downturn in manufacturing. After dropping sharply in January, the ISM non-manufacturing index recovered some in February; nevertheless, its February level is consistent with sluggish to negligible growth in the services sector, which is unusually weak for this index.

Real equipment and software expenditures rose 3.3% (annual rate) in 2007Q4, continuing the recent trend. Capital goods shipments and orders for January were fairly solid, suggesting that these expenditures may not decline in 2008Q1. The strength in high-tech production in January and continued robust growth in the FEBNY Tech Pulse index in February also indicate that high-tech capital spending has been maintained. Real expenditures on nonresidential structures continued to grow robustly in 2007Q4, rising 14.7% (annual rate). However, a decline in nonresidential construction in January along with reports of tightening credit for commercial real estate raises concern about near-term prospects for the sector.

Trade. The U.S. trade deficit averaged about \$58 billion in December and January, about \$1 billion less than the 2007 monthly average, even though nominal and real petroleum imports rose during the two months. Real non-petroleum imports fell sharply in both months, leading to a further narrowing of the real non-petroleum deficit. The decline in non-petroleum imports is consistent with a significant slowing of growth in U.S. domestic demand as well as possibly some impact from the U.S. dollar depreciation of the past year. U.S. export growth remained solid, with demand growth appearing to holding up fairly well in most U.S. export markets.

Foreign economies. Data suggest soft growth in the euro area and Japan in 2008Q1, while countries in Emerging Asia and Latin America appear to be holding up well to the U.S. slowdown and global financial turmoil. In the euro area, consumers are cutting back on spending in response to higher food and energy prices. Confidence indicators continue to fall, with firms in the services sector experiencing a steep drop in confidence in recent months. The story is similar in Japan, with retail sales and survey results suggesting consumers are holding the economy down. Production and exports started the year weakly. In China, tighter monetary and credit policies and weak U.S. demand are expected to moderate growth this year. Growth may be notably soft in 2008Q1 because of severe weather conditions. Chinese inflation continued to rise in February at 8.7%, although we expect some moderation in the second half of the year.

2.2 Financial Markets

Financial markets displayed considerable volatility and stresses during the inter-meeting period, responding to concerns about the real activity outlook, the inflation outlook, the health of financial institutions and markets, and tightening credit conditions. There was a significant shift downward in expected U.S. policy rates in response to these concerns as well as FOMC communications on the outlook and financial market stability. The behavior of many spreads and asset market prices indicate that financial conditions tightened considerably over the period.

U.S. Markets. The expected FFR path fell further over the inter-meeting period, as market participants anticipated that the apparent worsening of the real outlook and increased downside real risk amid financial instability would induce the FOMC to reduce policy rates further and more quickly than anticipated prior to the January FOMC meeting [Exhibit A-5]. This expected path also implies that market participants are not expecting that the FOMC policy concentration is on the weaker real outlook rather than the upside inflation risks implicit in the increases of financial market inflation compensation. The implied expected FFR for February 2009 derived from futures markets declined about 80 bps to about 1.60% or less; the expected FFR is near this level from the second half of 2008 through February. The implied FFR then is expected to rise gradually to about 2.50% in mid-2010, which is about 50 bps below the level prior to the January FOMC meeting. The smaller decline at the longer horizons may imply that market participants have placed some probability that the FOMC may have begun the process of renormalizing the FFR by that time.

Over the near term, market participants appear almost certain of a reduction in the FFR at the March FOMC meeting as the probability of no change in the FFR is essentially zero [Exhibit A-5]. However, there is still considerable uncertainty about the magnitude of the reduction. Based on options data, the implied probability of 50 bps and 75 bps reductions are roughly similar, while that of a 100 bps reduction is smaller but non-negligible. In contrast, the implied probability of a 25 bps reduction is quite small.

With continued uncertainty about the economic outlook and the FOMC response to economic and financial market developments, implied volatility about the future policy path remained elevated [Exhibit A-6]. Near-term implied volatility, while slightly below the high levels around the January FOMC meeting, remains in the high end of the range over the period since last July. Long-term volatility generally increased over the period, putting well above its levels during most of the financial crisis period. This pattern suggests that the economic developments and FOMC communications during the period have induced further uncertainty about both the short-term policy response and the policy environment over the longer term. Implied skewness fell during the inter-meeting period to levels below those in August, implying that market participants have become more concerned about an unexpected large reduction in the FFR over the coming months.

The concerns about the real outlook, the apparent substantial downside real risks, and the conditions of financial institutions and markets apparently prompted market participants to engage in more risk averse behavior. These factors led to further decreases 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 declined from 3.68% to 3.53% (the off-the-run 10-year rate declined slightly less); it has been as low as 3.4% during the period, which is near its lows from June 2003.

The 2-year Treasury rate fell more than the 10-year Treasury rate: from 2.29% to 1.63%. The larger decline in the shorter-term Treasury rate reflects the reduction in near- and medium-term policy expectations. Nevertheless, the 2-year-FFR spread is almost 140 bps, wider than it was prior to the January FOMC meeting and close to its widest over the past several years. With this pattern of rate reductions, the nominal Treasury yield curve became more positively sloped during the period.

Short-term Treasury bill rates dropped sharply again over the inter-meeting period [Exhibit A-4]. The 3-month T-bill rate fell over 90 bps to below 1.40%, and the 6-month rate fell about 90 bps to about 1.50%. The decline in T-bill rates reflect lower near-term policy expectations as well as a “flight to quality” as fears about the health of some

financial institutions and financial guarantors led to considerably more strained conditions in a number of other financial markets.

Consistent with a weaker expected real outlook and increases in the already substantial downside real risks, real Treasury yields fell to extremely low levels during the inter-meeting period. The carry-adjusted 5-year real yield fell 45 bps over the period to 0.33%. The on-the-run 5-year real yield was negative for a number of days during the period. The carry-adjusted 10-year real yield declined 21 bps to 1.18%; the on-the-run yield has been below 1% for the last few days of the period. Real forward rates declined during the period and are below their levels from the summer, indicating greater concern from market participants about the longer-run real outlook.

Credit spreads again generally increased over the inter-meeting period, with sharp increases in the spreads for financial institutions [Exhibit A-7]. The spreads for financial institutions are well above their levels prior to the 2001 recession and during the 1998 financial crisis. CDS spreads for banks and securities firms as well as nonfinancial corporate firms increased and are well above the highs from the summer. Credit spreads for both investment-grade and speculative-grade nonfinancial corporate bonds generally rose through the period: both are at or above the levels during the 2001 recession, although speculative-grade spreads remain somewhat below the peaks in 2002-03. The continued rise in credit spreads is another sign of the concern of market participants about the real outlook as the financial instability continues.

Other credit spreads also increased and remain at high levels [Exhibit A-11]. Spreads on all subprime MBS tranches remained near their recent highs. Similarly, prices of all tranches of the ABX fell over the period and are at near their historic lows, indicating expectations of further losses from subprime mortgages. In addition, spreads on agency debt and agency-backed MBS rose sharply during the period, and in some cases, reached their highest levels since 1986. These increases reflected concerns about counterparty risk as well as concerns about the condition of the GSEs. The announcement of the Term Securities Lending Facility (TSLF), which allowed primary dealers to use these securities

as collateral for SOMA securities borrowing, led to some reduction in the spreads, although they still remain elevated. Spreads on many other consumer debt ABS tranches rose and all remain elevated, which is a sign of concern of spreading default risk beyond the mortgage market as well as a continued repricing of default risk.

Inter-bank lending markets displayed renewed stresses as the quarter-end approached [Exhibit A-11]. Term LIBOR-OIS spreads widened again during the inter-meeting; they remained somewhat less wide than in December, but still very elevated by historical standards. The increase probably reflects some continued demand for liquidity in the current stressed environment. The announcement of the TSLF led to a little narrowing of these spreads.

Beyond rising spreads, there were a number of other indications that many financial markets were significantly stressed and impaired. One factor behind this was continued concerns about the condition of the financial guarantors. A prominent example of the effects of these concerns was in the auction rate securities (ARS) market, where many of the rate-setting auctions failed, leading some participants facing unwanted duration extension and many issuers facing higher interest payments. The stresses in these markets probably reflect continued aversion to risk in an environment where there is greater uncertainty about the risk profile of securities, offering entities, and counterparties as well as concern about the macroeconomic outlook.

Equity markets also reflected the impact of the weaker real macroeconomic outlook and the increase of downside real risks. Broad stock market indices generally fell between 3% and 4% over the inter-meeting period. Implied volatilities, which declined moderately during the middle of the period, rose again to elevated levels (although still a little below the peaks that have occurred intermittently during the financial crisis), indicating that market participants remain quite uncertain about the equity price and corporate profit outlook.

Foreign Markets. Financing conditions in global markets deteriorated during the inter-meeting period, with credit and LIBOR-OIS term spreads rising sharply in recent weeks. Negative sentiment towards financial sector firms strengthened in the wake of recent write-downs by institutions such as Credit Suisse, Societ  Generale and AIG, and growing expectations of further mortgage-related write-downs by other global financial institutions.

Global stock markets lost ground, on the heels of rising concern with U.S. growth prospects and cumulating news about balance sheet losses for global financial institutions. Stock indices in Europe and Japan were 3% to 5% lower on March 12 than at the time of the last FOMC meeting, despite a modest recovery staged after key central banks' acted on March 11 to improve liquidity conditions. Losses for financial sector shares were especially large.

Market participants' concerns that the global economy may not weather a U.S. economic slowdown also affected bond markets. Foreign long-term interest rates fell during the period, though to a lesser extent than in the U.S. The 3-month – 10 year inversion in core European rates rose to about 50 bps, while evidence is increasing of flight-to-quality flows, with spreads on periphery vs. core euro-area sovereigns rising to multi-year highs.

Inflation break-even rates rose in Europe during the period. Real rates have fallen by more significant amounts under the weight of falling nominal rates. Breakeven rates in Japan remain stable at about 20 bps, despite the recent rise in headline inflation in January to 0.7% (annual rate).

After coming under pressure in the previous FOMC cycle, emerging financial markets have held up relatively well since late-January. Equity markets strengthened in the early part of the inter-meeting period from the low point in late-January, outpacing core markets, though later they gave up some gains. Latin American equity markets showed the strongest performance, in good part reflecting strength in commodity prices. External

debt spreads have generally widened, but by less than high-risk spreads in the industrial world.

Adverse news about the U.S. and expectations of further U.S. policy easing weighed on the dollar, which continued its broad slide. After breaking through the psychological barrier of 1.50 against the euro, the dollar was trading near 1.56 on March 13, about 5% weaker than at the time of the last FOMC meeting. The dollar also reached multi-year lows against the yen, trading near 102 yen per dollar on March 13, or 4% weaker than at the time of the last FOMC; and against the renminbi, whose current and expected future appreciation are accelerating. Altogether, the dollar has lost nearly 4% in effective nominal terms since the last FOMC meeting. Meanwhile, option-implied volatility has reached multi-year highs for both the yen/dollar and dollar/euro rates, while data from risk-reversals indicates that investors are seeking protection against euro weakness and further yen strength.

Commodity and energy prices reached new highs during the inter-meeting period. After WTI oil contracts broke the \$100/barrel mark for the first time, they rushed to \$109/barrel by period's end, sustained by continued supply concerns stemming from some recent refinery outages in Europe and Texas as well as geopolitical events such as the tension between Venezuela, Colombia, and Ecuador and, reportedly, by speculative movements by investors seeking insurance against dollar weakness. On the demand side, lower demand from developed countries is offset by continued strong demand from developing countries, especially China and oil-producing countries. Other commodity prices, including metals and agricultural products, also have risen sharply in recent weeks. The rise in agricultural products has been attributed to strong demand from emerging economies and the current expansion in demand for bio-fuels hitting against limited acreage for production; in the case of wheat, reduced supply because of a drought in Australia also contributed to higher prices. Metal prices also continue to rise, in part due to supply disruptions and continued increases in global demand.

2.3 Global Economic Policy

The ECB and the Bank of Japan remained on hold during the inter-meeting period. Policymakers continue to face the uneasy conjunction of simmering inflation pressure and financial market weakness, but European officials continue to emphasize their concern with inflation, moved by recent headline inflation readings in excess of 3%. Near-term policy expectations remain for no change in policy rates in the euro area and Japan through 2008Q2. Thereafter, although the first move by both central banks is still expected to be a cut, expectations for rate cuts in both areas have weakened in recent weeks.

Elsewhere, the Bank of England and the Bank of Canada cut rates, citing growth concern, while the central banks of Australia and Sweden hiked rates again, as local inflation rose to multi-year highs. Preliminary February data suggest that official intervention by emerging market central banks continues. Meanwhile, news continues to accumulate about brisk investment activities by sovereign investment funds. The Qatar Investment Authority's announced intention to buy shares of Credit Suisse on the open market is the latest to hit headlines.

3. Evolution of Outlook and Risks

3.1 Central Forecast

Conditioning assumptions. As was the case in January, there are significant changes in key conditioning assumptions underlying our central forecast. Inter-meeting developments in the real economy and financial markets have deteriorated more than anticipated. We now expect that by the end of 2008Q2, if not sooner, the FFR will be reduced by 100 bps to 2.00%, where it will remain through early- to mid-2009, which is 50 bps lower than assumed in the January Blackbook. However, we continue to anticipate that the FFR will then rise to 3.50% by end-2009 and 4.25% by end-2010. This lower intermediate path for the nominal FFR combined with somewhat higher actual and expected inflation results in a lower real FFR over the next year. Despite this assumption, downside risks to growth, and the probability of a recession, are substantial.

Our assumed path for the FFR is somewhat above that implied by prices in futures markets, which declined substantially over the inter-meeting period. Relative to the Board staff we are 25 bps above their assumed path over 2008 but then rise to 175bp 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%. Therefore, we believe that under the current circumstances it is crucial to move policy quickly to an accommodative stance. However, our forecast presumes that this significant easing of monetary policy, combined with aggressive fiscal stimulus, will result in the economy regaining forward momentum with 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 fiscal stimulus package that we incorporated into our January forecast has been enacted sooner than anticipated. Nearly \$100 billion of rebate checks are to be mailed out over the remainder of this calendar year, with the bulk (\$85 billion) to go out in 2008Q2, three months earlier than previously expected. In addition, the package includes about \$50 billion of tax benefits intended to spur business investment in equipment, software, and structures. As is the Board staff, we are assuming that \$0.75 of every \$1 of rebate checks ultimately will be spent in equal installments over the three quarters from date of receipt. This results in fiscal stimulus of about 0.75 percentage points in calendar 2008. The Board staff is assuming that the provisions intended to spur investment will have a negligible effect. We have incorporated a modest but positive effect into business investment spending in the fourth quarter with payback in 2009Q1. Thus, total stimulus injected for 2008 is in the range of 0.75 to 1.5 percentage points.

The assumed path of oil prices over the forecast horizon has been raised once again. Oil prices are now expected to average \$103/barrel in 2008Q2, \$15 higher than in the January 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 now anticipate that oil prices will trend lower over the forecast horizon, averaging about \$98/barrel in 2009Q4, \$13.50 per barrel above the level assumed in the January Blackbook. Our assumed path for oil prices is modestly lower than that assumed in the Greenbook forecast.

Another change in underlying assumptions is that the foreign growth outlook for 2008 has been lowered again, to 2.3% (GDP weighted) from 2.5% in the January Blackbook and 2.9% in the December Blackbook. Lower growth prospects for the U.S., a higher assumed path for oil prices, and signs of a slowdown in global trade were all factors behind the lower foreign growth outlook. The biggest change was for Canada because of the weaker U.S. outlook. The outlooks for both the euro area and Japan were also lowered. The euro area is experiencing a decline in business confidence and a faltering export performance while Japan started the year off with weak data on exports and industrial production. The outlook for China is unchanged, though worries about global trade caused reductions in the outlooks for Korea and Taiwan.

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 6% to 7% decline assumed in the January 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.

The remaining conditioning assumptions underlying our central forecast are similar to those of the January Blackbook. 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. Inflation expectations have moved up over the past several weeks at the same time that oil and other commodity prices have soared and monetary policy has been aggressively eased. Nonetheless, in our central scenario those 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 modestly over the inter-meeting period.

Inflation. Core inflation generally continued to surprise to the upside. Incorporating the CPI data for February, we expect the core PCE deflator to rise 2.7% (annual rate) in 2008Q1, the same as in 2007Q4. This means that, on a four-quarter change basis, the core PCE deflator inflation rate will be 2.2% in 2008Q1, up from 1.9% in 2007Q3. Much of this increase in core inflation was due to a significant swing in the rate of price change of nonfood, nonenergy goods. In early 2007 they were declining at about a 1% annual rate while in early 2008 they were increasing at about a 0.5% annual rate. The rate of increase of nonenergy services prices rose modestly in the final quarter of 2007 due mainly to faster price increases for transportation and medical care services. Recently, those inflation rates have begun to subside.

As discussed in the special topic, *The Recent Increase in Core PCE Inflation*, our model for core PCE inflation predicts some increase from mid-2007 through early-2008 due largely to the rapid increase in import prices over this period. That same model predicts a significant slowing of core inflation over the remainder of the forecast horizon, stemming primarily from the anticipated increase in the unemployment rate and the anticipated

slowing in the rate of increase of import prices. The projected rate of core PCE inflation in 2009 is now 1.8%, up from 1.7% in the January Blackbook [Exhibit B-4]. Despite the larger increase in the unemployment rate now anticipated, this slightly higher path for core inflation reflects the higher starting point combined with the slightly higher path for import prices.

Real activity. It is now clear that the economy was rapidly losing momentum in the final quarter of last year and the beginning of this year. The drag on growth of the steep decline of housing starts has intensified. Consumer and business confidence has collapsed. Employment growth has turned negative, even in the private service-providing sector. Real consumer spending grew just 1.9% (annual rate) in 2007Q4 and is projected to increase no more than 1% in 2008Q1. Slowing nominal income growth combined with rapid price increases, particularly for food and energy, have brought growth of real disposable income to essentially zero. We believe that the economy is already in recession, and now project growth of real GDP for the first half of 2008 at -0.7% (annual rate). We now expect the unemployment rate to be around 5½% by mid-year. This projection for the first half of the year 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 larger than expected 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 1.3% (Q4/Q4), down from 1.8% in the January Blackbook and 2.3% in the December Blackbook [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. Given the lower path for the FFR in this forecast, combined with the housing-specific features of the proposed stimulus package, we anticipate that residential investment will actually contribute positively to growth in 2009 following three years of steep contraction.

Special Topic

The Recent Increase in Core PCE Inflation

Richard Peach ^{Redacted} Robert Rich ^{Redacted} and
Jonathan Stewart ^{Redacted}

According to our Phillips curve model, import prices have been a factor behind the recent rise in core PCE inflation and are expected to contribute to the projected moderation over 2008-09.

Over the first half of 2007, core PCE inflation slowed considerably. On a quarterly basis, core PCE inflation peaked at 2.9% (annual rate) in 2006Q2 and moved erratically lower through mid-2007, reaching 1.4% in 2007Q2. The four-quarter percentage changes declined similarly from a high of around 2.4% from 2006Q3 through 2007Q1 to 1.9% in 2007Q3.

However, since mid-2007, core inflation has risen, with core PCE inflation at 2.7% (annual rate) in 2007Q4 and our projection for 2008Q1 at 2.9%. This recent increase in measured inflation appears to be bleeding into financial market inflation compensation and arguably has begun to lead to higher market-implied expectations.

To analyze this increase in measured inflation, we use the latest version of our Phillips curve type model. The determinants of inflation in this model are the prime-age male unemployment rate, relative import prices, inflation expectations, and lagged inflation (to

capture persistence effects). The model is estimated over the period 1984Q1 – 2007Q4.

Exhibit 1 presents the fitted values of core PCE inflation from the model for the period 2004Q1 ? 2007Q4 and compares them with actual values. This analysis indicates that the increase in inflation in the second half of 2007 was more than that predicted by the model; therefore, factors behind much of the increase were outside of the model and presumably were transitory.

Nevertheless, the model projection of core inflation has risen from early 2007. In Exhibit 2, we break down the contribution from each of the model's determinants. Comparing the projections from 2007Q1 and 2008Q1, a major factor behind the higher 2008Q1 projection is relative import prices, which swing from a negative contributor to a positive contributor [first two columns of Exhibit 2]. This import price measure includes all imports, such as oil and other industrial supplies and materials. Thus, we cannot distinguish the impact of rising energy and commodity prices from rising prices of finished imported goods using this model. The other major factor is lagged inflation, reflecting further upward pressure as import prices rose.

Even though the model projects core PCE inflation to rise through 2008Q1, it then forecasts, based on our projections for the unemployment rate, inflation expectations and

import prices, that inflation will moderate through the rest of 2008 and 2009 [Exhibit 1, red line]. The forecasted moderation reflects a swing in projected import price inflation from positive to slightly negative [Exhibit 2, second and third columns]. The other factor is again lagged inflation: as the upward impetus from import prices wanes over the forecast horizon, the additional upward pressure on inflation subsides.

As with any forecast, there are risks associated with the model's projection; in particular, there are two sources of upside risk associated with our outlook for import price inflation. One risk is that import price inflation is higher than we assume in this exercise. The second risk is that the degree of pass-through from import price inflation to domestic inflation is above its historical average embodied within the estimates of the model. Thus, differences in beliefs about the path of import price inflation as well as its current linkage to domestic inflation can have very different implications for the potential domestic inflation effects from this external factor.

Exhibit 1

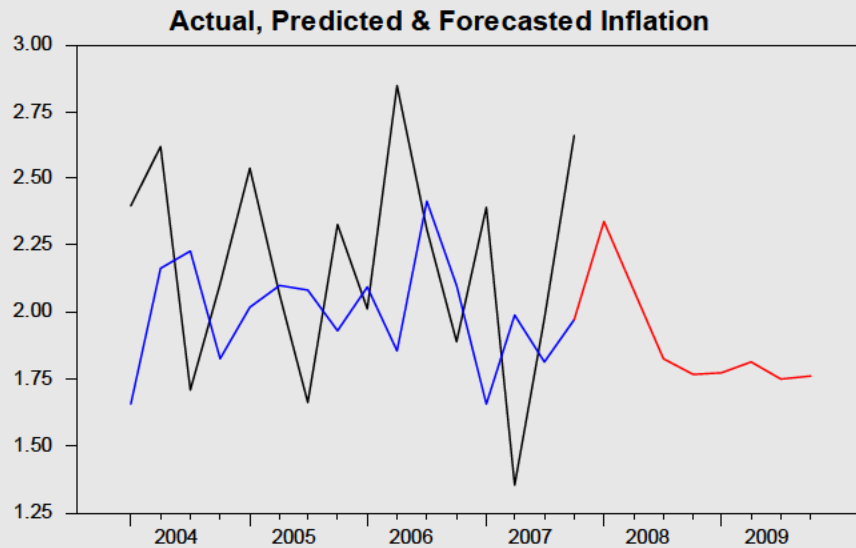


Exhibit 2

Contribution of Explanatory Variables to Core PCE Inflation

Variable	2007-q1*	2008-q1**	2009-q4**
Constant	0.36	0.36	0.36
Lagged Inflation	0.80	1.13	0.74
Inflation Expectations	0.91	0.87	0.91
Unemployment Rate	-0.18	-0.21	-0.22
Relative Import Price	-0.24	0.19	-0.03
Total:	1.65	2.34	1.76

*Predicted Value

**Forecasted Value

3.2 Alternative Scenarios and Risks

The most significant changes we made to our risk assessment were to increase the weight on the *Credit Crunch* scenario and also increase the relative weights on the *High Global Demand* (to reduce the complexity of the exhibits we do not explicitly show this scenario in Exhibit C-1), *Loss of Credibility* and *Effects of Overheating* scenarios. The *Credit Crunch* scenario continues to be almost as likely as the central scenario, and, for the moment, hides the additional relative weight placed on the higher inflation scenarios. However, in the current environment, if future developments warrant a reduction of the weight on the *Credit Crunch* scenario, the weight probably will move towards *High Global Demand*, *Loss of Credibility* and *Effects of Overheating* scenarios rather than the central scenario. Furthermore, given the recent financial turmoil, we increased the size of the shocks to GDP in both the central scenario and alternative scenarios. In addition to these changes, we increased the scale of the inflation shocks in the *Loss of Credibility* and *Effects of Overheating* scenarios to reflect an increase in the size of the upside shock to inflation. In the case of the *Loss of Credibility* scenario, we calibrated the shock magnitude to produce a FFR of close to 5% under the *Opportunistic Disinflation* rule.

We increased the probability of the *Credit Crunch* scenario to reflect the fact that many of the economic releases (e.g., February labor market report, business and consumer surveys) indicated that the U.S. economy probably is in a recession and that there is a significant probability that the recession would be more severe than the “mild” recessions of 1990-91 and 2001. We have calibrated the downside risks to real activity to produce a median recession equal to the size of the 1990-91 recession; i.e., the median growth rate in 2008 (Q4/Q4) if there are two consecutive quarters of negative growth is equal to that in the 1990-91 recession. This calibration produced an overall probability of the *Credit Crunch* scenario slightly below 50%. Further support for raising the probability of the *Credit Crunch* comes from the fact that many financial market indicators, such as CDS and credit spreads, suggest a likelihood of such a recession [Exhibit C-1]. These developments also indicate that the signs of an adverse feedback loop between the real

economy and financial market conditions consistent with the dynamics of the *Credit Crunch* continued to build during the inter-meeting period.

The increase in implied-inflation compensation from financial markets is consistent with the *Loss of Credibility* scenario, and thus we have followed through on our commitment to raise the weight on this scenario, if measures of inflation expectations increased. We also raised the probability of the *High Global Demand* scenario, as the resurgence in commodity prices is consistent with maintained global demand and argues against a global slowdown. An alternative interpretation of the surge in commodity prices during the inter-meeting period is given in the special topic, *Exchange Rate Depreciation and Monetary Policy*. This interpretation displays some similar features as some earlier views of the source of the shock behind the *Effects of Overheating* scenario. In addition, the recent sluggish consumption data has been less inconsistent with this scenario, and led us to raise the relative weight on the scenario.

The combined effect of these changes to the weights on the alternative scenarios is to lower slightly the probability of remaining in the central scenario over the forecast horizon, although they raise slightly the probability of a quick return to the central scenario [Exhibit C-1]. Together with the larger scale of the shocks, the lower probability of remaining in the central scenario raises the overall uncertainty around our inflation and output projections, particularly in 2008 [Exhibit C-3]. These changes are evident in the shifts in the 5th and 95th percentiles from the previous to the current Blackbook. The greater magnitude of downside risks and the changes in the alternative scenario probabilities have increased substantially the downside risks to output. Combined with our lower central forecast, this has led to a higher probability of a more severe downturn, as indicated by the 5th percentile of the real GDP growth distribution reaching -4% in 2008; in December the 5th percentile was only -2%, and it was -3% in January.

We now judge the risks to the inflation projection to be roughly balanced compared to the slight downside risks in the January Blackbook. By the end of the forecast horizon, we

see the inflation risks as to the upside and assess a much higher 95th percentile to the inflation forecast distribution than in January. This mainly reflects the increased scale of the positive shock to inflation in the *Loss of Credibility* scenario.

The effects of the changes in our risk assessment and central scenario forecasts can also be seen in the probability of core PCE inflation below 2% and the probability of a continuing expansion [Exhibit C-3]. In particular, the probability of two consecutive negative quarters of growth in 2008 has increased considerably and is now around 70%. Most of this change in the “recession” probabilities is attributable to the change in the central scenario. The decrease in the probability of inflation below 2% is relatively large and is mainly driven by the upward revision of our central scenario projection and the greater upside risks to inflation.

Our assessment of the risks to the outlook and their relative importance is again similar to the risk assessment given by the primary dealer economists in the Desk’s Primary Dealer survey. For real GDP growth, dealer economists marked down their forecasts for 2008 by a magnitude similar to the reduction in our central forecast. The average of their forecasts thus remains below ours, although the difference is not large in terms of our forecast distribution. They see slightly less uncertainty around their GDP forecasts than in the previous inter-meeting period and generally see the risks to the downside. They also have a sizable current probability of a recession: the mean probability of the economy being in a recession is 70%, almost identical to our assessment.

Special Topic

Exchange Rate Depreciation and Monetary Policy

Paolo Pesenti Redacted

An appropriate policy response to a cyclical downturn will lead to dollar depreciation, although current distortions in currency markets may exacerbate its inflationary impact.

The recent depreciation of the U.S. dollar has raised some concerns among market participants. Among these concerns are the following: the dollar depreciation may signal a loss of credibility of the FOMC; the dollar depreciation is a direct contributor to rising commodity prices; and the dollar depreciation is the incipient sign of a far-reaching erosion of the cornerstone role of the dollar in the international monetary system. Those with these concerns have argued that supporting the external stability of the dollar should be a key priority for U.S. policy.

The underlying logic of these concerns is suspect and their empirical validity is presumptive at best. Instead, there is a strong theoretical case – as well as an empirical track record – to regard a weak domestic currency as collateral damage associated with the adoption of an appropriate policy response to a cyclical downturn.

The textbook optimal monetary reaction to a

fall in aggregate demand for domestic goods and services prescribes an accommodative stance that trades off a temporarily higher inflation path for a smaller output gap. Under such a policy, domestic interest rates are expected to fall relative to world rates, leading to a rebalancing of portfolios in favor of foreign assets, which in turn leads to a depreciation of the domestic currency. Over the medium term a weaker exchange rate contributes to raising inflation, as the prices of imported goods increase. But most crucially, currency fluctuations can facilitate the adjustment of international relative prices, which provides world consumers and producers with an incentive to redirect their demand toward domestic goods and against foreign goods. These “expenditure-switching” effects raise the contribution of net exports to GDP growth, which helps to stabilize the domestic economy. In addition, they improve the allocation of world resources – by closing the global output gap – regardless of nominal inertias in domestic prices and wages. This is the substance of the case for exchange rate flexibility as forcefully articulated by Milton Friedman in 1953 and subsequently incorporated into mainstream macroeconomics.

Does the argument for “benign neglect” of currency fluctuations remain valid in the context of the 2007-08 events? The answer is yes, but there are important nuances.

The conventional reason to claim that the U.S. can afford a posture of benign neglect is that the inflation risks from dollar depreciation are negligible and the sensitivity of consumer prices to exchange rate movements is low. This has been the apparent case for the U.S. recently, although there is some disagreement about the estimated measures of exchange rate pass-through and their stability over time. However, the case for benign neglect has little to do with low exchange rate pass-through, and the current inflation risks from dollar depreciation actually are far from negligible.

In regard to the first point, suppose that exchange rate pass-through to import and consumer prices was 100 percent. In this case, currency fluctuations would transmit rapidly to the terms of trade. Inflation rates would rise quickly when the currency depreciates, but they also would fall more rapidly when the exchange rate stabilizes; inflation thus would be more volatile but less persistent than in an economy with low exchange rate pass-through. Consequently, for the same theoretical reasons that monetary policy should not react to transitory fluctuations in non-core prices, the case for benign neglect of exchange rate movements - far from being silenced - is stronger in an environment of high pass-through!

In regard to the second point, a weak dollar may be associated with stronger and more persistent inflationary pressures than in the past due to current distortions in the international monetary system. Faster-growing countries exhibit a tendential real appreciation over time. With

flexible exchange rates, a nominal appreciation of the local currencies can facilitate this adjustment of relative prices and still keep domestic inflation contained. However, this comes at the cost of lower international market shares. If the faster-growing countries wish to avoid losing export competitiveness in the U.S. market, they may adopt policies that limit exchange rate appreciation against the dollar through official purchases of U.S. assets. Over recent years, emerging Asia and the Gulf countries have fit this pattern.

Thus, in response to dollar weakness and lower U.S. rates, part of the emerging world is keeping their domestic interest rates lower than appropriate for their booming economies. With nominal interest rates far below nominal GDP growth rates, their monetary conditions remain excessively stimulative, fueling demand for products that are commodity and energy intensive. As the prices for such goods are determined in global markets currently characterized by supply constraints, inflationary pressures are transmitted globally.

There is an apparent paradox here. Emerging markets' policies that reduce effective nominal dollar depreciation in the short term (as they prevent steeper rates of local currency appreciation) end up increasing U.S. import inflation over the medium term as they contribute to overheating in commodity markets. Therefore, the link between dollar weakness and high import and commodity prices is far from an obvious pass-through

story; in fact, the volatility of commodity prices in many sectors has been much greater than the volatility of the dollar exchange rate in recent years.

Under this analysis, the policy implication is that interest rate cuts that tend to weaken the dollar may have stronger inflationary repercussions than in prior episodes, to the extent that regimes of limited currency flexibility remain in place in some U.S. trading partners. This is a point worth acknowledging and clarifying in public communication. To recognize these inflationary risks does not discourage the adoption of a "benign neglect" attitude toward the path of the dollar in response to severe turmoil in financial markets and a prospective economic downturn. Rather, it brings center stage the notion that global factors have today a key impact on the dynamics of price adjustment, and helps to explain why uncertainty about the inflation outlook has increased. Ultimately, what matters is not the overall extent of any dollar depreciation, but rather with respect to whom the dollar is expected to depreciate. As Brad Setser puts it, "something of a rebalancing which left the emerging world with stronger currencies, less inflation and more external purchasing power and Europe with a somewhat less appreciated exchange rate likely would be better than the world we now have."

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. Both the Greenbook and our forecast for real activity in 2008 have been revised downward. However, they incorporate very different views of the path of real activity over the coming year. The Greenbook projects real GDP to be about flat in 2008Q1 and then to decline 1.0% (annual rate) in 2008Q2. Our forecast has a similar decline in 2008Q2 but assumes more weakness in 2008Q1, with real GDP falling 0.4% (annual rate). However, the main difference between the Greenbook and our forecast is the projection for 2008H2. Just like in the January Blackbook, our forecast still has a rebound in 2008H2, with real GDP growing 4.3% (annual rate) in 2008Q3 and 2.2% in 2008Q2. The Board staff now forecasts real GDP to grow at only 0.9% and 0.5% (annual rate) in these two quarters. Because the Board now forecasts the recovery to occur later than they did in January, they have raised their 2009 real GDP growth forecast to 3.0% (annual rate), in line with our forecast. With respect to core PCE inflation, the Board still expects inflation to be more persistent than it is in our projection. The Greenbook 2008Q1 core PCE inflation forecast is 2.7% (annual rate), which is the same as our estimate. However, the Greenbook has a much slower moderation of inflation, with core PCE inflation falling to 1.9% at the end of 2009. Our forecast has core PCE inflation at 1.8% by the end of this year.

Conditioning assumptions. 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 2.50% at the upcoming meeting, lowered by another 50 bps at the end of April, and bottom out at 1.75% at the end of June. This path is in line with current market expectations. Our assumed path for the FFR is slightly higher, as it does not include the 25 bps cut at the June meeting assumed by the Board.

Neither we nor the Board staff has changed the outlook for potential growth since January. 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 slightly lower at 2.3% for 2008 and 2.2% for 2009. This continues to reflect the difference in assumptions concerning medium-run labor force growth.

The effects of the fiscal stimulus package that was passed after the January meeting are incorporated in both the Greenbook and our forecasts. The fiscal stimulus is mainly assumed to affect PCE in 2008Q3. In addition, the Board staff has increased the contribution of federal government spending on 2008 real GDP growth because of recent evidence on the growth of defense spending.

With respect to asset prices, the Greenbook assumes that home prices will decline 6% in 2008 and another 4% in 2009, a faster pace of decline than was assumed in the January Greenbook. Equity prices are assumed to return to their July 2007 levels by the end of 2009, increasing by 6.5% over the rest of 2008 and increasing another 11% in 2009.

The Board staff projects lower foreign GDP growth in 2008 than we forecast. We anticipate foreign growth to slow in 2008 from 3.4% (annual rate) in 2007 to 2.3% (2.5% in January), while the Board staff growth forecast is 2.0% (2.3% in December) using our GDP weights. We generally tend to be only slightly more optimistic than the Board, although there are large differences in the outlooks for Canada and China. The Board forecasts zero growth in Canada this year, while we project 1%. A large part of the discrepancy is due to the Board's lower U.S. GDP growth assumption. The Board's lower growth outlook for the U.S. and other industrial countries also helps explain the differences in outlooks for China.

Inflation. Relative to the January Greenbook, the Board staff expects core PCE inflation to be higher in the short run. This expectation is mainly due to the higher-than-expected inflation data for January. These inflationary pressures are expected to ease in 2008H2 due to the expected below-potential growth in real activity. Consequently, the Board staff

did not change their forecast for core PCE inflation for 2009 and beyond. The Greenbook projections are now for core PCE prices to increase 2.3% in 2008 (Q4/Q4) and 1.9% in 2009 (Q4/Q4). Our forecast incorporates a faster moderation of core PCE inflation, resulting in a core PCE price increase of 2.1% in 2008 (Q4/Q4) and 1.8% in 2009 (Q4/Q4).

The recent surges of energy and food prices have led to increases in the Greenbook and our forecasts for total PCE inflation. The anticipated continued pass through of these energy and food price increases is now projected, by both the Board staff and us, to lead to 2.9% headline PCE inflation in 2008 (Q4/Q4). Since these commodity prices are expected to taper off or even decrease in 2008H2, both the Greenbook and our forecast have total PCE inflation at 1.7% in 2009 (Q4/Q4), which would be below core PCE inflation projections.

Real activity. The Board staff projects real GDP growth at +0.1% (annual rate) in 2008Q1 and -1.0% in 2008Q2. Moreover, they project continued weakness in 2008H2, resulting in real GDP growth of 0.1% for 2008 (Q4/Q4). The Board staff projects a slow but steady recovery in 2009. Real GDP growth is projected to be 3.0% in 2009 (Q4/Q4). Compared to the January Greenbook, the Board staff has substantially reduced its forecast for all of 2008. While the January Greenbook forecast did not have any quarters with negative real GDP growth, the current Greenbook forecast now has a 1.0% (annual rate) decline in real GDP in 2008Q2. Moreover, the Board staff has also lowered its forecast for real GDP growth for 2008Q3 and 2008Q4 to 0.9% and 0.5% respectively. We continue to project a more substantial slowdown in 2008H1, with real GDP growth at -0.4% in 2008Q1 and -0.9% in 2008Q2. More importantly, our forecast reflects an earlier and faster recovery than incorporated in the Greenbook. We expect real GDP to grow above potential in 2008H2; 4.3% in 2008Q3 and 2.2% in 2008Q4. As a result, at 1.3% our forecast for real GDP growth in 2008 (Q4/Q4) is 1.2 percentage points higher than that of the Board staff. The delayed and slower recovery embedded in the Greenbook forecast relative to ours is mainly due to the Board staff's personal consumption expenditures projections. The Board staff assumes that the fall in home prices, which

according to their assumptions would lead to a \$2.5 trillion loss in home values, together with lower disposable income growth and decreased equity prices will weigh down personal consumption expenditures to such a degree that they offset to positive effect of the fiscal stimulus package and monetary policy stance. This, according to the Greenbook, will lead to personal consumption expenditures to decrease in 2008H2 and to be flat in 2008 (Q4/Q4).

The Board staff expects the unemployment rate 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 forecast.

Our projection of the net export contribution to 2008 GDP growth significantly differs from that of the Board, especially in the second quarter when the Board expects net exports to contribute 2.2 percentage points to GDP growth compared to 0.7 percentage points in ours. The key difference is import growth. The Board expects non-petroleum imports to contract in every quarter of 2008, with overall imports falling by as much as 7.5% (annual rate) in 2008Q2. Our forecast has a milder and shorter slowdown in imports. These differences mainly reflect the discrepancy in the forecast of domestic demand. The profile for export growth is weaker in the Board's forecast as a result of a more subdued outlook for global demand growth.

In addition, it is worth noting that the Board expects the real and nominal exchange rate to depreciate substantially in the two next years. The Board's forecast includes a very sharp depreciation in 2008Q2, followed by six quarters (2008Q3 –2009Q4) of 3% (annual rate) real exchange rate depreciation.

The sharp depreciation in 2008Q2 goes unmentioned in the text. The pervasive devaluation in 2008H2 and 2009 was introduced in the January Greenbook, when Board staff decided to introduce a drift term of -2 percent in the random walk forecast for the dollar exchange rate against major currencies. The January Greenbook cited the lower path of U.S. interest rates as well as some appreciation in Asian currencies as the reasons for doing so.

The Board's exchange rate forecast is an important factor in their export profile for 2008. Compared to the forecast in the past Greenbook, the sharper depreciation in Q2 offsets a small markdown in foreign demand growth, leaving the expected export growth unchanged at around 7% for most of 2008.

The sharper depreciation does not seem to have an impact on the Board's forecast of core PCE for 2008H2 and 2009, reflecting their assumption of low pass-through.

Uncertainty around forecasts. The degree of uncertainty around the Greenbook forecast for output remained almost unchanged, while that around the Greenbook forecasts for inflation decreased for both 2008 and 2009. This is markedly different from the changes in uncertainty around our forecast, where the uncertainty around the forecast for output has increased for, especially, 2008 as well as 2009 and the uncertainty around the forecast for inflation has also increased for 2008.

The 70% probability intervals around the forecasts for 2008, 2009, and 2010 are shown Table 1, with the January values in parentheses. For core PCE inflation, the width of the FRBNY interval is substantially bigger than that of the Board for 2008, mainly due to a higher weight on inflation below 1.8% in our assessment relative to the Board's. The same is true for the 70% probability intervals for core PCE inflation in 2009. These differences reflect two things: (i) the Board assumes inflation processes to be more persistent, and (ii) we put a higher weight on downside risk to real GDP growth and thus a higher weight on an easing of inflationary pressures due to weakness in real activity.

The higher weight that we put on downside risk to real activity is apparent from the 70% probability intervals for real GDP growth in Table 1. The FRBNY interval for 2008 is not only much wider than the Board's, its lower bound is -2.2% as opposed to -1.3% for the Board. In addition, the FRBNY interval has also widened substantially compared to the last Blackbook, while the width of the Board interval is almost unchanged. As a result, we find a much higher degree of uncertainty about future real activity than the Board does. This is also true for 2009.

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 distributions. The results are shown in Table 2, with the January value in parentheses.

As can be seen from Exhibit C-3, the FRBNY forecast for core PCE inflation virtually coincides with 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 forecasts more persistent, and thus higher, core PCE inflation going forward, their forecast is higher than the 50th percentile for both 2008 and 2009.

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 FRBNY and Board's forecasts for real GDP growth in 2009 are the same at 3.0%. Both are at 63% 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	
	<i>FRBNY</i>	<i>Board</i>	<i>FRBNY</i>	<i>Board</i>
2008	1.1-2.8 (1.0-2.5)	1.8-2.8 (1.5-2.7)	-2.2-2.2 (-0.8-2.8)	-1.3-1.6 (0.0-3.0)
2009	1.1-2.5 (1.0-2.4)	2.0-2.7 (1.1-2.8)	0.4-4.2 (0.8-4.4)	1.6-4.4 (0.7-3.6)
2010	1.3-2.5 (N/A)	N/A (N/A)	0.5-4.0 (N/A)	N/A (N/A)

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2008	63 (66)	48 (60)
2009	56 (61)	63 (40)
2010	46 (61)	66 (60)

Alternative Greenbook forecasting scenarios. The Greenbook presents six alternative scenarios. The first two correspond to worse near-term conditions related to the housing and financial markets. The next two are the reverse side of these, considering either that policy overreacted (in which case the economic downturn will not be as severe), or that the recovery will be faster than in the baseline. The last two scenarios correspond to two opposing risks to inflation: upward inflationary pressures and weaker pressures due to weaker economy.

The first alternative scenario, *Greater housing correction*, exploits the possibility that the downturn in the housing market demand will be more severe than in the baseline. In this scenario nominal house prices fall about 10% in both 2008 and 2009, twice as fast as in the baseline. In addition housing demand weakens due to expectations of falling house prices (increasing the perceived cost of capital). This leads to lower real construction (18% lower than in baseline by end on 2009). The income and wealth channels lead restrained consumers and businesses, causing the recession to persist longer and the subsequent recovery more subdued. This scenario implies that the FFR will eventually fall to 1.25% (by late 2009) and persist at very low levels through 2010. It implies smaller growth in the second half of the 2008 and the whole of 2009, and no significant impact on inflation.

The second scenario, *Greater housing correction with more financial fallout*, combines the first scenario with further financial turmoil and corresponding even weaker real activity. The assumption in this one is that the weaker housing market would exacerbate

financial stress, leading to impaired market functioning, increased uncertainty about the economic outlook, higher risk premiums and overall tighter lending standards. Consequently, consumer and business spending contract even further. The policy path would bring the FFR as low as 0.25% (in 2009) and rebounding as the economy recovers through 2010 onwards. This scenario comprises real GDP contracting more significantly immediately, in the first half of 2008 with a growth rate as low as -1.2%, followed by a milder contraction in the second half of the year, and moderate growth from 2009 onwards. The additional economic slack, leads inflation to be lower (about 1.4%) in the longer run.

The third scenario, *Near-term upside risk*, that considers the possibility that the reading of news has led to an overreaction of policymakers and that as a consequence the outlook is not as bad as under the baseline. In this situation the real GDP would not contract. Instead there would be moderated growth rates of 1.1% and 1.9% in the first and second halves of 2008. The inflation would also moderate more slowly. This would imply that policy would more cautious, setting the FFR at 3% by the end of 2008 and lowering it to 2.5% in 2009.

The fourth scenario, *Faster recovery*, considers the possibility that the housing market will not fall as much as in the baseline and that the financial market turmoil and uncertainty will abate more rapidly than expected. In particular, most of the recent increases in risk premiums would be reversed by the end of next year. As a consequence of improved consumer and business sentiment there would be a more robust recovery in the second half of this year, with real GDP growing about 1.1%. In light of these changes, the FFR would bottom out at 2% in the second half of this year and rebound faster.

The scenario, *Greater inflationary pressure*, considers increased upside risks to inflation caused by energy and import prices. In addition, long run inflation expectations are not as well anchored and respond more to actual inflation. Under these assumptions the actual inflation rate is about half a percentage point lower than in the baseline for both 2008 and 2009. The policy response brings the FFR 50 bps higher than in the baseline projection

by the end of 2009. The more restrictive policy is considered to have very modest impact on the real GDP growth.

The last alternative scenario, *Worker insecurity*, brings in lower inflationary pressures. The assumption is that the weaker economy leads to greater worker insecurity and smaller wage increases. The ensuing lower cost pressures leads to some moderation in inflation as well. However price stickiness means that core PCE inflation will be only modestly reduced relative to the baseline (0.1 percentage point lower from the second half of 2008 onwards). Because this scenario implies a shift from labor income to capital income, there is slightly increased downward pressure on consumer spending, leading to a modest decrease in real GDP growth in 2008, relative to the baseline. In light of lower inflation and GDP growth, the FFR responds by declining to 1.5% by the end of 2008 (this represents an additional 25 bps reduction relative to the baseline).

4.2 Comparison with Private Forecasters¹

Relative to the January Blackbook, we have increased modestly our projection for real GDP growth in 2008Q1 but lowered substantially our forecast for 2008Q2.

Consequently, we now forecast both quarters to have negative growth, implying that we anticipate a mild recession during first half of 2008. We have increased our forecast for inflation, especially in 2008Q1, following recent elevated inflation readings through January.

In general, our real GDP growth forecasts display some differences compared to the private forecasts [Exhibit B-8]. Relative to the private forecasts, our projections are lower for 2008 (for Q1 and Q2 our forecast is lower than all private forecasts, and, for Q4/Q4, it is located at the lower end of private forecasts) and slightly higher for 2009. For inflation, our projections are above those of the private forecasters for 2008Q1 but roughly similar for the remainder of the forecast horizon. The main discrepancies on the inflation side reflect the timing of the forecasts (release dates are given in footnote 1); because our

¹ Release dates of the private forecasts discussed in this section are in parentheses: Blue Chip consensus (3/10), SPF (2/12), and Macro Advisors (3/13).

forecast was done after the private forecasts, we were able to incorporate more recent information. For GDP growth, we cannot say the same. The discrepancy to the private forecasts already existed at the time of the January Blackbook, though that difference is now smaller.

Real GDP Growth. For 2009Q1, our real GDP growth forecast has been upwardly revised to -0.4% (annual rate) from -0.8% in the January Blackbook. This is below the latest projection of the PSI Model (0.1%), Blue Chip (0.1%), Median SPF (0.7%) and Macro Advisers (1.0%). It is important to note, though, that we have increased our forecast, while all others reduced their numbers. We started from a low January Blackbook number, while the private forecasts were all relatively robust at the time of the January Blackbook. Despite the differences in forecasts, we can say that there is some convergence between our assessment and that of the private forecasters, as the gap is somewhat smaller.

Our 2008Q2 forecast for real GDP growth is -0.9% (annual rate), down from the +0.9% growth forecasted in the January Blackbook. Much like the 2008Q1 forecast, this is substantially lower than the distribution of private forecasts, none of which forecast negative growth. The Blue Chip is the closest at 0.5%. The PSI model projects GDP growth of 0.9%; the Median SPF is 1.3%; and the Macro Advisers expect 1.7%. Unlike the forecast revisions for 2008Q1, those for 2008Q2 all go in the same negative direction and by the same magnitude (one percentage point reduction). The Blue Chip projection is the only one that shows a stronger revision (1.4 percentage point change).

Our 2008 (Q4/Q4) real GDP growth projection is 1.3%, down from 1.8%. This is at the lower end of the spectrum of forecasts, equal to the most recent number from the Blue Chip. Both the Median SPF and Macro Advisers expect higher growth (1.8% and 2.2%, respectively). The changes relative to the numbers available at the time of the January Blackbook are similar across the spectrum, and, if anything, there was a slight reduction in the gap between our 2008 (Q4/Q4) projection and the private forecasts.

For 2009 (Q4/Q4) real GDP, we forecast 3.0% growth, down from 3.2% in the January Blackbook. Our projection is now more in line with that of the private forecasts, despite being at the higher end. The Blue Chip projects 2.6%; the Median SPP is 2.8%; and the Macro Advisers is 2.9%.

Core PCE Inflation. Our forecast for 2008Q1 core PCE inflation is now 2.9% (annual rate), up from 2.1% in the January Blackbook. This is above the median SPF forecast from February (2.2%), which was consistent with our January Blackbook forecast.

For 2008Q2, we forecast core PCE inflation at 2.0% (annual rate), a slight increase relative to the January Blackbook (1.9%), while the median SPF projection is 2.1%.

Overall, our 2008 (Q4/Q4) projection of 2.1% is in line with the median SPF forecast (2.0%). For 2009 (Q4/Q4), we expect core PCE inflation to moderate to 1.8%, slightly below the median SPF projection (2.0%).

CPI Inflation. We forecast overall CPI inflation at 4.6% for 2008Q1 (annual rate), up from 3.5%. This is higher than, but not too distant from, the recent projections from Blue Chip (4.0%) and Macro Advisers (4.3%). It is much higher than the Median SPF (3.5%), but this reflects the earlier date of that forecast, which was before the most recent increases in energy and commodity prices.

For 2008Q2, we forecast CPI inflation to moderate to 2.3% (annual rate), which is in line with private forecasts. Both the Blue Chip and the median SPF expect 2.4% CPI inflation, while the Macro Advisers project 2.5%.

Our 2008 (Q4/Q4) projection for CPI inflation is 2.9%, equal to that of Macro Advisers and in line with the Blue Chip forecast (2.7%), but it is stronger than the projection by the median SPF (2.5%). The discrepancy is explained by the timing of the SPF (February). For 2009 (Q4/Q4), our forecast for CPI inflation is 2.1%, equal to the Macro Advisers but slightly lower than the Blue Chip (2.4%) and Median SPF (2.3%).

Core CPI Inflation. For 2008Q1 core CPI, we revised our forecast to 3.1% (annual rate), up from 2.6% in the January Blackbook. This is in line with the Macro Advisers (3.0%) and above the median SPF at 2.4% (the discrepancy again is explained by the fact that the SPF was released in February).

For 2008Q2, we project 2.0% for core CPI (annual rate) in line with the median SPF (2.2%) and below the Macro Advisers expectation of 2.5%. This pattern also applies for the 2008 (Q4/Q4) core CPI, with our projection at 2.2%, equal to the Median SPF, but lower than the Macro Advisers (2.7%). The 2009 (Q4/Q4) core CPI forecast is 1.9% (unchanged), roughly in line with both the Median SPF (2.1%) and the Macro Advisers (2.2%).

5. Robustness of Policy Recommendation

5.1 Sensitivity to Alternative Scenarios and Policy Rules

In this Blackbook, we continue to apply a number of adjustments to our policy rules introduced in the December and January Blackbooks. First, we again have adjusted our neutral rate range to capture the further tightening of financial conditions over the inter-meeting period. For the current and next quarter, we assume the neutral rate is between 2.75% and 3.75% (it was 3.0-3.75% in January). We then assume it evolves slowly over the remainder of the forecast horizon to our pre-crisis range of 3.75-4.75%, as credit and financial market functioning returns to normal. The estimate of the neutral rate over the near term now includes a minimum below the low point of the neutral rate range of 3-5.5%, which we established in 2004. We made this change to reflect the extent of market dysfunction in late February and March, especially the large spreads on mortgage-related securities.

Second, because we assume the mandate-consistent range for inflation is 1.5-2%, we moved the inflation target in our policy rules in January from 1.5% to 1.75%. This change also lines up with the assumptions used in our UIG and smoothed inflation

models. These changes affect the *Baseline* rule and the two variants—*Dove* and *Opportunistic Disinflation*—but do not affect the *Outcome-based* rule, because it does not have an explicit neutral rate.

A third set of changes concerns the gradualism in our policy rules as well as the Board-staff-estimated *Outcome-based* policy rule. These rules are stated in terms of quarterly averages of the FFR, and take 20% of the current quarter interest rate prescription, based on inflation and output, and 80% of the value of the previous quarter's average to produce its prescription for the FFR. To remove some of the sluggishness induced by this prescription, we used a value of 3.25% for 2007Q4 rather than the average value of 4.54%. Without this change it would be impossible for the policy rules to produce a prescription below 3.5% for the average FFR in 2008Q1, unless the preemption option is activated. (In January, we imposed a preemptive move to 1% if the interest rate prescription of the standard Taylor rule without interest rate smoothing term falls below 1%. For example, if inflation was at target and the neutral rate was 2.75%, the output gap would have to be 4.0% to induce this trigger: assuming the economy started at potential, a four-quarter growth rate of -2.3% would lead to such a gap.)

As a consequence of our changed central scenario and risk assessment, the temporarily lower neutral rate, and the use of a risk-management policy (i.e., a policy to forestall costly lower probability events; in this case, financial market turmoil and a credit crunch leading to a severe downturn), our policy recommendation has changed from the January Blackbook. Our recommended path is well below the policy prescription of the *Baseline* rule under the central scenario and five (again, for ease of display the *Global High Demand* scenario is not shown in the exhibits) of the six alternative scenarios (the exception is the *Credit Crunch* scenario) in the medium-term [Exhibit D-1]. Under three of the alternative scenarios and our central scenario, the *Baseline* rule prescribes a FFR target of 3.0% by the end of 2008 (it is higher under the *High Global Demand* scenario), compared to our recommendation of 2.0%. Our recommendation is now close to the prescription of the *Baseline* rule under the *Credit Crunch* scenario, indicating the extent

of the risk management under our recommendation. It is now about 250 bps below the prescription under the *Loss of Credibility* scenario.

The real FFR paths using the *Baseline* rule also differ significantly across the six alternative scenarios, reflecting the differences in the inflation outcomes associated with the different scenarios and the probability of triggering the pre-emptive move to a 1% FFR [Exhibit D-1]. Although inflation is low under the *Credit Crunch* scenario, real interest rates decline close to zero under this scenario, because the large downside risks to output and inflation under it lead to even larger declines in nominal rates. However, even under this scenario the *Baseline* rule does not produce a projection of negative real interest rates.

The FFR distribution using the *Baseline* rule indicates a substantial probability of sharp drops in the FFR (as indicated by the probability of a FFR at 1.00% in 2008Q2), as a consequence of the increased weight on the *Credit Crunch* scenario, the drop in the central scenario GDP growth projection, and the lower neutral rate [Exhibit D-5]. The near-term probability of such sharp drops is now higher than it was in January.

We consider the same alternative policy rules that we have considered in recent Blackbooks: the *Dove* rule, the *Opportunistic Disinflation* rule, and the *Outcome-based* rule. The *Outcome-based* rule, combined with our downside risk to output growth and our relatively benign inflation outlook, is below our policy recommendation in the near term in expected value. Indeed it is below our recommendation for most scenarios in the near term, as it reacts strongly to the change in the central forecast. Under the *Credit Crunch* scenario, this rule would prescribe reducing the FFR to 1% quickly; while under scenarios with more upward inflation pressure, it implies a quick reversal of its prescription on interest rates below 2% [Exhibits D-2 and D-3]. As in past Blackbooks, this rule implies considerable uncertainty about the FFR going forward [Exhibit D-5].

The prescription of the *Opportunistic Disinflation* rule, which keeps the FFR above 3.00% over the next two years under the central scenario and all of the alternative

scenarios except the *Credit Crunch* scenario, is well above our policy recommendation over the forecast horizon [Exhibit D-3]. Following this rule rather than the risk-management approach would better preserve Fed credibility if, ex post, it appeared that any of the four scenarios with positive shocks to inflation explain recent developments well. In particular, under the *Loss of Credibility* scenario, it prescribes short-run increases in the FFR. However, the robustness of the prescription of this rule to the downside risk in our forecast depends on the assumption that there is a well-understood risk-management strategy of moving to 1% directly to forestall financial market turmoil from spilling over into the real economy [Exhibit D-5]. The recent moves by the FOMC, although sizable by historical standards, are not nearly as abrupt as moving to 1% directly from a FFR above 3% and thus strongly suggest that this is **not** the type of risk-management strategy the FOMC currently is following.

The *Dove* rule is designed to be very sensitive to drops in output below potential. Therefore, with the soft near-term real growth forecast and the large downside risk to real activity, it prescribes cuts in the FFR in 2008 from 3% under all of our scenarios except the *Loss of Credibility*. However, it is only under the *Credit Crunch* scenario that these cuts match our policy recommendation for 2008H1. In 2008H2 through 2010, this rule prescribes rates as low as 2% in expected value [Exhibits D-2 and D-3]. As can be seen in Exhibit D-5, it places the most probability on low FFR of all our rules.

We again assessed the robustness of our policy recommendation using the DSGE-VAR model calibrated on our central scenario and *Credit Crunch* scenario for 2008Q1. The results indicate that, once the current level of the FFR is taken as given, market expectations of the future FFR path as well as our policy recommendation are consistent with the historical behavior of the FOMC over the past twenty years. Under the *Credit Crunch* scenario the FFR path goes well below 2%, indicating that, relative to January, there is little risk management in the low point of our recommended path. If we do not take the recent path of the FFR as given then under both the central and *Credit Crunch* scenarios recent policy moves have been preemptive.

5.2 Comparison to Market Expectations

The FFR path priced into financial markets has moved down since the January Blackbook. In addition, the market's short-term uncertainty around that path remains at relatively high levels. The expected FFR for late 2008/early 2009 is around 1.50%, compared with an expectation of 2.00-2.25% before the January FOMC meeting. As has been the case in the past few Blackbooks, the market path is about 50 bps below our policy recommendation in late 2008/early 2009. This discrepancy widens, because, under our recommendation, the policy rate is renormalized back to 4.25% by the end of 2010. We do not view, however, the discrepancy between our policy recommendation and market expectations as significant, given the high uncertainty and difficulties in assessing term premia in long Eurodollar futures. Also, similar to the last few Blackbooks, the average forecast from the Dealer Survey for the FFR over the next year is similar to our policy recommendation.

The market-implied path is also below the paths of our *Baseline* rule under both the central scenario and the mean of our forecast distribution [Exhibits D-1 and D-2]. This is the case even though both of these paths have shifted downward substantially because of changes to our real growth outlook, risk assessment, and a lower neutral rate assumption.

The path prescribed by the *Opportunistic Disinflation* rule under the expected value of the forecast distribution remains well above the market path. In contrast, the path prescribed by the *Dove* rule, while it does not fall as quickly as the market path initially, gives a similar FFR value as the market at the beginning of 2009. Our *Average* rule, which weights the *Baseline* rule and the two variants to match the market path as closely as possible, places 0% of the weight on the *Opportunistic Disinflation* rule, 10% of the weight on the *Baseline* rule, and 90% of the weight on the *Dove* rule [Exhibit D-4]. The weights on the alternative rules are unchanged from the January Blackbook. Even with these weights, there is still a notable difference between the *Average* rule and the market path.

A recurring explanation we have given in previous Blackbooks for the divergence between the market path and the prescriptions of our *Baseline* rule and the two variants, *Opportunistic Disinflation* and *Dove*, is that markets appear to believe the FOMC has become more sensitive to low-probability events that may lead output to fall well below potential, as it happened in previous periods of financial turmoil (e.g., 1987 and 1998). This market expectation was realized by the 125 bps decline of the FFR target in January. Since these cuts, movements in the market's path have been broadly consistent with our views on the changes in the outlook.

The market path remains most consistent with 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). In practice, this *Outcome-based* rule has an acceleration term following rate cuts that captures some of the previous risk-management behavior of the FOMC. However, 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 implied volatility term structure around the market-implied path has tilted up in the short run and moved down at medium horizons, partly due to the influence of low projected rates. It is comparable to the uncertainty around the *Dove* rule but still lower than the *Outcome-based* rule [Exhibit D-5]. Furthermore, the implied distributions of our rules capture most of the negative skewness priced into markets due to the option for pre-emption described in the sensitivity section (Section 5.1). Similarly the Dealer Survey also indicates that over the next 12 months, there is a significant chance that the FFR will fall below 2%, with one dealer forecasting a 1% FFR starting in mid-year.

Overall, our analysis suggests that the market is appropriately pricing in a risk-management strategy by the FOMC in 2008 through the middle of 2009. One measure of the success of this strategy would be that from mid-2009 on, the market was placing positive probability on a renormalization of FFR. Measures of implied volatility from

options markets suggest this is the case. In addition, the Dealer survey also shows a greater probability of the FFR above 3% for 18 months ahead compared to 12 months ahead.

6. Key Upcoming Issues

In this Blackbook, we recommend that at the upcoming March meeting the FOMC reduce the FFR target by 75 bps to 2.25% and signal that further reductions are likely in the near future, if downside risks to output materialize. This recommendation is 25 bps below the FFR anticipated in the policy path advocated in the January Blackbook. The developments during the inter-meeting period indicate a high probability that the economy has entered a recession. In addition, because some of the developments have been consistent with the development of an adverse feedback loop that is part of our *Credit Crunch* scenario, the probability of a severe recession has increased. Consequently, we have lowered our real GDP growth forecast for 2008H1 such that it now incorporates a mild recession. We expect the economy to recover in 2008H2 and 2009, although the risks of a more protracted and severe slowdown have increased.

The recommended policy path is still above the expected path priced into futures markets over the entire forecast horizon. We now anticipate the FFR target to bottom out at 2.00% by the middle of 2008 at the latest and remain there through mid-2009. FFR target would then revert to 3.25% by end-2009 and 4.50% by end-2010, as the FOMC renormalizes policy. In contrast, the markets expect the FFR to go down below 1.75% by the end of 2008 and to return only gradually to higher levels, still being around 2.50% by the middle of 2010. The decline in the market path over the inter-meeting period suggests that the market places an even higher probability of being in a severe recession relative to the time of the January Blackbook. This path is consistent with the *Credit Crunch* scenario or the FOMC displaying responsiveness to the output gap similar to that of the *Outcome-based* rule (which is greater than that in our *Baseline* rule).

With greater uncertainty about the economic outlook and the associated policy response, FOMC communication issues are of utmost importance. 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. Since January, we have seen further stresses in financial markets and a continued contraction in housing markets. Moreover, the latest Employment Situation report indicates a widespread reduction in economic activity in February. These are the main reasons for our policy recommendation of a more aggressive interest rate cut than anticipated in the January Blackbook. In addition to our proposed 75bps rate cut, we believe the FOMC statement should communicate the readiness to act on evidence of the establishment of a negative feedback loop between financial markets and the real economy and of a greater slowdown in real activity than is currently expected. Nevertheless, the statement also should mention continued monitoring of inflation and inflation expectations as well as the intention to respond to them, if they rise sufficiently to threaten the price stability mandate as well as the ability of monetary policy to address real activity concerns. Furthermore, the FOMC should state its readiness to return policy rates relatively quickly to a neutral stance once the threats to financial stability and real economic activity have dissipated sufficiently. One complication to this strategy is the increased uncertainty about inflation expectations and its impact on the transmission mechanism of monetary policy *via* the yield curve.

Further evidence of a recession is likely to come from labor market indicators, consumer spending and business fixed investment in the coming months. In particular, our concern is that continued turbulence in financial and credit markets will negatively impact consumer and business confidence, and will suppress spending through tighter credit conditions and the wealth effect. The lower spending would translate into a reduction in hiring and capital spending by the business sector, leading to further reductions in consumer spending and more negative impacts on financial markets. Because the events of the inter-meeting period suggest a greater chance of such a vicious circle, we have increased probability of the *Credit Crunch* alternative scenario, which itself differs from the January Blackbook by featuring a more severe feedback loop. These developments in

real activity are important for policy for two reasons. First, they should be taken into account for the decision of when to act on the downward tilt signal that we propose to communicate and that is incorporated in our proposed policy path. Second, if these conditions deteriorate significantly relative to our current forecast, we should be willing to reduce the FFR below the 2.00%—what we currently anticipate as the minimum point for the FFR path—perhaps aggressively. However, if evidence emerges that the problems in financial markets are largely of liquidity rather than fundamental values so that the alternative liquidity measures (the TAF and TSLF) prove to be effective in mitigating strains on the financial system and reducing downside risks (although the recent financial market developments argue against this), then we may wish to contemplate a somewhat higher policy path that would move closer to neutral more quickly.

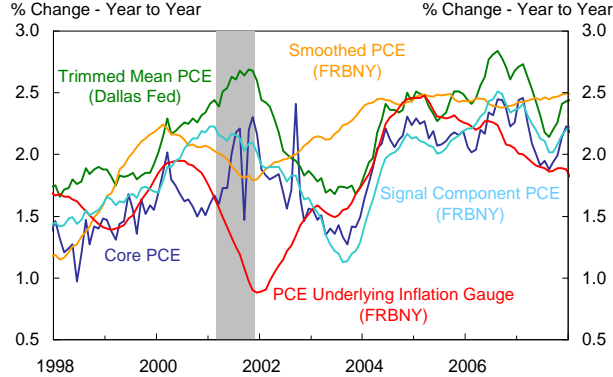
In the inter-meeting period, inflation compensation increased significantly. This development could reflect either higher inflation expectations or increased uncertainty around them. Because of the importance of inflation expectations in inflation dynamics and in the cost of maintaining inflation near the mandate-consistent range, it is important to communicate readiness to reverse the downward tilt in policy, if there are signs that the recent up-tick in inflation expectations may be persistent and is signaling that they are becoming unmoored.

In addition to the willingness to change the tilt of policy, it is key to communicate the intent of a relatively quick reversal (compared to the 2004-06 policy path) to a neutral stance once financial markets seem to have stabilized and a recovery in real economic activity is firmly established. In this way, we express our continued commitment to price stability, which should enable long-run inflation expectations to remain well-contained.

A. Significant Developments

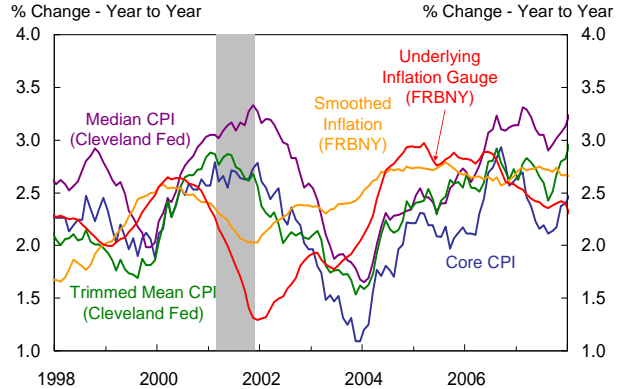
Exhibit A-1: Measures of Trend Inflation

Alternative Measures of PCE Inflation



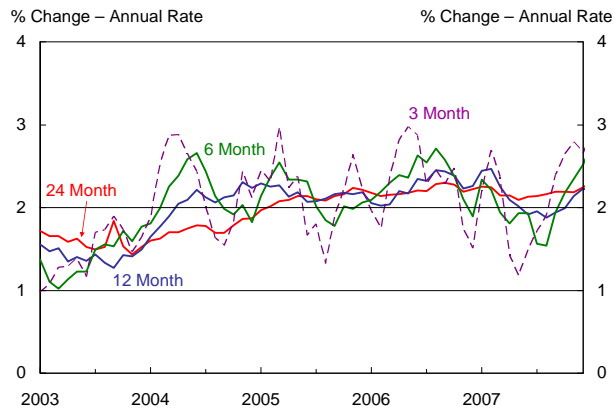
Source: Bureau of Economic Analysis, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Alternative Measures of CPI Inflation



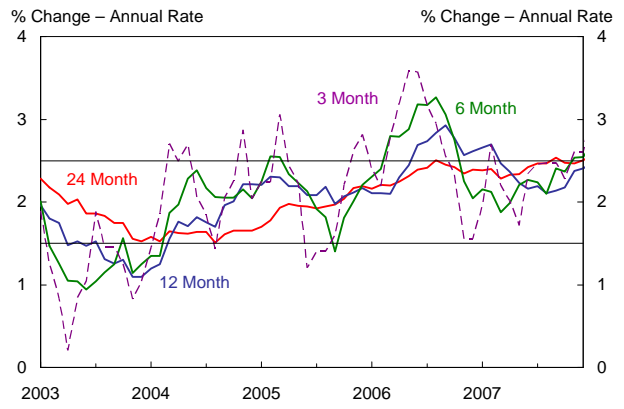
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE over Various Horizons



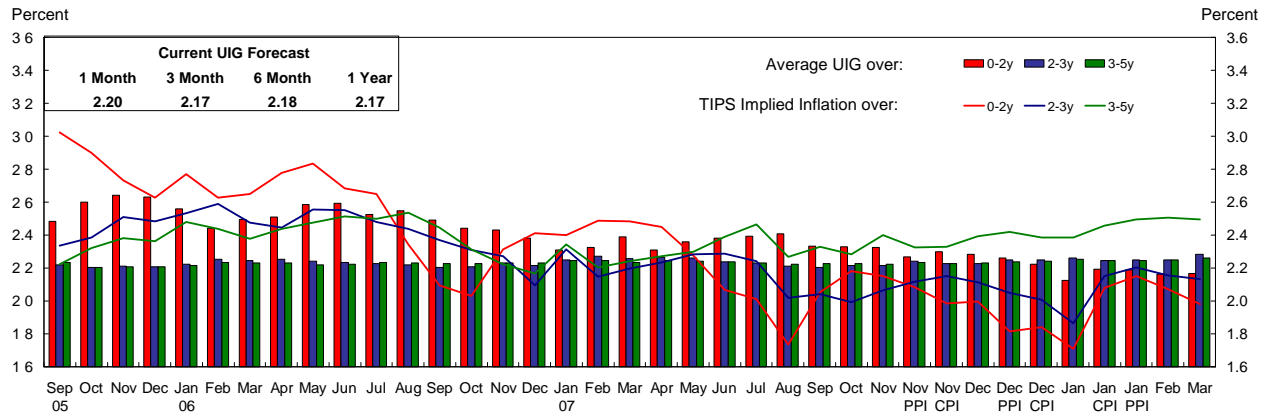
Source: Bureau of Economic Analysis

Core CPI over Various Horizons



Source: Bureau of Labor Statistics

Exhibit A-2: Underlying Inflation Gauge (UIG)

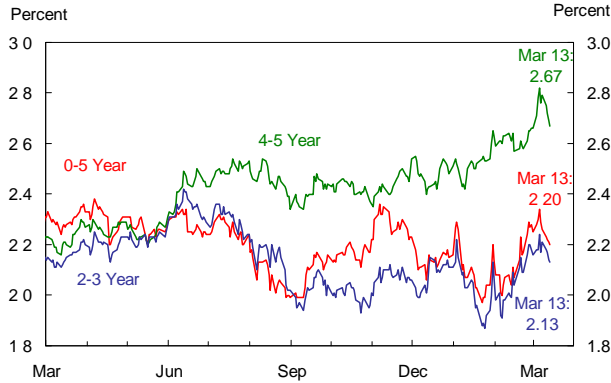


Source: MMS Function (FRBNY), Federal Reserve Board, and Swiss National Bank

A. Significant Developments

Exhibit A-3: Implied Inflation Compensation

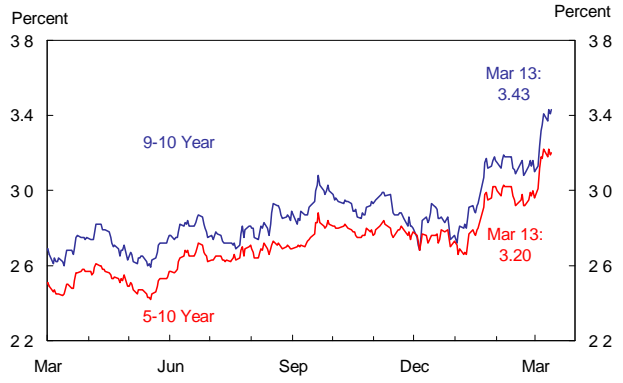
TIPS Implied Inflation Compensation: 0-5, 2-3, 4-5 Year Horizons



Source: Federal Reserve Board

Note: Carry-adjusted

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

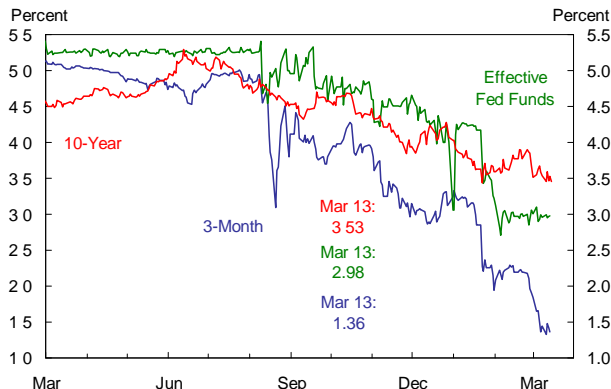


Source: Federal Reserve Board

Note: Carry-adjusted

Exhibit A-4: Treasury Yields

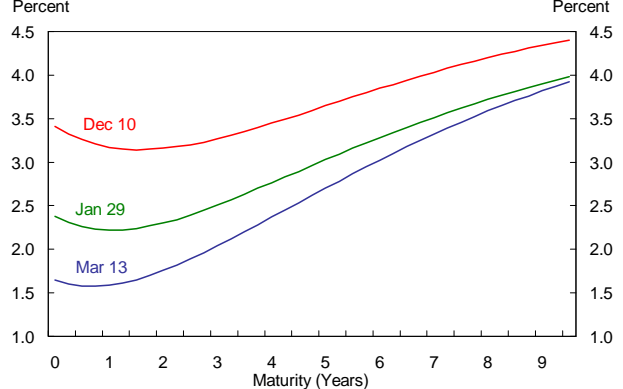
Short- and Long-Term Rates



Source: Bloomberg

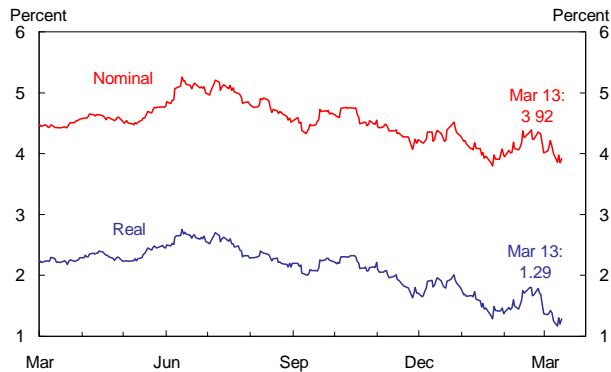
Note: Yields of on-the-run securities

Yield Curves



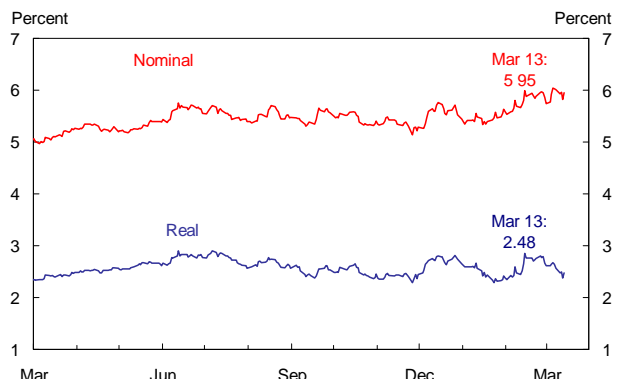
Source: Federal Reserve Board

4-5 Year Forward Rates



Source: Federal Reserve Board

9-10 Year Forward Rates

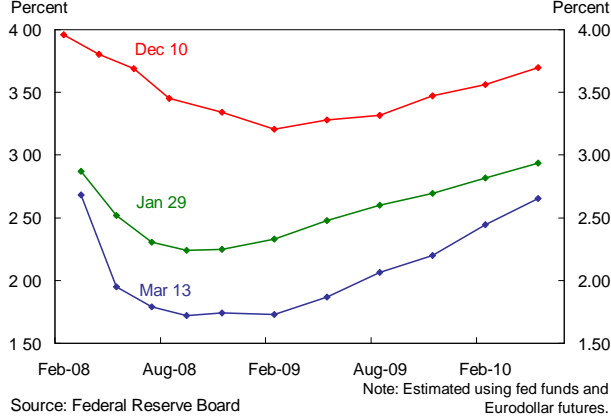


Source: Federal Reserve Board

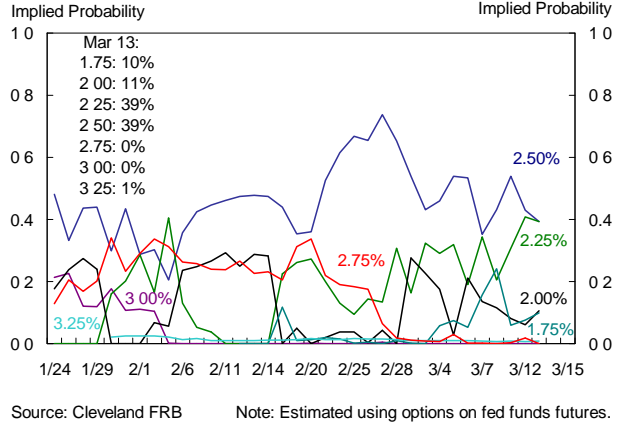
A. Significant Developments

**Exhibit A-5:
Policy Expectations**

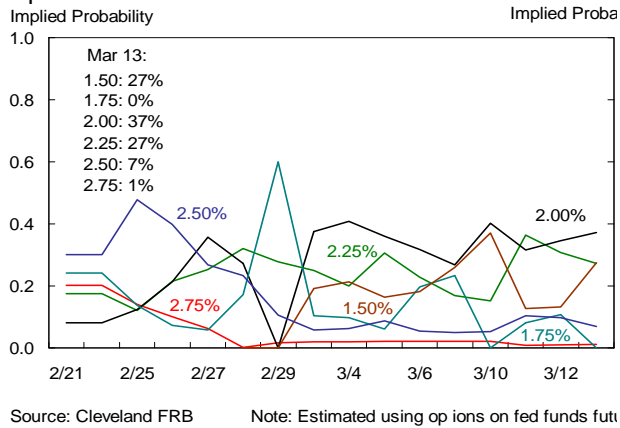
Expected Fed Funds



March 2008 FOMC



April 2008 FOMC

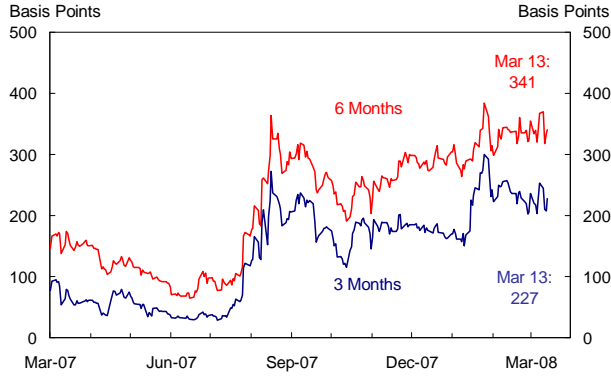


A. Significant Developments

Exhibit A-6: Policy Uncertainty

Short-Term Interest Rate Expectations

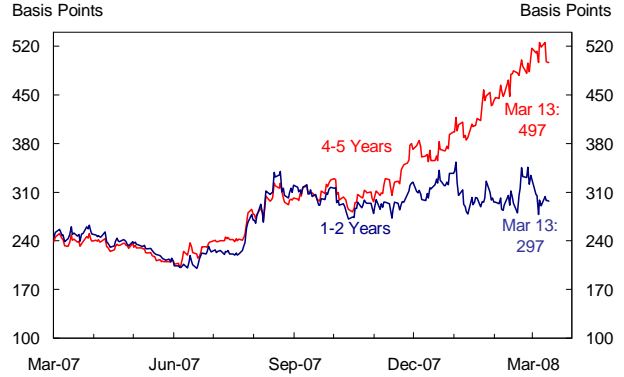
Width of 90% Confidence Interval Implied by Eurodollar Options



Source: Datastream, FRBNY calculations

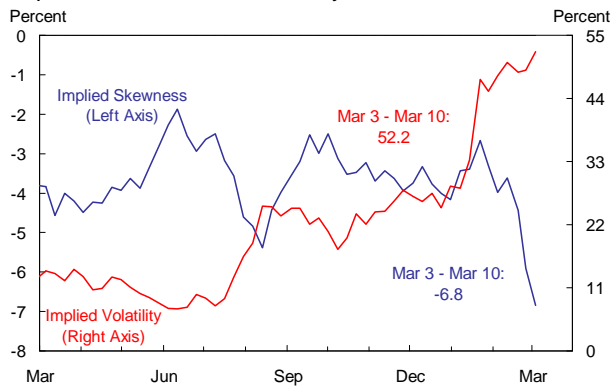
Long-Term Interest Rate Expectations

Width of 90% Confidence Interval Implied by Swaptions



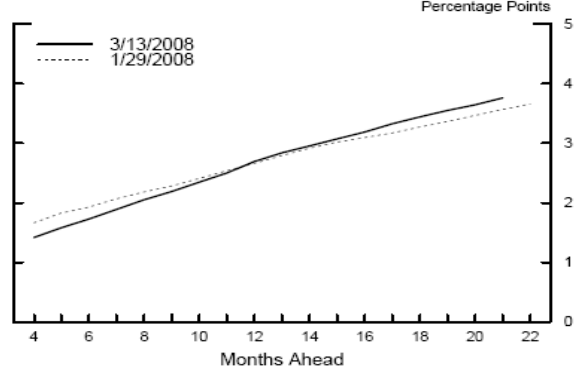
Source: Datastream, Federal Reserve Board, FRBNY calculations

Implied Skewness and Volatility



Source: CME and FRBNY calculations
Note: Weekly averages based on 3-9 month implied volatilities from Eurodollar futures options.

Eurodollar Implied Volatility Term Structure*

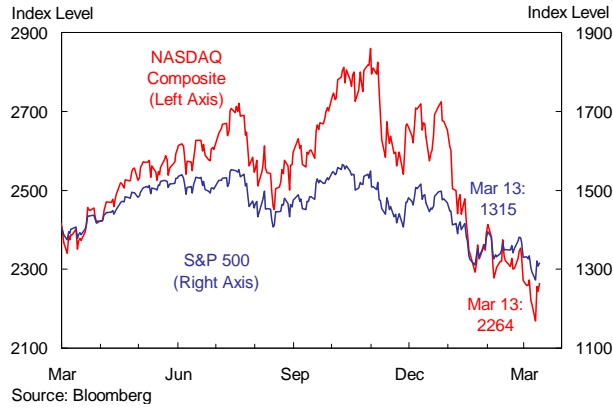


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

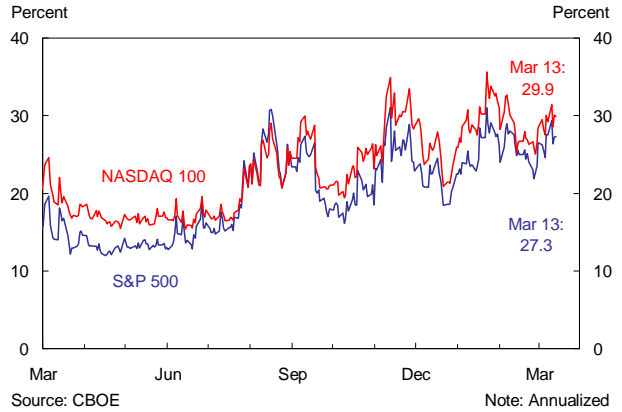
A. Significant Developments

Exhibit A-7: Equity Markets and Corporate Credit Risk

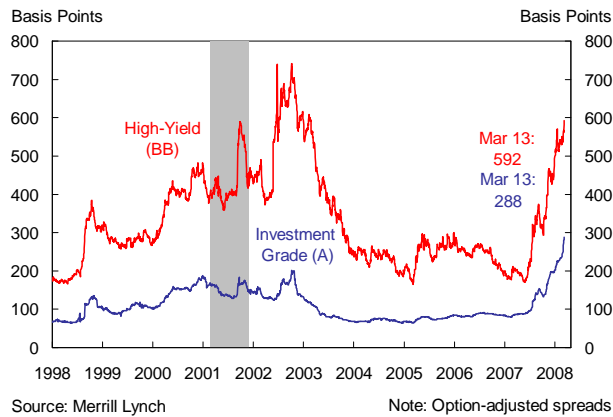
Performance



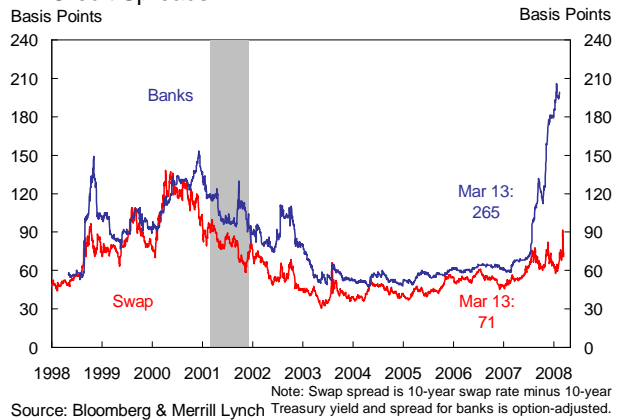
Implied Volatility: 1-Month



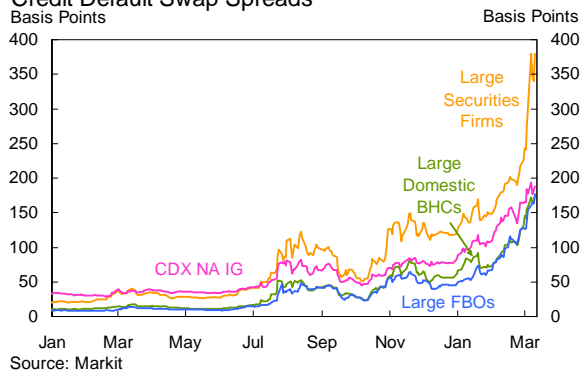
Corporate Credit Spreads



AA Credit Spreads



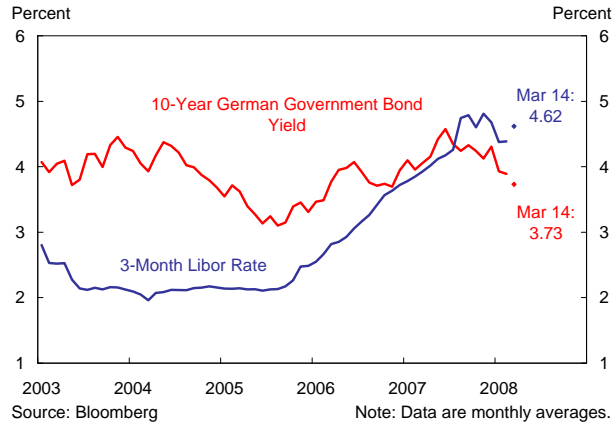
Credit Default Swap Spreads



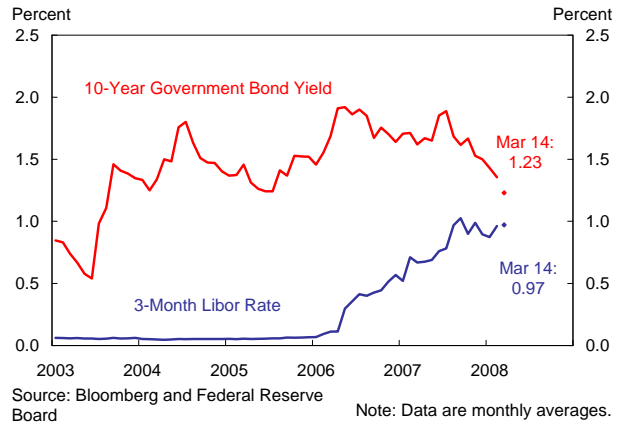
A. Significant Developments

Exhibit A-8: Global Interest Rates and Equity Markets

Euro Area Short- and Long-Term Interest Rates

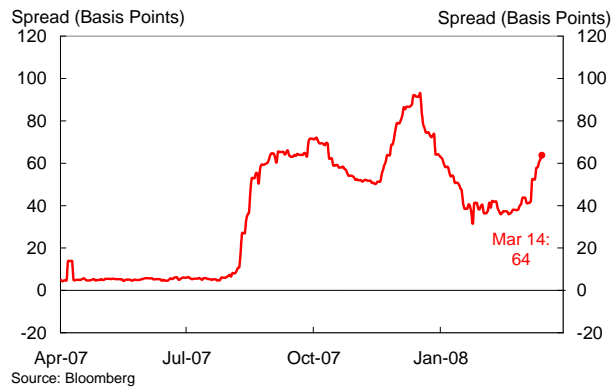


Japan Short- and Long-Term Interest Rates



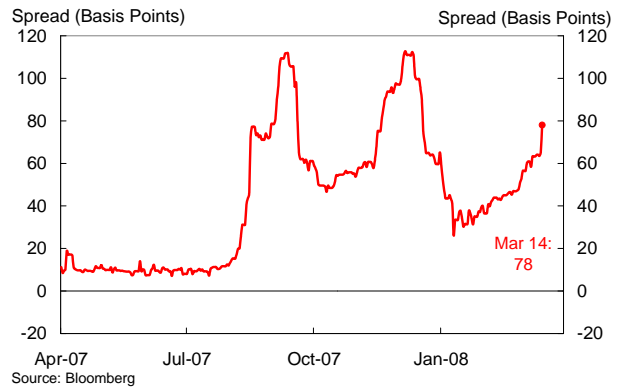
Euro Area

LIBOR Rate - OIS Swap Rate (3-month)

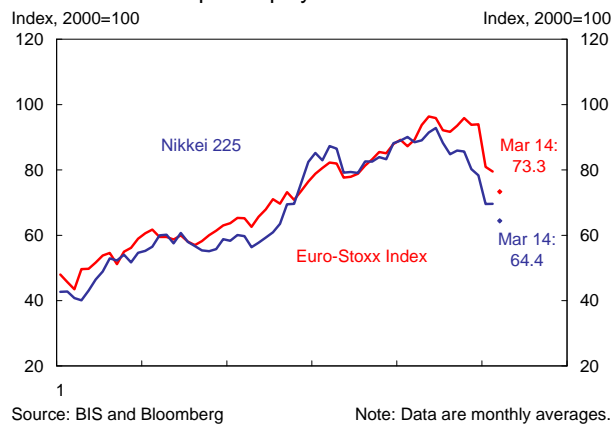


United Kingdom

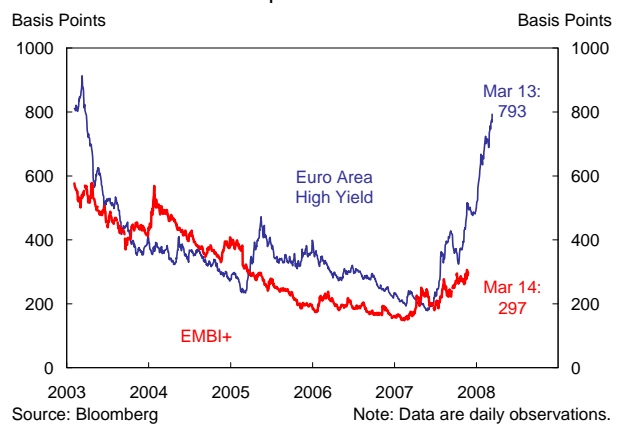
LIBOR Rate - OIS Swap Rate (3-month)



Euro Area and Japan Equity Indices



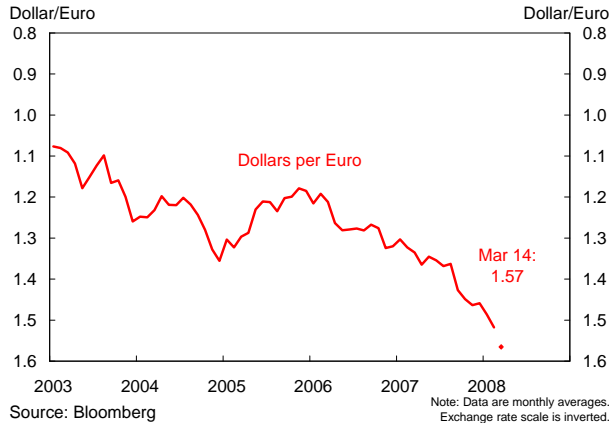
EMBI+ and Euro Area Spreads



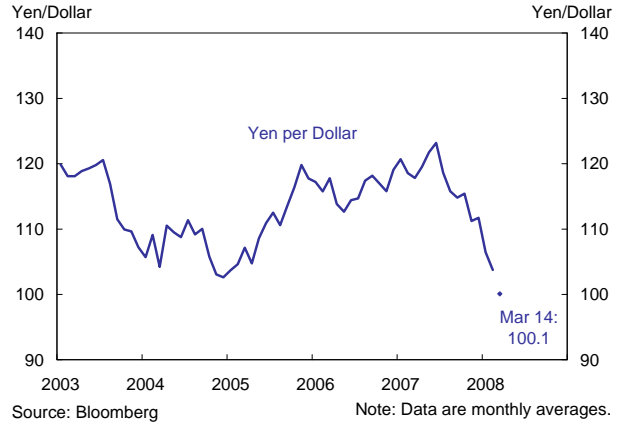
A. Significant Developments

**Exhibit A-9:
Exchange Rates**

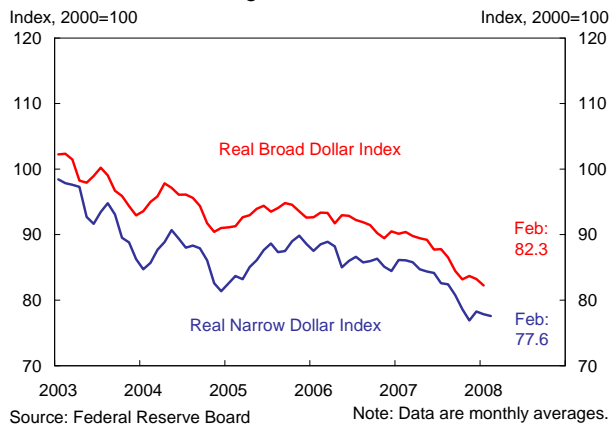
Dollar-Euro Exchange Rate



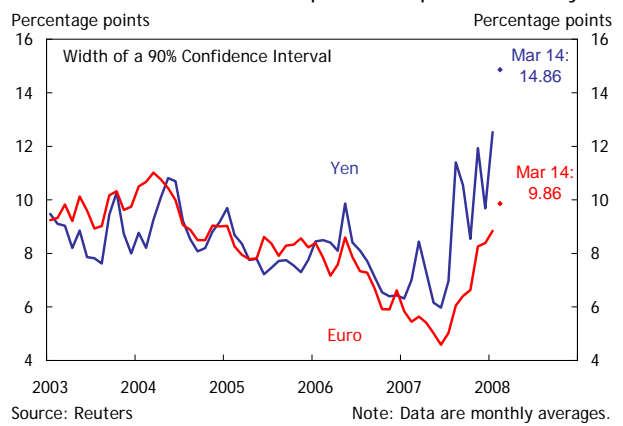
Yen-Dollar Exchange Rate



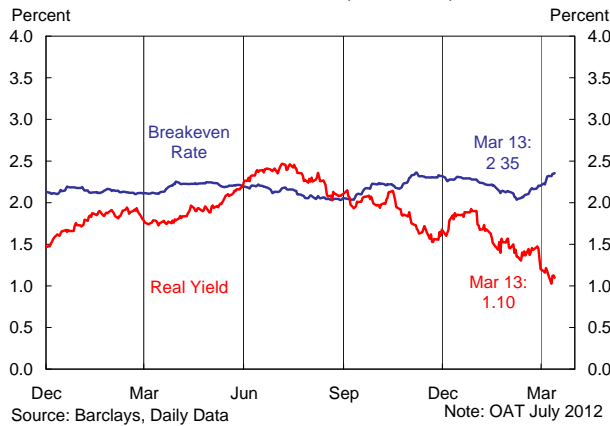
Real Effective Exchange Rates



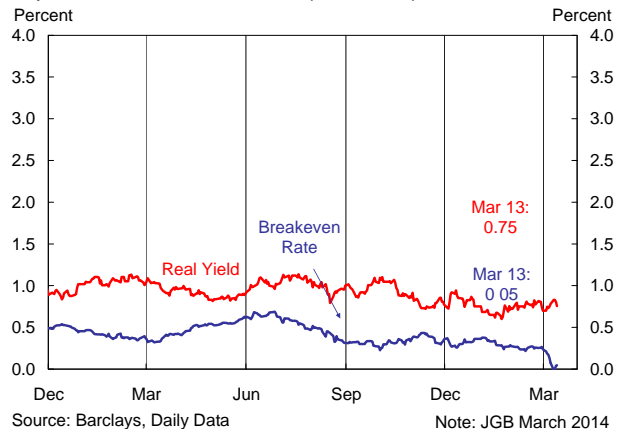
Euro and Yen One-Month Implied FX Option Volatility



Euro Area Inflation-Linked Bonds (Past Year)



Japan Inflation-Linked Bonds (Past Year)

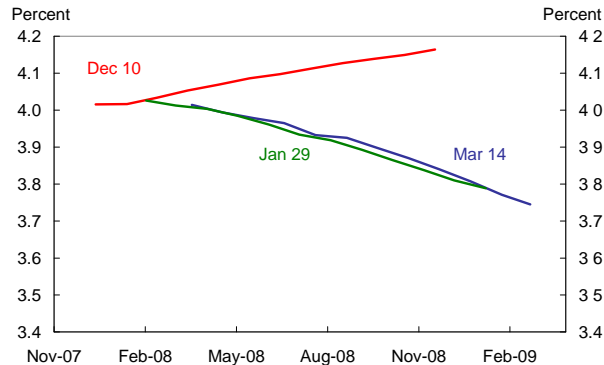


A. Significant Developments

Exhibit A-10: Euro Area and Japan Swap Curves

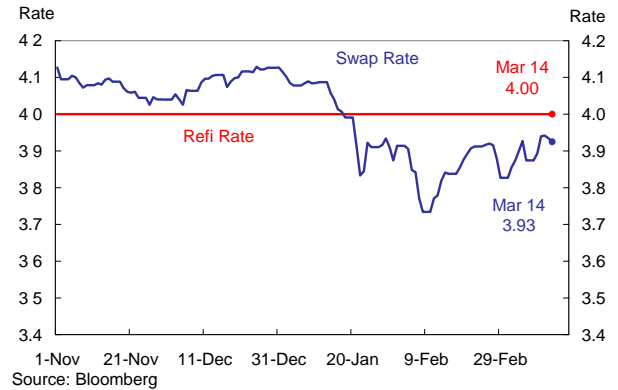
Euro Area Swap Curve

Expected Average Overnight Rate Months Ahead



Source: Bloomberg

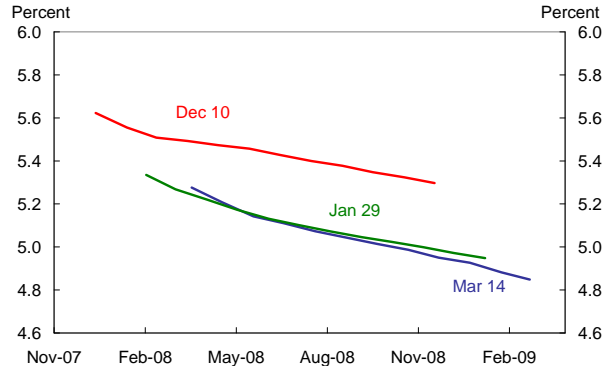
Euro Area: Expected Average Overnight Rate Over the Next Six Months (Swap Rate)



Source: Bloomberg

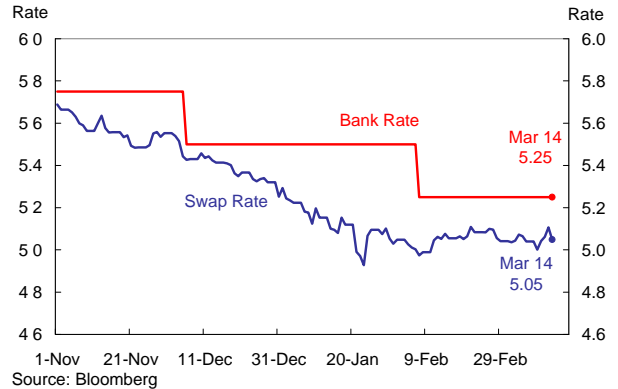
UK Swap Curve

Expected Average Overnight Rate Months Ahead



Source: Bloomberg

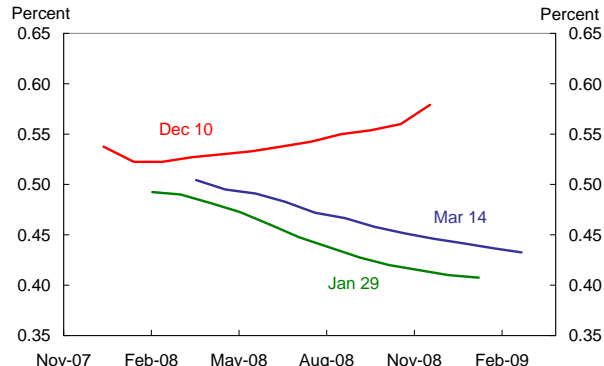
UK: Expected Average Overnight Rate Over the Next Six Months (Swap Rate)



Source: Bloomberg

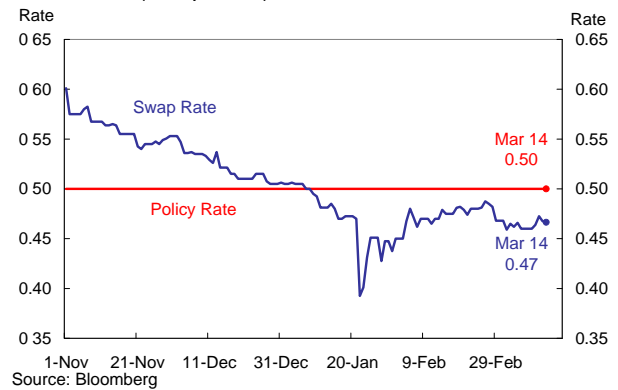
Japan Swap Curve

Expected Average Overnight Rate Months Ahead



Source: Bloomberg

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



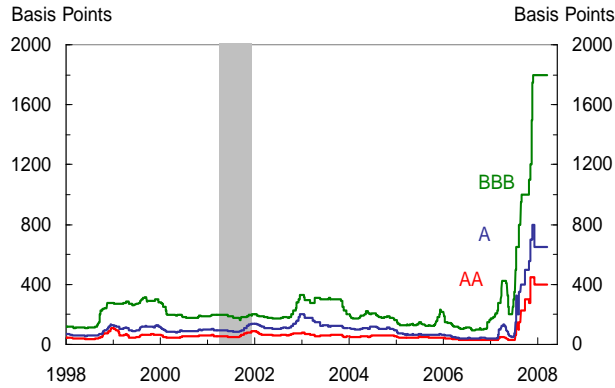
Source: Bloomberg

Note: Shading represents NBER recessions.

A. Significant Developments

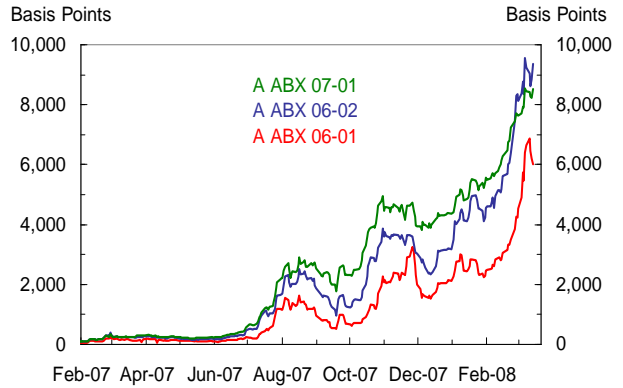
Exhibit A-11: Financial Market Indicators of Subprime Spillovers

Spreads on Subprime MBS Tranches



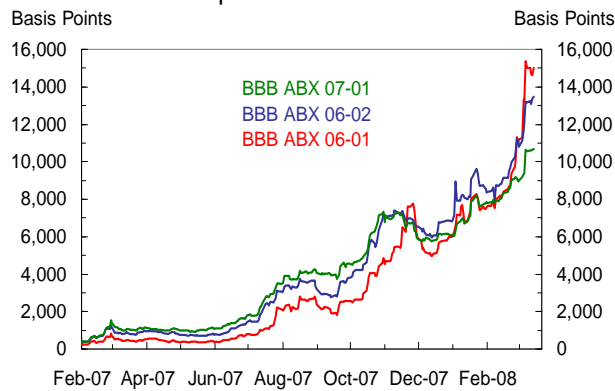
Source: JPMorgan and FRBNY (Markets Group)

A-Rated ABX Spreads



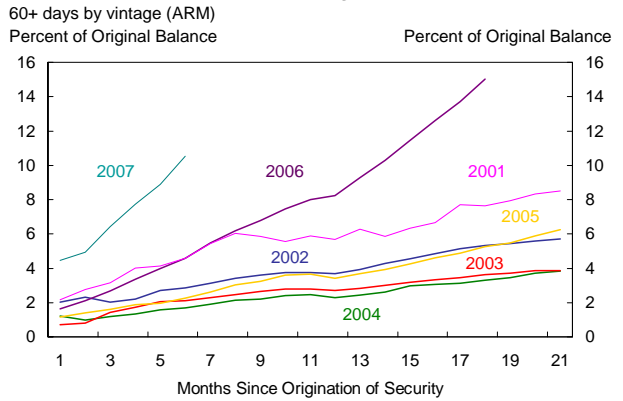
Source: JPMorgan and FRBNY (Markets Group)

BBB-Rated ABX Spreads



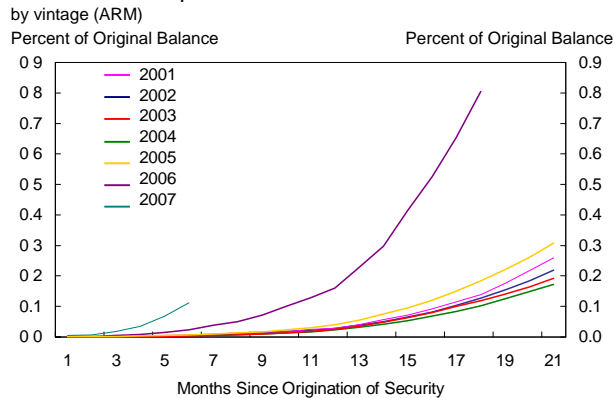
Source: JPMorgan and FRBNY (Markets Group)

Subprime Delinquencies (through Sept '07)



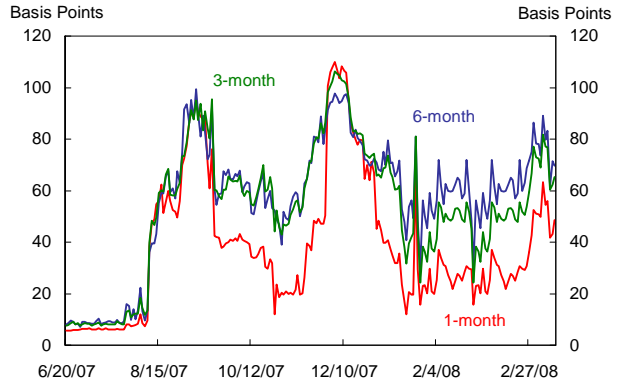
Source: Moody's and FRBNY (Bank Supervision)

Cumulative Subprime Losses



Source: Moody's and FRBNY (Bank Supervision)

USD LIBOR-to-OIS Spread



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**		
	Dec	Jan	Mar	Dec	Jan	Mar	Dec	Jan	Mar	Dec	Jan	Mar
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	1.8	2.0	2.0	4.9	4.9	4.9	4.6	4.7	4.7	4.8	4.8	4.8
Q4	2.0	2.7	2.7	0.8	2.2	0.6	4.7	4.8	4.8	4.3	4.3	4.3
2008												
Q1	1.8	2.1	2.7	1.6	-0.8	-0.4	4.9	5.3	5.1	4.0	2.8	2.3
Q2	1.7	1.9	2.0	2.5	0.9	-0.9	5.0	5.4	5.6	3.8	2.5	2.0
Q3	1.7	1.7	1.8	2.3	4.8	4.3	5.0	5.4	5.8	3.8	2.5	2.0
Q4	1.7	1.7	1.8	2.8	2.5	2.2	5.0	5.3	5.8	3.8	2.5	2.0
2009												
Q1	1.7	1.7	1.8	2.8	3.6	2.7	4.9	5.2	5.7	4.0	2.5	2.3
Q2	1.7	1.7	1.8	3.0	3.2	3.4	4.9	5.2	5.7	4.3	2.5	2.5
Q3	1.6	1.6	1.7	2.8	3.0	3.0	4.9	5.1	5.6	4.3	3.0	3.0
Q4	1.6	1.6	1.7	2.6	2.8	2.8	4.9	5.0	5.5	4.3	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	1.9	2.1	2.1	2.5	2.9	2.5	0.2	0.4	0.4	-1.0	-1.0	-1.0
2008	1.7	1.8	2.1	2.3	1.8	1.3	0.3	0.5	1.0	-0.5	-1.8	-2.3
2009	1.6	1.6	1.7	2.8	3.2	3.0	-0.1	-0.3	-0.3	0.5	1.0	1.5

Note: Columns reflect the forecast dates. Numbers in gray are from previous Blackbooks, and numbers in italics are released data.

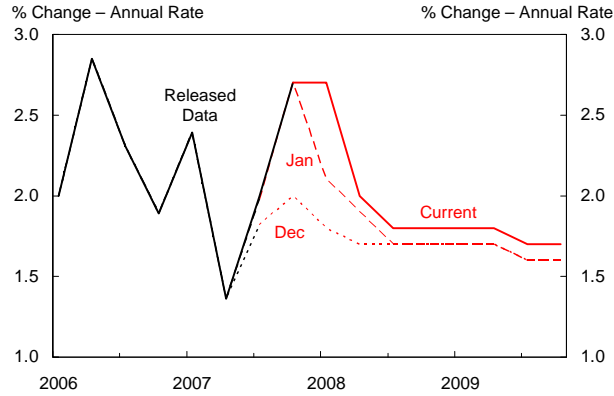
*Quarterly values are the average rate for the quarter. Yearly values are the difference between Q4 of the previous year and Q4 of the listed year.

**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.

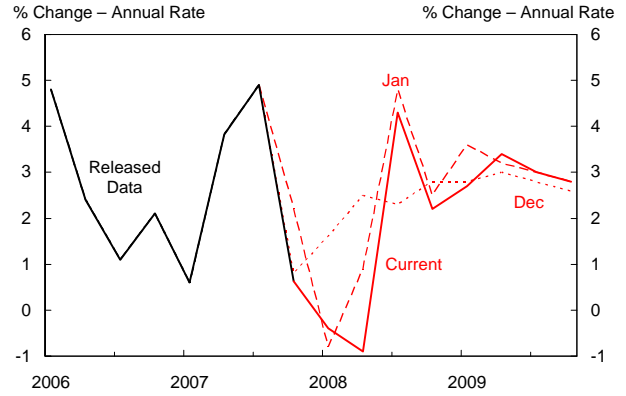
B. FRBNY Forecast Details

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

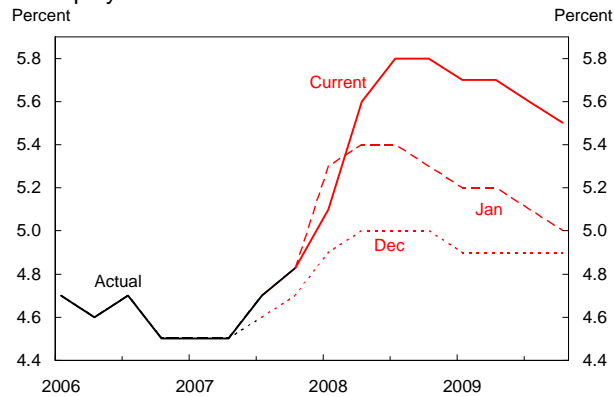
Core PCE Inflation



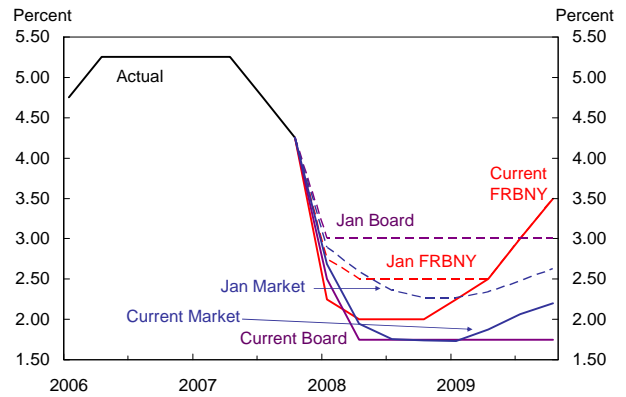
Real GDP Growth



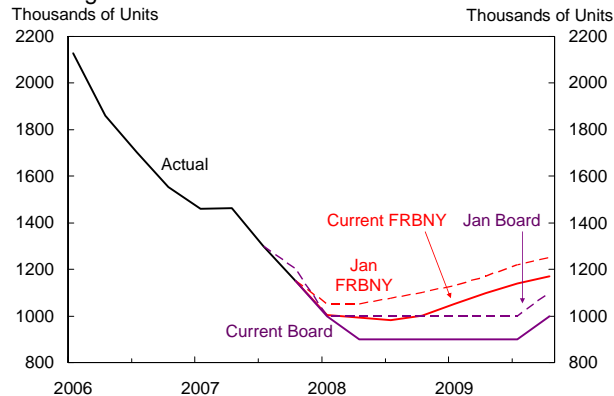
Unemployment Rate



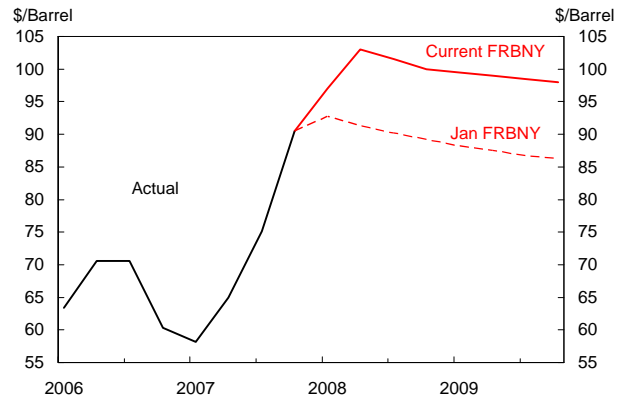
Federal Funds Rate



Housing Starts



Crude Oil



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

B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	<u>Quarterly Growth Rates (AR)</u>		<u>Quarterly Growth Contributions (AR)</u>	
	2008Q1	2008Q2	2008Q1	2008Q2
OUTPUT				
Real GDP	-0.4 (-0.8)	-0.9 (0.9)	-0.4 (-0.8)	-0.9 (0.9)
Final Sales to Domestic Purchasers	-0.6 (-0.5)	0.2 (0.7)	-0.6 (-0.5)	0.2 (0.7)
Consumption	0.5 (1.3)	1.5 (1.7)	0.3 (0.9)	1.1 (1.2)
BFI: Equipment and Software	0.0 (-5.0)	-5.0 (-5.0)	0.0 (-0.4)	-0.4 (-0.4)
BFI: Nonresidential Structures	4.0 (10.0)	3.0 (5.0)	0.1 (0.3)	0.1 (0.2)
Residential Investment	-30.0 (-40.0)	-22.5 (-16.0)	-1.4 (-2.0)	-0.9 (-0.6)
Government: Federal	0.0 (5.0)	1.0 (0.5)	0.0 (0.4)	0.1 (0.0)
Government: State and Local	2.5 (2.5)	2.0 (2.0)	0.3 (0.3)	0.3 (0.2)
Inventory Investment	-- --	-- --	0.0 (-0.1)	-1.7 (-0.3)
Net Exports	-- --	-- --	0.2 (-0.2)	0.7 (0.5)
INFLATION				
Total PCE Deflator	4.0 (2.9)	3.9 (2.0)		
Core PCE Deflator	2.7 (2.1)	2.0 (1.9)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	1.9 (0.0)	1.4 (0.9)		
Compensation per Hour	3.8 (3.8)	3.8 (3.8)		
Unit Labor Costs	1.9 (3.8)	2.3 (2.9)		

Note: Numbers in parentheses are from the previous Blackbook.

*Nonfarm business sector.

B. FRBNY Forecast Details

Exhibit B-4: Real GDP and Inflation Projections

	Q4/Q4 Growth Rates			Q4/Q4 Growth Contributions		
	2007	2008	2009	2007	2008	2009
OUTPUT						
Real GDP	2.5 (2.9)	1.3 (1.8)	3.0 (3.2)	2.5 (2.9)	1.3 (1.8)	3.0 (3.2)
Final Sales to Domestic Purchasers	1.9 (2.2)	0.9 (1.6)	2.6 (2.7)	2.0 (2.4)	1.0 (1.7)	2.8 (2.9)
Consumption	2.5 (2.6)	2.0 (2.6)	2.6 (2.6)	1.7 (1.8)	1.4 (1.8)	1.9 (1.9)
BFI: Equipment and Software	3.6 (3.3)	0.5 (-0.2)	3.5 (3.5)	0.3 (0.2)	0.0 (-0.0)	0.2 (0.2)
BFI: Nonresidential Structures	15.7 (16.0)	3.2 (5.5)	3.0 (3.0)	0.5 (0.5)	0.1 (0.2)	0.1 (0.1)
Residential Investment	-18.6 (-16.7)	-20.9 (-18.5)	6.2 (8.1)	-1.0 (-0.9)	-0.9 (-0.8)	0.2 (0.3)
Government: Federal	1.8 (4.5)	1.0 (2.0)	1.5 (1.5)	0.1 (0.3)	0.1 (0.1)	0.1 (0.1)
Government: State and Local	2.7 (2.8)	1.9 (2.1)	1.8 (1.9)	0.3 (0.3)	0.2 (0.3)	0.2 (0.2)
Inventory Investment	-- --	-- --	-- --	-0.3 (-0.1)	-0.1 (-0.1)	0.3 (0.4)
Net Exports	-- --	-- --	-- --	0.8 (0.6)	0.4 (0.3)	-0.1 (-0.1)
INFLATION						
Total PCE Deflator	3.4 (3.3)	2.9 (2.2)	1.7 (1.7)			
Core PCE Deflator	2.1 (2.1)	2.1 (1.8)	1.7 (1.6)			
Total CPI Inflation	4.0 (4.0)	2.9 (2.6)	2.1 (2.1)			
Core CPI Inflation	2.3 (2.3)	2.2 (2.1)	1.9 (1.9)			
GDP Deflator	2.6 (2.1)	2.5 (2.3)	2.0 (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 (4.25)	2.00 (2.50)	3.50 (3.50)
10-Year Treasury Yield (Avg. Q4 Level)	4.3 (4.3)	3.8 (3.6)	3.8 (3.6)
PRODUCTIVITY AND LABOR COSTS*			
Output	2.6 (3.2)	1.6 (2.1)	3.3 (3.5)
Hours	-0.3 (0.1)	-0.2 (1.0)	1.5 (1.7)
Output per Hour	2.9 (3.1)	1.8 (1.2)	1.8 (1.8)
Compensation per Hour	3.9 (4.1)	4.0 (4.0)	4.2 (4.2)
Unit Labor Costs	0.9 (1.0)	2.2 (2.8)	2.4 (2.4)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	4.8 (4.8)	5.8 (5.3)	5.5 (5.0)
Participation Rate (Avg. Q4 Level)	66.0 (66.0)	66.0 (66.0)	66.0 (66.0)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	104 (124)	-10 (105)	147 (188)
INCOME			
Personal Income	5.8 (6.0)	4.6 (4.9)	5.2 (5.5)
Real Disposable Personal Income	2.1 (2.3)	1.4 (2.7)	3.5 (3.9)
Corporate Profits Before Taxes	1.8 (3.2)	-3.2 (-0.6)	-0.4 (-0.0)

Note: Numbers in parentheses are from the previous Blackbook.

*Nonfarm business sector.

B. FRBNY Forecast Details

Exhibit B-6: FRBNY and Greenbook Forecast Comparison

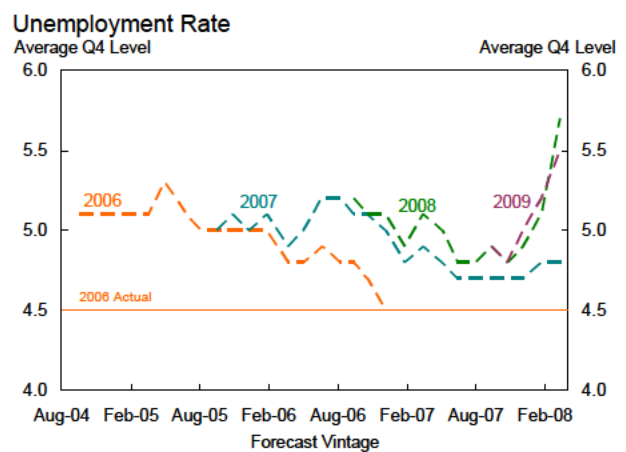
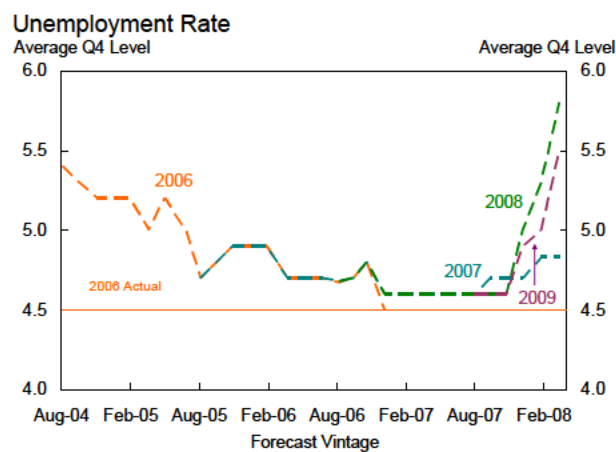
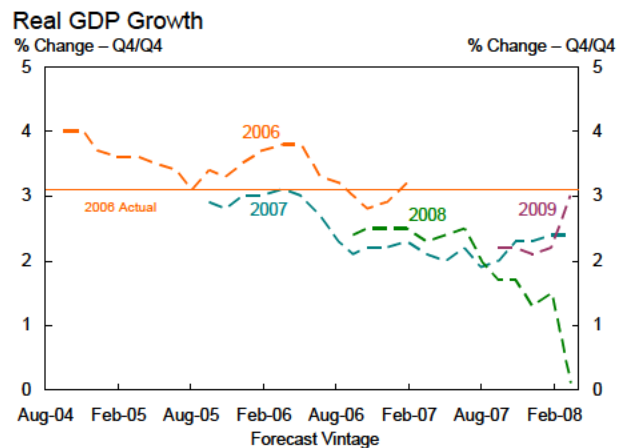
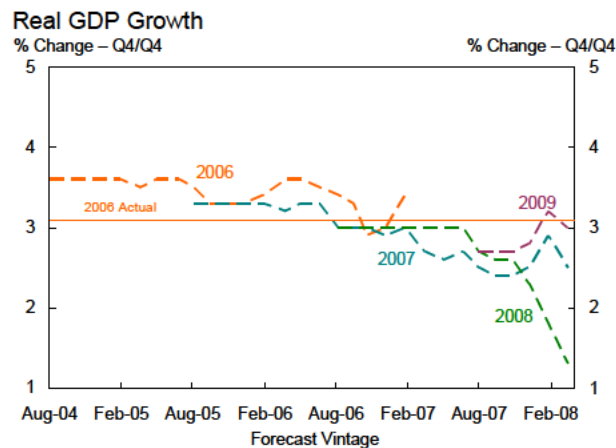
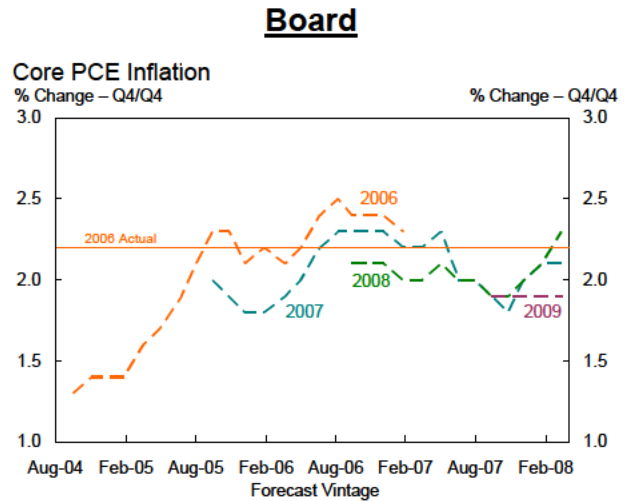
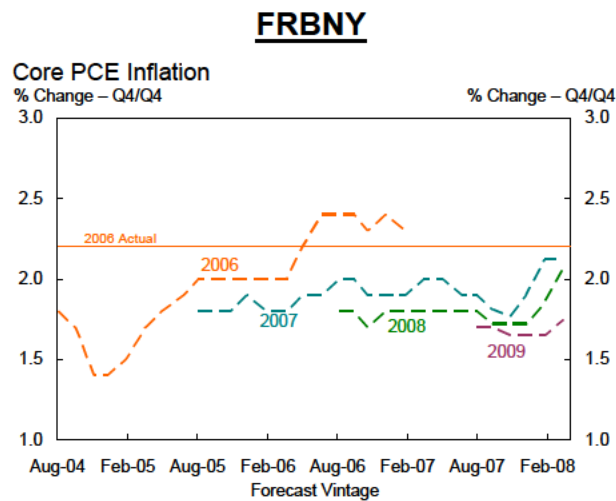
	FRBNY			Board		
	2007	2008	2009	2007	2008	2009
OUTPUT						
Real GDP	2.5 (2.9)	1.3 (1.8)	3.0 (3.2)	2.4 (2.4)	0.1 (1.5)	3.0 (2.2)
GDP Growth Contributions						
Final Sales to Domestic Purchasers	2.0 (2.4)	1.0 (1.7)	2.8 (2.9)	2.7 (2.6)	0.3 (1.7)	2.2 (1.7)
Consumption	1.7 (1.8)	1.4 (1.8)	1.9 (1.9)	1.7 (1.8)	0.0 (1.6)	1.4 (1.0)
BFI	0.8 (0.8)	0.2 (0.2)	0.4 (0.4)	0.7 (0.8)	-0.3 (0.1)	0.2 (0.3)
Residential Investment	-1.0 (-0.9)	-0.9 (-0.8)	0.2 (0.3)	-1.0 (-1.1)	-1.1 (-0.8)	-0.1 (0.0)
Government	0.5 (0.7)	0.3 (0.4)	0.3 (0.4)	0.5 (0.5)	0.4 (0.3)	0.3 (0.2)
Inventory Investment	-0.3 (-0.1)	-0.1 (-0.1)	0.3 (0.4)	-0.3 (-0.2)	-0.2 (-0.1)	0.8 (0.5)
Net Exports	0.8 (0.6)	0.4 (0.3)	-0.1 (-0.1)	0.8 (0.6)	1.2 (0.5)	0.3 (0.3)
INFLATION						
Total PCE Deflator	3.4 (3.3)	2.9 (2.2)	1.7 (1.7)	3.4 (3.4)	2.9 (2.2)	1.7 (1.7)
Core PCE Deflator	2.1 (2.1)	2.1 (1.8)	1.7 (1.6)	2.1 (2.1)	2.3 (2.1)	1.9 (1.9)
INTEREST RATE ASSUMPTION						
Fed Funds Rate (End-of-Year)	4.25 (4.25)	2.00 (2.50)	3.50 (3.50)	4.25 (4.25)	1.75 (3.00)	1.75 (3.00)
PRODUCTIVITY AND LABOR COSTS*						
Output per Hour	2.9 (3.1)	1.8 (1.2)	1.8 (1.8)	2.9 (2.7)	1.1 (1.6)	2.8 (1.9)
Compensation per Hour	3.9 (4.1)	4.0 (4.0)	4.2 (4.2)	3.9 (3.9)	4.0 (4.4)	3.8 (4.1)
Unit Labor Costs	0.9 (1.0)	2.2 (2.8)	2.4 (2.4)	1.0 (1.2)	2.8 (2.8)	0.9 (2.2)
LABOR MARKET						
Unemployment Rate (Avg. Q4 Level)	4.8 (4.8)	5.8 (5.3)	5.5 (5.0)	4.8 (4.8)	5.7 (5.1)	5.5 (5.2)
Participation Rate (Avg. Q4 Level)	66.0 (66.0)	66.0 (66.0)	66.0 (66.0)	66.0 (66.0)	65.6 (65.7)	65.4 (65.5)
Avg. Monthly Nonfarm Payroll Growth (Thous.)	104 (124)	-10 (105)	147 (188)	100 (125)	-67 (33)	92 (75)
HOUSING						
Housing Starts (Avg. Q4 Level, Thous.)	1152 (1151)	1050 (1100)	1150 (1250)	1200 (1200)	900 (1000)	1000 (1100)

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



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

B. FRBNY Forecast Details

Exhibit B-8: Alternative GDP and Inflation Forecasts

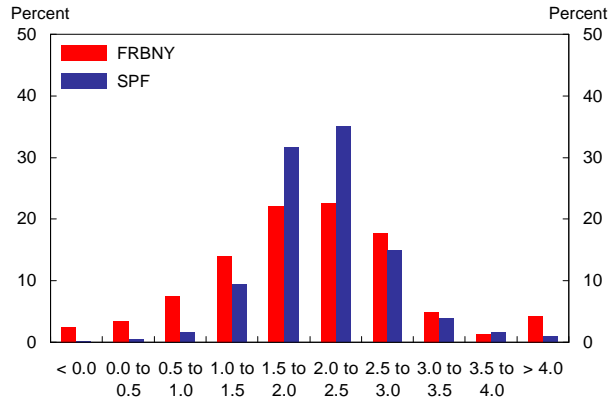
		Real GDP Growth			
	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	3/14/2008	-0.4 (-0.8)	-0.9 (0.9)	1.3 (1.8)	3.0 (3.2)
PSI Model	3/12/2008	0.1 (0.6)	0.9 --	-- --	-- --
Blue Chip	3/10/2008	0.1 (1.3)	0.5 (1.9)	1.3 (2.0)	2.6 (2.9)
Median SPF	2/12/2008	0.7 (2.2)	1.3 (2.3)	1.8 (2.5)	2.8 --
Macro Advisers	3/13/2008	1.0 (1.3)	1.7 (2.7)	2.2 (2.6)	2.9 (2.8)
		Core PCE Inflation			
	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	3/14/2008	2.7 (2.1)	2.0 (1.9)	2.1 (1.9)	1.8 (1.7)
Median SPF	2/12/2008	2.2 (1.9)	2.1 (1.9)	2.0 (1.9)	2.0 (1.9)
		CPI Inflation			
	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	3/14/2008	4.6 (3.5)	2.3 (2.3)	2.9 (2.6)	2.1 (2.1)
Blue Chip	3/10/2008	4.0 (3.1)	2.4 (2.1)	2.7 (2.4)	2.4 (2.3)
Median SPF	2/12/2008	3.5 (2.9)	2.4 (2.4)	2.5 (2.5)	2.3 (2.3)
Macro Advisers	3/13/2008	4.3 (3.4)	2.5 (2.4)	2.9 (2.5)	2.1 (2.0)
		Core CPI Inflation			
	Release Date	2008Q1	2008Q2	2008 Q4/Q4	2009 Q4/Q4
FRBNY	3/14/2008	3.1 (2.6)	2.0 (2.0)	2.2 (2.1)	1.9 (1.9)
Median SPF	2/12/2008	2.4 (2.2)	2.2 (2.2)	2.2 (2.2)	2.1 (2.2)
Macro Advisers	3/13/2008	3.0 (2.5)	2.5 (2.3)	2.7 (2.3)	2.2 (2.1)

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

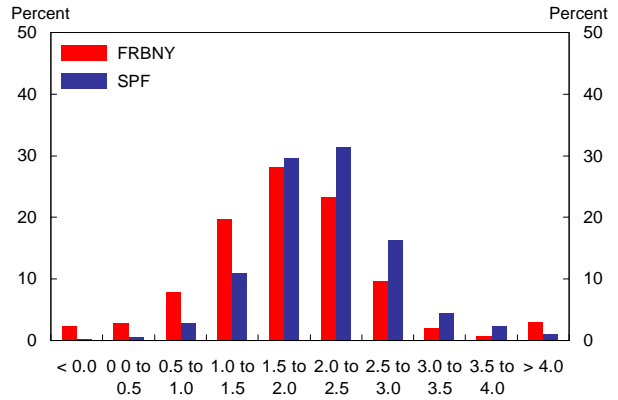
B. FRBNY Forecast Details

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

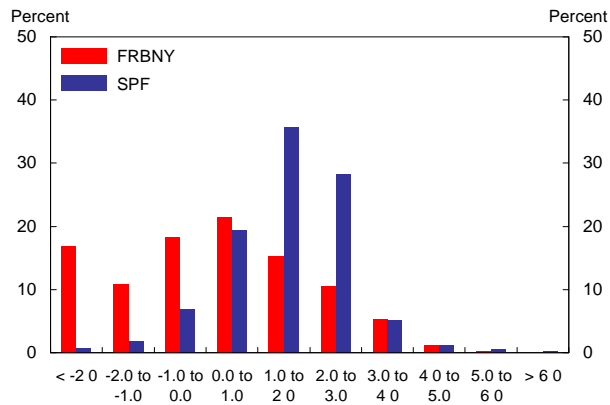
2008Q4/Q4 Core PCE Inflation Probabilities



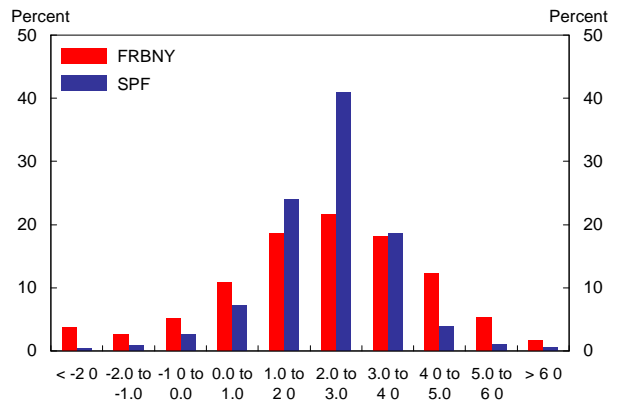
2009Q4/Q4 Core PCE Inflation Probabilities



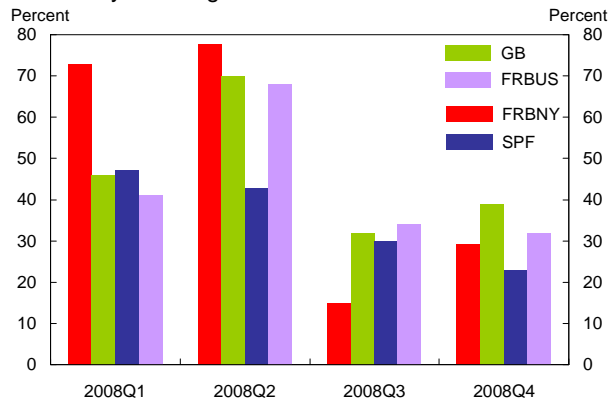
2008/2007 Real GDP Growth Probabilities



2009/2008 Real GDP Growth Probabilities



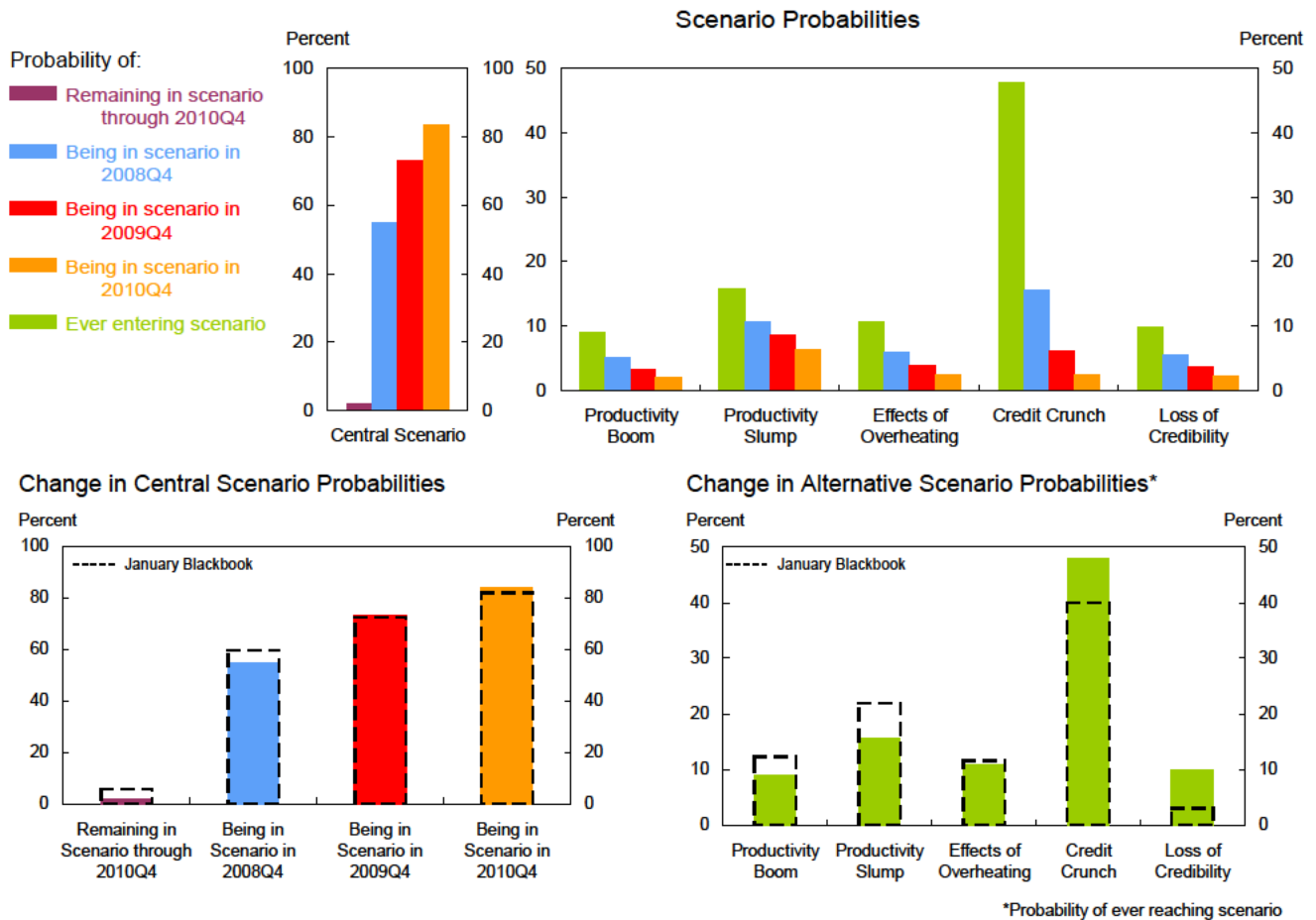
Probability of a Negative-Growth Quarter



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 March Greenbook.

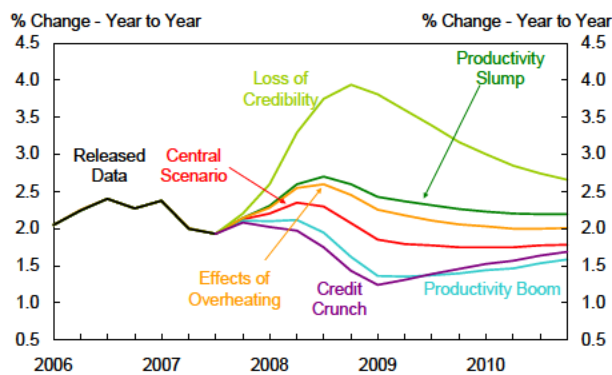
C. FRBNY Forecast Distributions

**Exhibit C-1:
Risks**

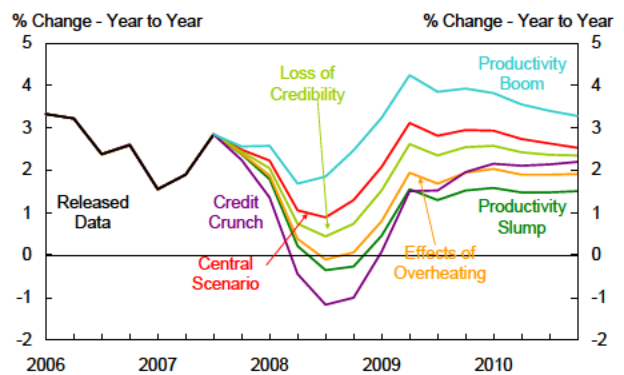


**Exhibit C-2: Projections
under Alternative Scenarios**

Core PCE Inflation under Alternative Scenarios



Real GDP Growth under Alternative Scenarios

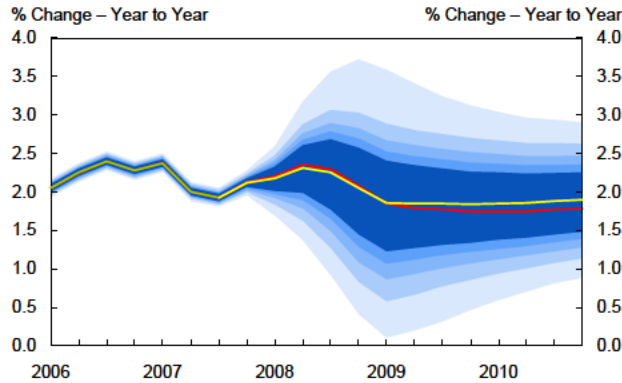


Source: MMS Function (FRBNY)

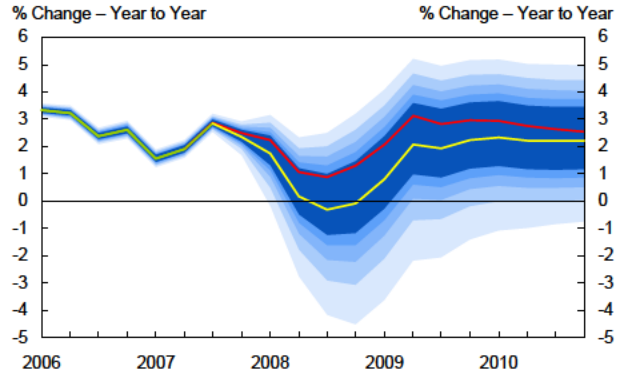
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

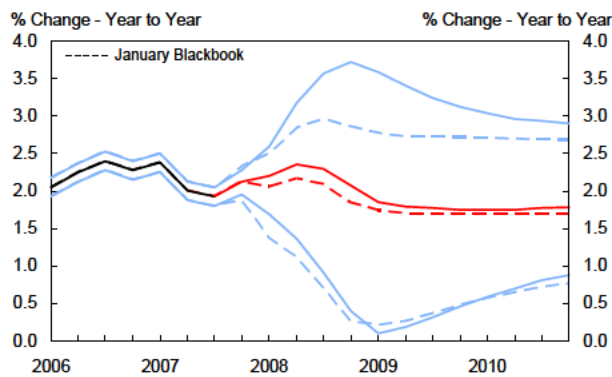


Real GDP Growth Forecast Distribution

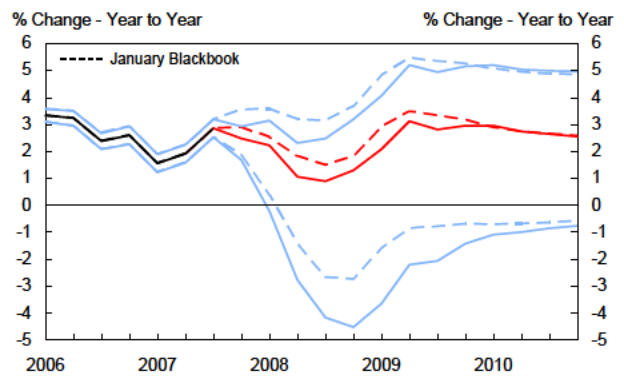


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

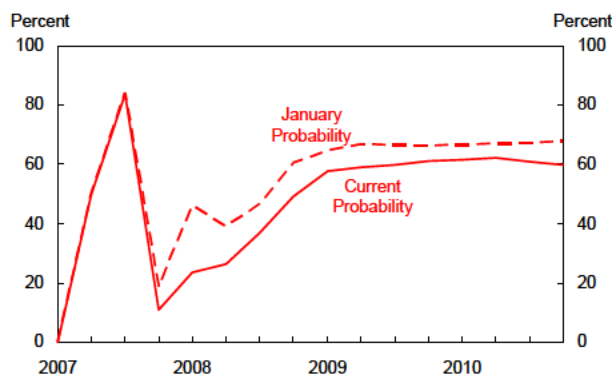


Change in Real GDP Growth Forecast Distribution

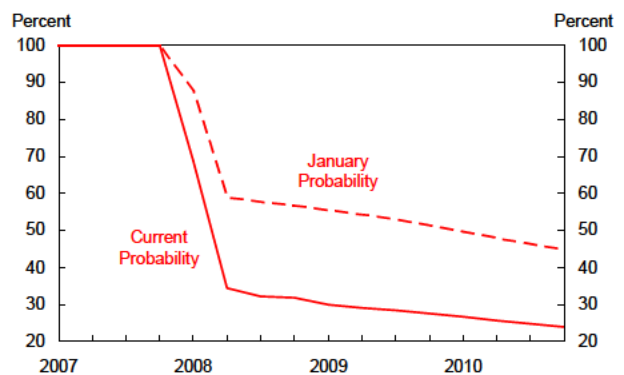


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Probability of Four-Quarter Core PCE Inflation below 2%



Probability of Continuing Expansion*



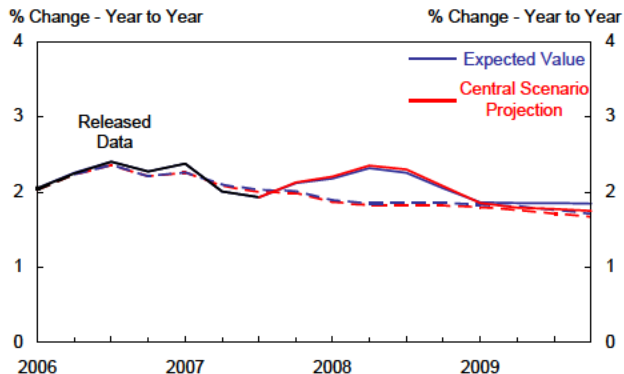
*No two consecutive quarters of negative growth

Source: MMS Function (FRBNY)

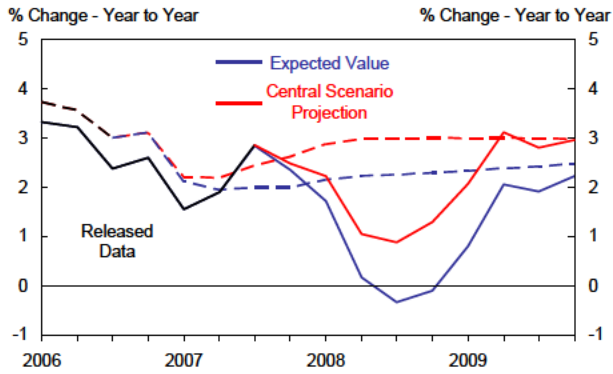
C. FRBNY Forecast Distributions

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

One-Year Comparison of Core PCE Inflation Forecast

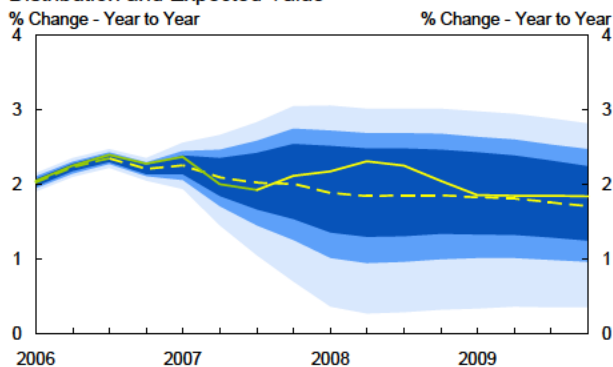


One-Year Comparison of Real GDP Growth Forecast

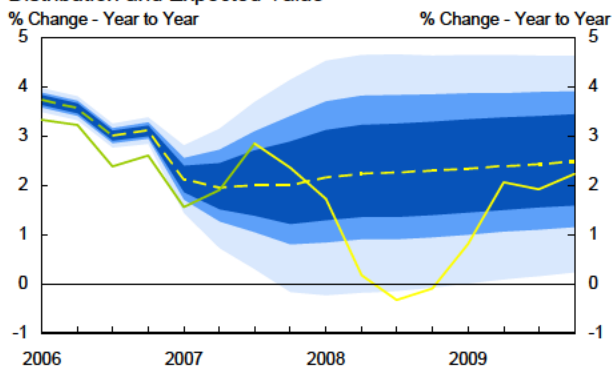


The solid lines are the **current** central scenario projection (red) and expected value of the forecast distribution, while the dotted lines are the same from the **March 2007** forecast.

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



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



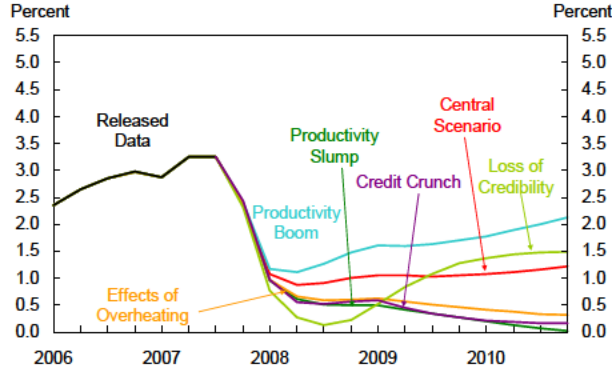
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the **March 2007** expected value. The shading represents the 50, 75 and 90 percent probability intervals from the **March 2007** forecast. The green lines are released data.

Source: MMS Function (FRBNY)

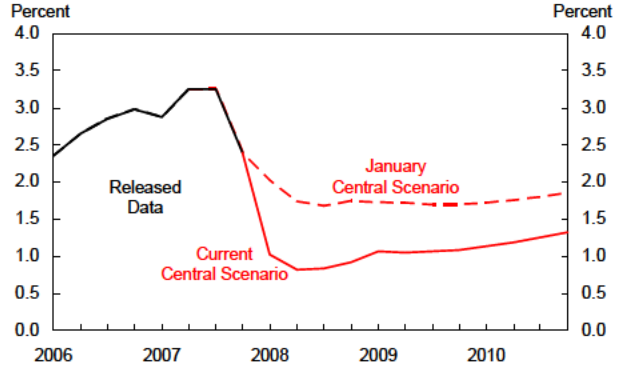
D. FRBNY Fed Funds Rate Projections

**Exhibit D-1: *Baseline*
Policy Rule Analysis**

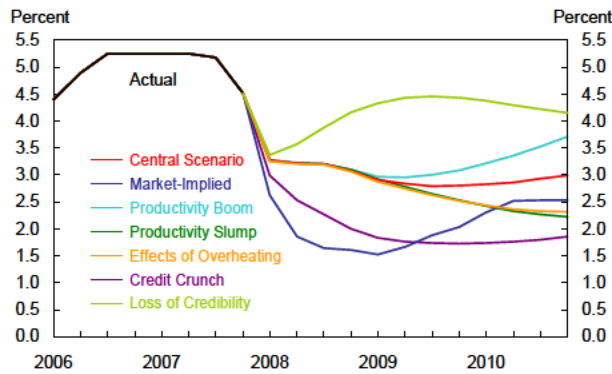
Real FFR under Alternative Scenarios



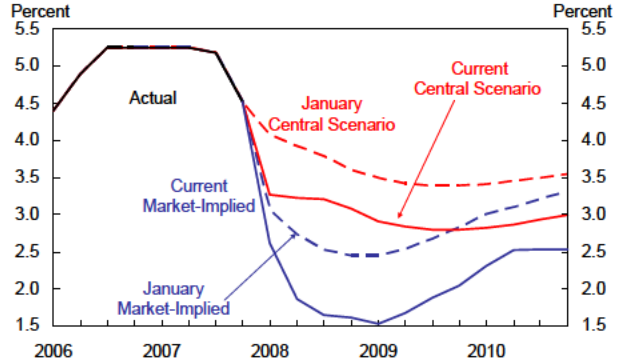
Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios

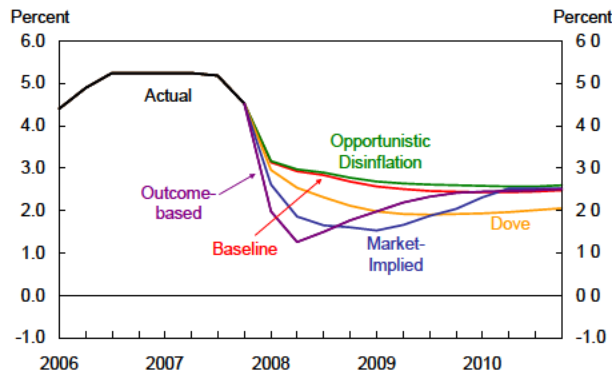


Change in Central Scenario and Market-Implied Nominal FFR



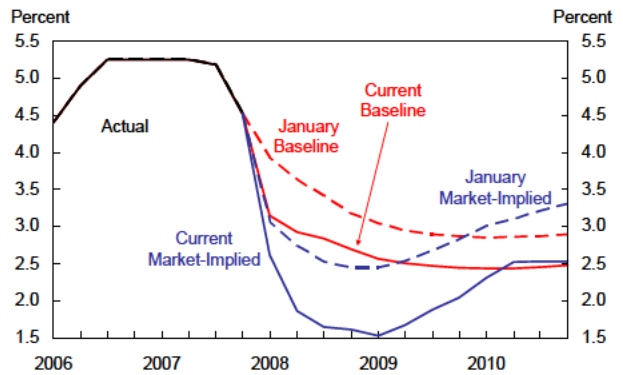
**Exhibit D-2: Alternative Policy Rules under
Expected Value of Forecast Distribution**

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

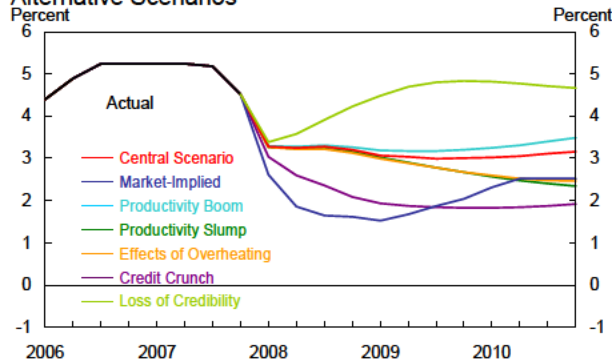
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

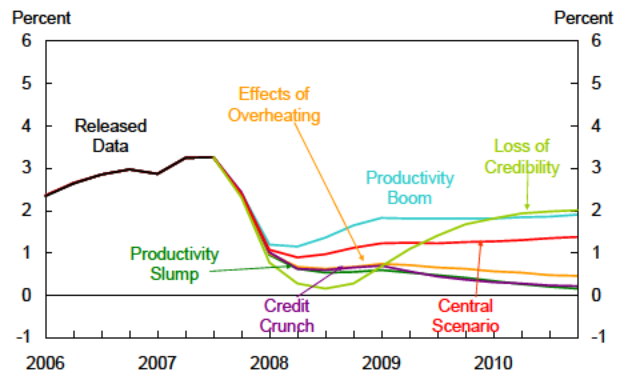
Exhibit D-3: Alternative Policy Rule Analysis

Policy Rule: *Opportunistic Disinflation*

Nominal FFR under "Opportunistic Disinflation" in Alternative Scenarios

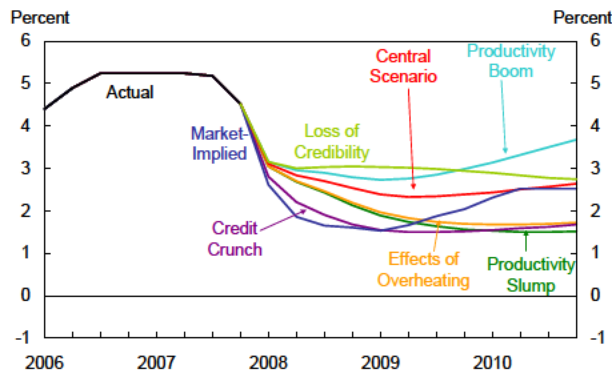


Real FFR under Alternative Scenarios

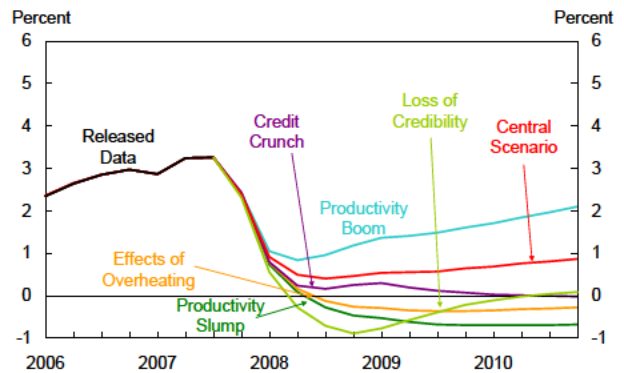


Policy Rule: *Dove*

Nominal FFR under Alternative Scenarios

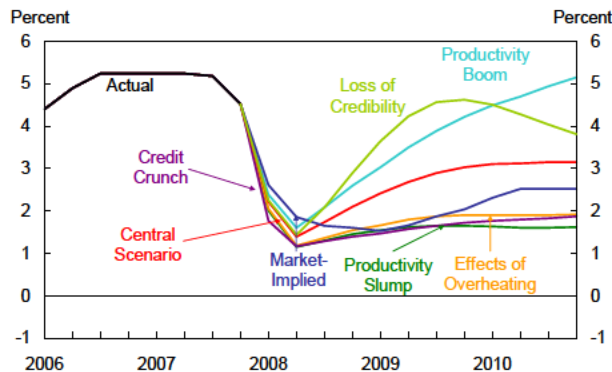


Real FFR under Alternative Scenarios

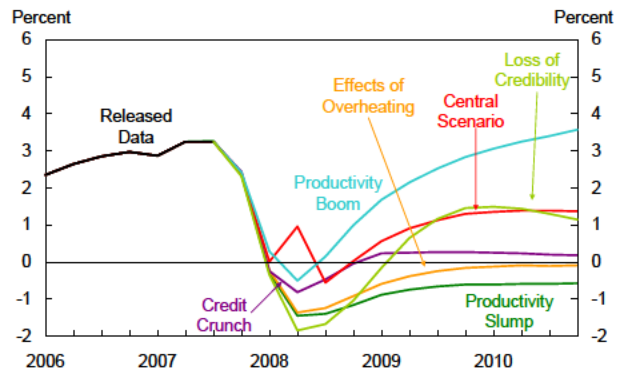


Policy Rule: *Outcome-based*

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

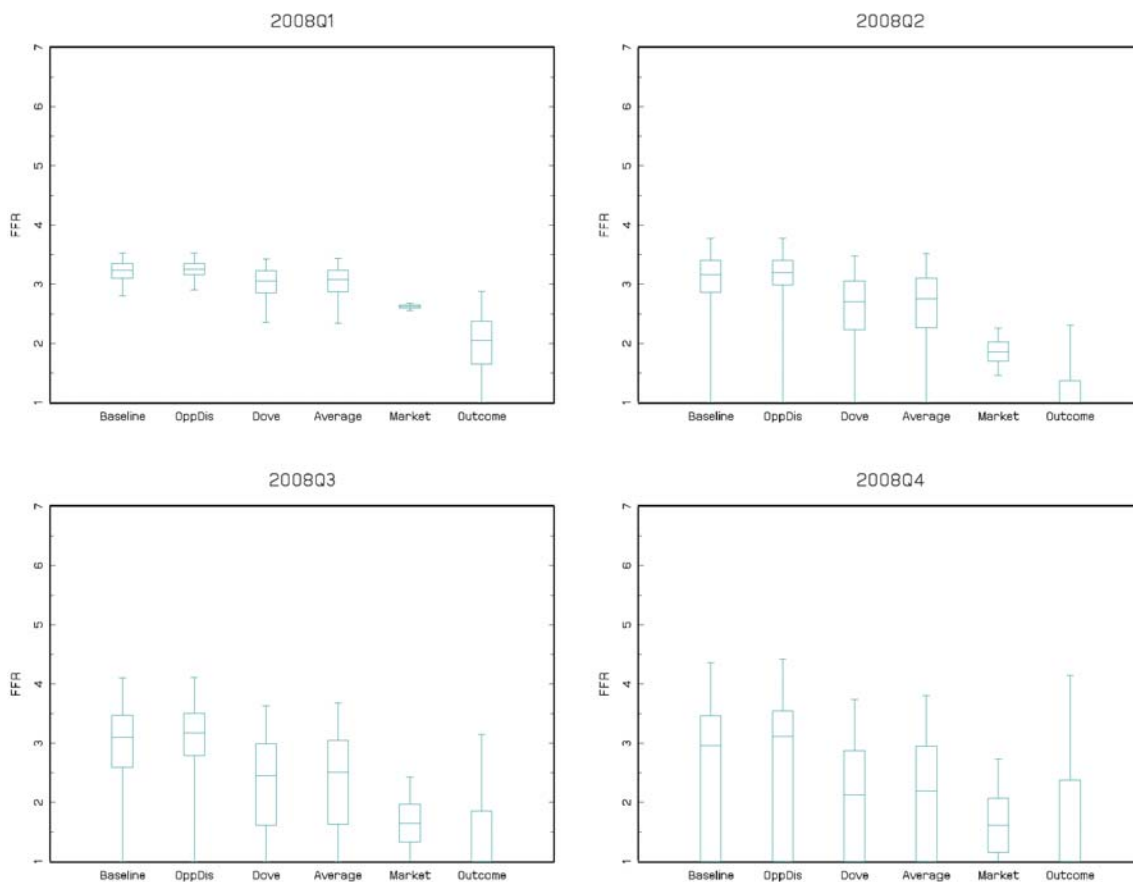
	Percentile of Rule Expectation in Market Distribution	Percentile of Market Expectation in Rule Distribution
<i>Baseline</i>	94 (91)	27 (25)
<i>Opportunistic Disinflation</i>	96 (95)	27 (25)
<i>Dove</i>	77 (79)	37 (30)
<i>Outcome-based</i>	59 (95)	63 (34)
<i>Average</i>	80 (81)	37 (29)

“Average” Weights:

Rule	Current	Jan. Blackbook
<i>Baseline</i>	0.10	0.10
<i>Opportunistic Disinflation</i>	0.00	0.00
<i>Dove</i>	0.90	0.90

Note: Numbers in parentheses are from the previous Blackbook.

Exhibit D-5: FFR Distributions



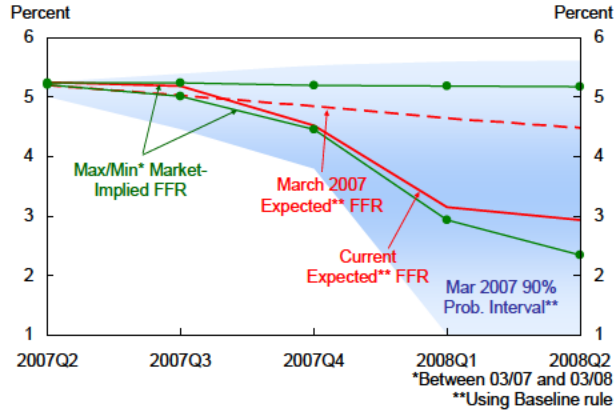
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

Source: MMS Function (FRBNY)

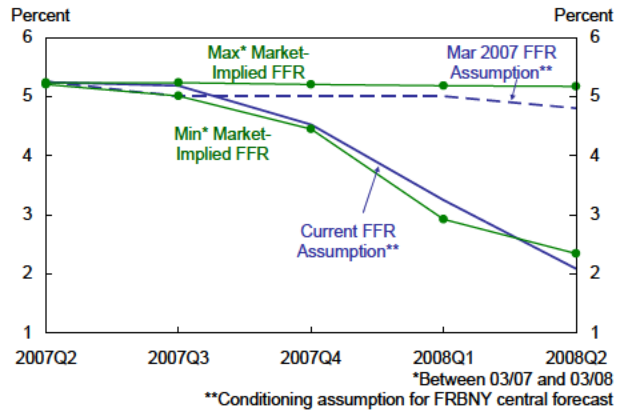
D. FRBNY Fed Funds Rate Projections

Exhibit D-6: Evolution of FFR Expectations and Assumption

FFR Forecast Distribution and Market-Implied FFR



FFR Conditioning Assumption and Market-Implied FFR



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 its 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 policies, 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:

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

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

$\dot{i}^* = 3.75$ 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

\dot{i}_{t-1} : interest rate in previous quarter²

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 ($\varphi_x = 1$ instead of 0.5). When the output gap is positive, however, the *Dove* rule offers the same prescription as the *Baseline* rule ($\varphi_x = 0.5$, 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: $i_t = 1.20*i_{t-1} - 0.39*i_{t-2} + 0.19*(1.17 + 1.73*\pi_t + 3.66*x_t - 2.72*x_{t-1})$