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FRBNY Blackbook

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CONTENTS

1. Policy Recommendation and Rationale 2
2. Significant Developments 6
   2.1 Economic Developments 6
   2.2 Financial Markets 11
   2.3 Global Monetary Policy 13
3. Evolution of Outlook and Risks 14
   3.1 Central Forecast 14
   3.2 Alternative Scenarios and Risks 18
4. Forecast Comparison 21
   4.1 Greenbook Comparison 21
   4.2 Comparison with Private Forecasters 26
5. Robustness of Policy Recommendation 28
   5.1 Sensitivity to Alternative Scenarios and Policy Rules 28
   5.2 Comparison to Market Expectations 29
6. Key Upcoming Issues 31

EXHIBITS

A. Significant Developments 36
B. FRBNY Forecast Details 43
C. FRBNY Forecast Distributions 52
D. FRBNY Fed Funds Rate Projections 55

EXHIBIT OVERVIEW

Exhibit Changes 59
Exhibit C Documentation 61
Exhibit D Documentation 64

1. Policy Recommendation and Rationale

Economic developments during the inter-meeting period generally accorded with our central outlook from the May Blackbook, prompting only minor changes to our near-term inflation and growth forecasts and no changes to our medium-term forecasts. However, the risks around the outlook have changed markedly; we now see less downside risk to growth and modestly greater upside risk to inflation. These changes in our risk assessment came about because the recent data and financial market developments provided little support for an imminent recession-type event, leading us to reduce substantially the weights attached to related scenarios. Consequently, the probabilities of output growth and inflation well below our central forecast have declined; in contrast, the probabilities of output growth and inflation well above our central forecast have changed relatively little. The changes to our risk assessment have important implications for our views on the appropriate future course of policy.

In our central forecast we project core PCE inflation of 1.9% in 2007 (Q4/Q4), a 0.1 percentage point reduction from the last Blackbook solely attributable to a lower projection for 2007Q2, and 1.8% in 2008, unchanged from the last Blackbook. For output, we have raised our projection of real GDP growth in 2007Q2 to 3.8% (annual rate) from 2.7% in the last Blackbook, and with this we have also raised our 2007 (Q4/Q4) forecast slightly from 2.6% to 2.7%. Our 2008 forecast remains 3.0%. Consistent with a shift in our assessment of the neutral rate range from 4-4.25% to 4.25-4.75%, we have moved up our assumed policy path. We now assume that the first cut in the FFR will not occur until 2008H2, with the FFR remaining 5.00% until late 2009. In the May Blackbook, we had assumed a 25 basis point cut in 2007Q4 and a second 25 basis point cut in 2008Q4 for a 2008 end-year FFR of 4.75%.

This shift up in our recommended path brings us very close to the nominal FFR path assumed in the Greenbook, though the Board staff assumes, as they did in the May Greenbook, that the FFR is held at 5.25% through the end of 2008. The Board staff projections for inflation and output also moved closer to ours over the inter-meeting

period (although there is a greater divergence in the real GDP growth outlooks because of our reduction in downside risks).

Our predominant concern is that inflation fails to moderate to the extent expected in our central forecast. The continued slowing of core inflation in April and May, while reassuring, can be viewed as a necessary, though not sufficient, condition of the data unfolding in a manner consistent with our forecast. Less reassuring is the recent divergence between the behavior of core inflation and some of the alternative measures of underlying inflation, such as the trimmed mean and FRBNY smoothed inflation measures. These latter measures have moderated less or moved up recently in a way that suggests that some of the recent moderation in core inflation may be transitory. We also see the potential for upside surprises from rising energy and import prices. Finally, we see some chance of an upward drift in inflation expectations if the currently anticipated moderation in inflation fails to occur over the medium-term horizon and prompts no policy reaction.

While the downside risks to real growth have diminished over the inter-meeting period, they are still present. For one, the housing market has yet to stabilize definitively. With the continued high level of the inventory-sales ratio in this sector, as well as the slow-to-negative price appreciation, we cannot rule out the possibility that the slowdown in this sector will be deeper and more protracted than our forecast currently anticipates. Overall though, while we see a risk that the very recent increases in interest rates could prompt additional weakness that induces spillovers into consumer spending, our outlook is still predicated on the view that ongoing strong income growth will support consumption, as well as a more sustainable trajectory for the housing market.

The possibility also remains that the slower productivity growth we have observed over the past year reflects a decline in the trend growth rate rather than the predominantly cyclical phenomenon we now assume in our central forecast. Amidst the ongoing housing contraction, the challenge of separating trend from cycle likely has been exacerbated. We see some risk that what we have taken to be weakness spilling over

from housing to other sectors in recent years is better characterized as weakness in the underlying productive capacity of the economy. If we have incorrectly characterized the recent slowdown as cyclical, our central forecast will need to be revised to reflect a lower estimate of trend productivity growth and, in turn, potential GDP growth.

The major development in financial markets during the inter-meeting period was a substantial increase in nominal medium- and long-term interest rates. Much of the increase in nominal rates was reflected in real interest rates—a development consistent with the decline in downside real risks, both in the U.S. and globally—but long-term implied inflation compensation also increased over the period. In addition, with the rise in long-term nominal rates, the nominal yield curve steepened over the period, eliminating the inversion that had existed since last summer.

Recent financial market developments have largely been viewed as an indication that market participants are less uncertain about the real outlook and that the remaining uncertainty is less skewed to the downside. But there are aspects of recent developments that do not immediately square with that interpretation. For example, as the nominal yield curve steepened over the period, implied short- and medium-term forward rates rose (a development consistent with market expectations of a higher FFR path) more than long-term forward rates. This pattern of changes steepened the overall forward curve, but it flattened the curve for horizons beyond two years.

According to the Board staff three-factor nominal yield model, the bulk of the movement in nominal forward rates at all horizons rates can be attributed to an increase in the term premium, as expected short-rates edged up only slightly over the period. Moreover, the estimated term premium increased more for near-forward rates than far-forward rates, which accounts for the flattening of the nominal forward curve over longer horizons.

Although we cannot decompose the increase in the term premium into real and inflation risk components, this evolution of forward rates is difficult to reconcile with an explanation centered on a reduction in the downside risks to growth. In particular, the

recent increase in the term premium is particularly difficult to square with this rationalization, as the greater stability of the U.S. and global economy has often been cited as a factor in the fall of term premia over the past three years. The apparent ability of the U.S. economy to weather a large correction in the housing sector (which has become increasingly evident over the inter-meeting period) would be expected to cause a fall in term premia, rather than an increase.

Because we have not completely understood the fall in term premia over the last three years, it is possible that additional forces are at work. One contributing factor that we still do not understand is the role of foreign central bank purchases of U.S. treasuries and other dollar-denominated assets. Some reports have suggested a decline in foreign official purchases of U.S. treasuries over the inter-meeting period. Though we would have expected a dollar depreciation to accompany any such fall, the reduction in downside risks to U.S. growth may have counteracted that effect. Overall, the behavior of real and nominal interest rates and term premia is an issue that calls for additional investigation in the coming cycle.

Even absent a clear understanding of the very recent fluctuations in interest rates, we view the developments over the inter-meeting period as making it considerably more likely that the FOMC will need to hold the FFR at its current level for longer than we had anticipated at the end of 2007Q1. Consistent with this, financial markets are pricing in a markedly higher trajectory for the FFR, particularly one year ahead, than they have in recent months.

This change in market participants' assessment of the medium-horizon course of policy is similar to ours. While the reduction in downside real risk has contributed to our changes, the shift in our assessment of the range for the neutral policy rate also has played a significant role, suggesting a similar shift in the market view. It is also interesting to note that, despite the upward shift in the expected FFR path, we have seen some increase in long-term inflation expectations over this period. If, during the second half of the year, we see indications of continued high levels of resource utilization combined with less-

than-anticipated moderation in underlying inflation, we should be prepared to increase, or signal a greater willingness to increase, the FFR beyond its current 5.25% level.

2. Significant Developments

2.1 Economic Developments

The economic indicators released during the inter-meeting period indicate lower inflation and stronger real growth in the current quarter than we had expected at the time of the last Blackbook while suggesting little change in our medium-term outlook. Nevertheless, they have had notable effects on our risk assessment. First, they indicate greater upside risk to inflation, primarily through a lower probability of large declines. Second, they suggest less downside risk to real activity, primarily through a lower probability of recession-type events.

Core inflation measures moderated further in April and May: the 12-month changes in core CPI (through May) and the core PCE deflator (through April) both have moved within the top of their respective comfort zones [Exhibit A-1]. The recent behavior of these measures remained consistent with our outlook of a slow moderation of inflation. In particular, owners' equivalent rent (OER) inflation declined further while tenant rent inflation displayed the first signs of moderation. With rental vacancy rates expected to remain high, OER and tenant rent inflation may moderate more in coming months. Given their large weight in core consumer price indices, lower inflation in these components should help to keep core inflation contained.

Nonetheless, core inflation measures have been relatively volatile during the first part of the year, and it is possible that much of the recent moderation may be transitory, much as the acceleration in January and February seems transitory. Part of the recent moderation came from declines in goods prices, which may have reflected the effects of an inventory overhang in late 2006 and early 2007. With little overhang apparently remaining, goods price inflation may begin to firm, putting some upward pressure on core inflation.

The behavior of alternative measures of underlying inflation also suggests that some of the recent moderation of core inflation may be transitory [Exhibit A-1]. The FRBNY underlying inflation gauge (UIG) has shown some moderation recently, although not as much as core inflation measures, and trimmed mean measures have shown even less moderation. The FRBNY smoothed inflation measures even have shown very slight increases in recent months. Also, the UIG expected inflation measures at various horizons have been fairly stable over the inter-meeting period, reacting little to the significant moderation in the core measures [Exhibit A-2].

Long-term financial market inflation expectations rose notably during the inter-meeting period, but they remain near late-2006 levels and below summer-2006 levels [Exhibit A-3]. Although the recent rise is of some concern, these levels indicate that inflation expectations remain contained. Longer-term household inflation expectations, as measured in the Michigan survey, were stable during the inter-meeting period, even as energy and food prices rose strongly during this time, which kept headline inflation measures elevated. The possibly transitory nature of recent core inflation moderation, the divergent behavior of alternative measures of underlying inflation, the rise in financial market inflation expectations, the possible feed-through of higher energy and food prices into core, and indications of continued high resource utilization all indicate greater upside risk to the inflation outlook than we had in the last Blackbook.

Real GDP growth in 2007Q1 was revised downward from 1.3% to 0.6% (annual rate). However, the mix of revisions—reduced inventory investment and net exports combined with stronger final demand growth—is consistent with our projection of a substantial rebound of real growth over the near term followed by near-potential growth over the medium term. The downward revision in real GDP growth also led to a downward revision to productivity growth in 2007Q1 to 1.0% (annual rate). The slowdown in productivity growth seen over the last year still appears to be associated with cyclical factors; according to the Kahn-Rich productivity model the probability that the economy is in the low-trend-productivity-growth state declined in June, reflecting stronger consumption and compensation growth.

Consistent with the rebound in real growth, indicators of business activity were more robust during the inter-meeting period, which was one factor supporting the reduction of downside real activity risks. Manufacturing indicators improved during the inter-meeting period: survey data showed a more pronounced rebound, while production and orders indicate a more moderate rebound in the sector. One factor behind that rebound is the likely end of the inventory correction that occurred in 2006Q4 and 2007Q1, as the return of inventories-sales ratios to fairly low levels indicates. In addition, the ISM non-manufacturing index indicated that activity in the service sector had rebounded after a lull earlier in the year.

Along with the rebound in production, capital spending indicators suggested a moderate rebound in capital expenditures. Shipments and orders for nondefense capital goods excluding aircraft rose further in April after the lull earlier in the year; their current levels are now near the levels of mid-2006. Furthermore, IT production and the FRBNY Tech Pulse index indicate that growth of high-tech capital expenditures remains robust. The continued strength of nonresidential construction also indicates that capital spending on structures remains strong. This apparent rebound in capital spending was another factor that contributed to reduction in downside risks to real activity. Nevertheless, because the recovery of capital spending remains somewhat tentative and we are still uncertain about the source of the weakness earlier in the year, renewed weakness in capital spending remains a downside risk to our real growth outlook.

Another continuing downside risk comes from the housing market. The recent indicators provide a mixed picture of the current state of the market but on net still point to continued weakness. The more favorable indicators included housing starts in April and May, which were somewhat above their average in 2007Q1. In addition, new home sales rebounded in April, and purchase mortgage applications were stable to rising. While these indicators would suggest some stabilization in the market, single-family building permits continued to slide in April and May, existing home sales fell further in April, and the new home inventory-sales ratio remained relatively high (despite a drop in April), suggesting further weakness in the market. Moreover, despite the rise in new home sales

in April, housing starts and home sales still appear to be somewhat out of balance: either the pace of sales will have to increase or the pace of starts will have to slow in order for the inventory-sales ratio to return to more normal levels within a reasonable time frame. The dynamics of the resolution of this imbalance and the impact of higher long-term rates on the housing market are sources of downside risk to growth in 2007H2 and beyond.

With the housing market weakness continuing, home price appreciation continued to slow. The four-quarter change of the OFHEO index for 2007Q1 was the lowest since 1997, although it remained within positive territory. In contrast, the four-quarter change of the Case-Shiller national repeat sales index (as well as the more narrowly focused composite index) was negative (-1.4%). Because the two indices use similar methodology, part of the difference probably reflects the influence of prices of homes with nonconforming mortgages, which are included in Case-Shiller but not in OFHEO.

Indications of conditions in the subprime mortgage market were mixed. Spreads on subprime MBS narrowed somewhat during the period (although they remain elevated relative to levels of the past few years), and we saw little apparent spillover into other asset classes, the broader housing market, or the aggregate economy. However, spreads on lower-rated tranches of the ABX widened considerably and approached the levels of late February and early March, indicating greater demand for insurance against risks in the sector. Furthermore, some hedge funds specializing in subprime-related MBS and CDOs showed signs of greater stress. Consequently, the potential for downside risk from the subprime mortgage market remains.

The slower appreciation of home prices also appears not to have had much effect on consumer spending to this point. Real PCE growth in 2007Q1 was revised upward to 4.4% (annual rate), making it the second consecutive quarter with consumption growth above 4%. The more recent monthly indicators (April PCE, April and May retail sales, May motor vehicle sales) suggest a somewhat slower pace of consumer spending growth near its trend (about 3%), although motor vehicle sales have been rather soft.

Continuing the recent trend, support for solid consumption growth has come from a firm labor market. Payroll growth through the first five months of the year has been well maintained at a level consistent with our outlook, even if it has slowed somewhat from 2006. The unemployment rate was stable in May at 4.5%. Unemployment insurance claims also remained stable through the inter-meeting period at levels consistent with a firm labor market. Some cautionary signs did show in the May household survey: both the labor force participation rate and the employment-population ratio in May remained below their levels from earlier in the year. In addition, household survey employment growth (adjusted to be comparable to payroll employment) so far this year has been considerably slower than that of the establishment survey, a pattern opposite to last year's.

Despite the firmness in employment, wage growth did not show signs of acceleration. The 12-month change of average hourly earnings in May remained below that of the second half of 2006. Growth of compensation and unit labor costs were revised upward in 2006Q4 and 2007Q1 because of new information on incentive pay, but they still indicate little fundamental change in labor cost pressures.

The economic indicators from foreign economies generally were consistent with our outlook, prompting little change in our projection of fairly robust growth while providing indication of less downside real risk in the global economy. Euro area indicators suggest Q2 real GDP growth should be maintained near 2½% (annual rate), and the inflation rate remained under 2% in Q1. In Japan, exports and consumer spending were robust in Q1, but investment spending indicators (including April orders) have been on the soft side and are a source of concern. Deflation in core prices also continued. Some signs of overheating in China were evident, as inflation continued to rise, led by increases in food prices. The recent modest slowing in money and credit growth suggests that inflation may begin to moderate by the end of the year, although risks of continued overheating remain.

The trade deficit narrowed considerably in April, largely because of a fall in imports, prompting an upward adjustment to the expected net export growth contribution in 2007Q2. Most of the fall in imports appeared to be transitory; with indications of no significant changes in U.S. or foreign growth, the trade data appear to be broadly consistent with our medium-term outlook. The current account deficit was stable in 2007Q1 at 5.7% of GDP, reflecting the relative stability of the trade deficit. Revisions to 2006 data show a somewhat narrower deficit, reflecting a higher estimate of net income on external assets. Also, a greater portion of the deficit in 2006 was financed through foreign official investors.

2.2 Financial Markets

With indications that global economic growth remained solid and the emergence of some concerns about high resource utilization levels, financial market participants appeared to reduce their downside risks to real activity and raise their upside risks to inflation. Although the qualitative changes to the implied risk assessment are similar to the changes in our risk assessment, the changes in financial market prices implied a larger change in financial market views than we made in our view; this difference likely stems from the greater concerns of market participants about the growth outlook earlier in the year—specifically about the fallout from the housing correction and subprime mortgage problems—as well as changes in their view of the response of central banks to the risks to real growth and inflation.

The most notable change in financial markets occurred in long-term rates. The 10-year nominal Treasury rate increased about 50 basis points during the inter-meeting period, among the largest inter-meeting moves in recent years [Exhibit A-4]. In contrast, short-term nominal rates declined moderately during the inter-meeting period. Consequently, the 10-year/3-month term spread became positive for the first time since July 2006. The return to a positive term spread is one indication of reduced downside real risks among market participants.

Much of the increase in long-term nominal rates reflected an increase in real long-term rates [Exhibit A-4]. The increase in real rates also suggests a reduction in downside real risks. However, real rates increased less than nominal rates, meaning that implied inflation rose, as was discussed in the previous section [Exhibit A-3]. This increase in implied inflation may reflect some increase in the upside inflation risks of market participants, perhaps because of concerns about prospective higher global resource utilization levels.

With the changes in the risk assessment, market participants raised their expectations about the future path of policy rates [Exhibit A-5]. Near-term expectations changed relatively little, and market participants continued to place a very high probability on a 5.25% FFR following each of the next three FOMC meetings. In contrast, longer-term expectations rose considerably, leaving the futures curve fairly flat, implying that market participants expect little change in the FFR over the next two years. The expected FFR for May 2009 is now about 5%, up from 4.4% at the time of the last FOMC meeting.

At the same time, market uncertainty about the policy path fell. Implied interest rate volatility decreased at short and long horizons, with the largest declines occurring around the 6-12 month horizons [Exhibit A-6]. The decline of short-term interest rate volatility (even as volatility of longer-term Treasuries increased) can be interpreted as greater conviction from market participants that the FOMC is comfortable with current policy as growth rebounds from the 2007Q1 lull and inflation slowly moderates. This change may reflect the cumulative effect of recent FOMC communication reiterating that inflation remains the primary concern of the committee. Consistent with this interpretation and the reduction of the downside risk to growth, implied skewness became less negative, suggesting market participants see a reduced likelihood of a large negative surprise.

Even though the increases in long-term interest rates appeared to increase realized volatility, equity prices increased modestly on net over the inter-meeting period, with a number of indices reaching historic highs in early June [Exhibit A-7]. Although realized volatility increased, implied equity volatility increased only modestly and remained

below the levels seen in late February and early March. The behavior of equity prices thus also suggests that market participants have become less concerned about the real activity outlook over the medium term. Consistent with this interpretation, speculative credit spreads narrowed modestly and remain very low, while investment grade spreads and swap spreads widened some.

Global financial markets behaved similarly to U.S. markets. Long-term nominal interest rates rose sharply during the inter-meeting period in major areas [Exhibit A-8]. In most of these economies, the increase in nominal rates largely reflected higher real rates, as indications of solid growth reduced downside real risks [Exhibit A-9]. Implied break-even inflation rates were generally stable, except in Japan, where an increase may reflect confidence that deflation is near its end, and in the U.K., which may reflect some increase in inflation concerns after some high inflation readings as well as technical factors.

Global equity markets displayed some turbulence related to rising real rates and expectations of tighter policy [Exhibit A-8]. Nevertheless, major foreign markets rose modestly on net during the inter-meeting period. The Shanghai market had a sharp decline following an increase in a trading tax as well as indications of further tightening of policy; however, the market has stabilized and recovered much of the losses. Exchange rates were relatively stable during the period, although the dollar appreciated marginally against the euro, pound, and yen [Exhibit A-9]. Option-implied volatility of major exchange rates fell to historically low levels.

2.3 Global Monetary Policy

Consistent with reduced downside real risks, and possibly some mild increases in upside inflation risks, the global trend during the period was toward policy tightening. The tightening of policy in most areas, including that by the ECB, the Riksbank, and the PBOC, was largely expected. However, there were some cases of unexpected tightening, most notably by the Reserve Bank of New Zealand (RBNZ). The RBNZ followed its tightening with a foreign exchange intervention designed to stem a carry-trade-related appreciation of the NZ dollar. If this effort proves successful in stemming the

appreciation, it may prompt other central banks facing similar circumstances to follow similar policies, which may affect the incentives of the carry trade.

As was the case in the U.S., expectations of the monetary policy path rose over the inter-meeting period in most major areas, reflecting the favorable information on real activity, somewhat higher inflation expectations in some areas, and possibly some changes in assessment of policy reaction functions. In the euro area, expected policy rates in late 2008 and early 2009 increased about 50 basis points, while those in Japan rose about 25 basis points [Exhibit A-8]. There were also significant increases in the expected policy path in the U.K. after the release of the May 10th MPC meeting minutes indicated a stronger preference for tightening policy and in Sweden after the latest quarterly monetary report indicated the necessity of higher policy rates to achieve its inflation target.

3. Evolution of Outlook and Risks

3.1 Central Forecast

Conditioning assumptions. The only significant change in our conditioning assumptions is in our monetary policy assumption. In the May Blackbook, we had assumed that the FFR would decline to 5.00% by the end of 2007 and to 4.75% by the end of 2008. We now assume that the first cut in the FFR will not occur until 2008H2, and the FFR will then remain at 5.00% until late 2009 [Exhibit B-2]. This change reflects two factors. First, economic developments have raised our confidence in the central scenario and further reduced concern about the more extreme downside risks. Second, the behavior of financial markets suggests a higher neutral FFR, and we thus have raised our assumed neutral FFR to around 4¼-4¾%. The new path is closer to that underlying the June Greenbook forecast. Also, because the implied expected FFR path from futures markets has risen considerably, our path is now close to the market-implied path.

Our other conditioning assumptions remain similar to those of the last Blackbook. We maintain our assumption that the potential GDP growth rate is 3%, with trend productivity growth at 1¾% (GDP basis—1¾% is approximately equivalent to 2¼% on a

nonfarm business sector basis) and trend hours growth at 1¼%. We will revisit this assumption later this summer after the benchmark revisions to GDP and productivity.

With real GDP growth below our estimate of the potential GDP growth rate for four consecutive quarters, we believe that a small output gap may have opened. Still, it is not sufficiently large to affect our assumption that in the absence of large shocks and with the expected paths of monetary and fiscal policy, medium-term growth will be near its potential growth rate.

We continue to assume that long-run inflation expectations will remain contained near current levels. The rise of financial market expectations during the inter-meeting period is somewhat worrisome, but their current levels are below the levels seen during the summer of 2006 and thus remain consistent with this assumption. Household inflation expectations in the Michigan survey, which recently fell slightly, also support this assumption, although they are still on the higher side of the range that has prevailed over recent years.

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 the Greenbook forecast (although the Board staff has revised the specification of long-run inflation expectations in the FRB/US model that results in lower inflation persistence). The recent moderation of core inflation is consistent with this assumption, though alternative underlying inflation measures have displayed less slowing. Still, we expect that in the absence of large shocks, inflation will move gradually toward the implicit target of 1½%.

Our assumptions concerning financial markets and fiscal policy are similar to those in the last Blackbook. We continue to expect the term premium to remain low. While large compared to recent periods, the rise in the term premium (as measured by the Kim and Wright method) during the inter-meeting period still did not raise the premium above levels seen in the past few years. Therefore, the recent developments remain fairly consistent with this assumption, although it bears scrutiny in coming periods. Fiscal

policy is assumed to provide a small impetus to real GDP growth in 2007 and 2008, similar to that in the last Blackbook; however, the recent slower growth of outlays potentially could affect this assumption in coming periods. As is our standard practice, the paths of equity prices, home prices, and exchange rates are assumed not to differ significantly from those in the Greenbook. Based on average futures prices we assume the spot price of West Texas intermediate crude oil will be $69.25 in 2007Q4 ($68.75 in the last Blackbook) and $71.75 in 2008Q4 ($70.50 in the last Blackbook).

Foreign real GDP growth is expected to increase 3.2% (GDP-weighted) in 2007 (Q4/Q4) and 3.0% in 2008; the 2007 forecast is slightly higher than that in the last Blackbook. We have raised our growth forecast for Canada and (to a lesser degree) for the euro area. Otherwise, the recent data were generally consistent with our global outlook.

Inflation. The recent moderation of core inflation measures has been somewhat greater than we had expected at the time of the last Blackbook, leading us to reduce our projection for core inflation in 2007Q2 from 2.0% in the last Blackbook to 1.6% (annual rate) [Exhibits B-1, B-2, and B-3]. At the same time, alternative underlying inflation measures have not moderated to the same extent as core inflation, leading us to believe that some of the recent core inflation moderation reflects transitory factors. Consequently, we have not substantially changed our projections of core inflation for subsequent quarters. We thus project core PCE inflation at 1.9% in 2007 (Q4/Q4), a 0.1 percentage point reduction from the last Blackbook solely attributable to the lower 2007Q2 projection, and 1.8% in 2008, unchanged from the last Blackbook [Exhibit B-4].

Although we have raised the upside risk to our inflation forecast, the recent developments have been consistent with the moderation we have been expecting. Core goods price inflation continued to moderate in April and May; as such, we have not seen goods prices firming before seeing services inflation slowing, a concern expressed in previous Blackbooks. Even so, with resource constraints apparently fairly tight and global demand growth appearing to remain robust, a potential firming of goods prices is a source of upside risk to our forecast. Nevertheless, OER inflation continued to moderate, which is

consistent with standard housing economics theory suggesting that the rising inventory of vacant homes for sale and for rent should begin to depress the rate of increase in shelter prices. Given the large weight of rents in inflation measures, these developments should continue to support inflation moderation over the forecast horizon.

Real activity. Although real GDP growth in 2007Q1 was revised downward to a very modest 0.6% (annual rate), the mix of revisions indicated momentum for a more substantial rebound in 2007Q2. Along with the generally solid data that we have received during the inter-meeting period, this development has led us to raise our projection of real GDP growth for 2007Q2 from 2.7% (annual rate) in the last Blackbook to 3.8% [Exhibits B-1, B-2, and B-3]. The higher 2007Q2 projection also led us to raise our 2007 (Q4/Q4) forecast slightly from 2.6% to 2.7%. Our 2008 forecast remains 3.0%.

Two factors behind the downward revision to 2007Q1 growth were inventory investment and net exports. Inventory growth in April suggests that inventory investment will be a positive contributor to GDP growth in 2007Q2. Furthermore, the recent declines in inventories-sales ratios are consistent with our expectation that the inventory correction of late 2006 and early 2007 is essentially completed. As such, inventory investment is expected to be neutral factor for growth over the rest of the forecast horizon. The narrowing of the trade deficit in April indicates that net exports may be a small positive contributor to GDP growth in the current quarter. Part of the narrowing of the deficit in April came from transitory factors affecting imports; however, the expected continued robust global economic growth should support U.S. export growth so that net exports will be a modestly negative factor for growth in 2007 and 2008.

A source of concern for the outlook in the last Blackbook was equipment and software expenditures. After lackluster growth over the past year, we had expected that these expenditures would improve. The developments over the inter-meeting period supported our view. First, shipments and orders for capital goods were fairly robust in April, and IT production remained solid (although some weakness in semiconductors in May could be

of some concern). Second, the indications of a rebound in aggregate growth suggest that accelerator effects should support capital spending.

We continue to expect that the housing market is nearing the end of its correction, so that it will be less of a drag on real growth in the second half of 2007 and a near-neutral factor in 2008. The recent stabilization in housing starts and a rebound in new home sales would be consistent with this assumption. Nevertheless, there remains an imbalance among starts, sales, and inventories that could lead to a deeper and more extended correction in homebuilding activity. In addition, the increase in long-term interest rates could further depress sales and building activity.

We also continue to assume that any spillover effects from the housing and mortgage markets into consumer spending will be relatively small. This assumption reflects our view that a wealth effect from housing did not inordinately raise consumption growth over recent years. The strength of consumption in 2006Q4 and 2007Q1 is consistent with this assumption. We expect consumption to return to near-trend growth (3%) over the near term. For the current quarter, there is some downside risk: goods consumption has been a little soft so far in the quarter, and utility consumption may be tepid in May for weather-related reasons. In future quarters, the effects of the recent rise in long-term rates also could exacerbate any spillovers from housing and mortgage markets.

Still, despite the recent fluctuations in real GDP growth, final demand growth has been stable near potential, supporting our view that real GDP growth will be near potential over the forecast horizon.

3.2 Alternative Scenarios and Risks

The most significant change we made to the alternative scenario probabilities was reducing the weight attached to the *Over-Tightening* and *Effects of Overheating* scenarios [Exhibit C-1]. We have diminished the probability of the *Over-Tightening* scenario for two consecutive cycles because of the continued strength in the labor market and the strong signals from financial markets. Overall, we saw virtually no data supporting an

imminent recession and thus now attach very little probability to this scenario. If the labor market remains solid through July we will remove this scenario from our outlook analysis.

The reduced probability of the *Effects of Overheating* scenario reflects the continued strength of consumption despite the large correction in the housing sector. The recent significant slowing in inflation is also inconsistent with this scenario. Furthermore, higher global real interest rates, an improved U.S. budget deficit, and robust world growth all cast doubt on the antecedent of this scenario: low global interest rates from 2002 to 2005 leading to distortions in inter-temporal resource allocations, which in turn would have led to higher inflation and a rebalancing of real activity.

Under our approach to quantifying uncertainty, an indirect effect of these reductions is an increase in the probability of reaching the *Productivity Boom* and *Productivity Slump* scenarios [Exhibit C-1]: this increase would occur without any increase in the initial weight placed on these scenarios. Although this result may seem counterintuitive, it is a useful guard against overconfidence in the central scenario.

At the same time, we also directly increased the weight on the *Productivity Boom* scenario. Labor market and consumption indicators have remained solid in recent months, and we are now more confident that the productivity growth slowdown in recent quarters was largely cyclical and related to the housing correction. Consistent with this interpretation, the probability of a return to a low productivity growth regime in the Kahn-Rich model is substantially lower than it was earlier this year.

We have also significantly increased the probability we attach to the central scenario [Exhibit C-1] and to the generic upside risk scenario (not pictured). If we drop the *Over-Tightening* scenario from our analysis next cycle, we will likely convert the increased weight on the generic upside risk scenario to a “high global demand” scenario.

The large increase in our confidence in the central forecast scenario has resulted in a decrease in the uncertainty around inflation and output outcomes over the forecast horizon [Exhibit C-3]. We have also increased the upside risk to the inflation forecast and reduced the downside risk to the output forecast, as indicated by the difference between our central scenario and the expected value of each forecast distribution. As in the last cycle, these changes in the risk and uncertainty profiles for both inflation and output largely reflect a reduction in the more extreme downside risks.

For inflation in particular, most of the drop in uncertainty is reflected in the lower tail of the distribution: the 5th percentile has risen considerably over the entire forecast horizon. In contrast, the 95th percentile has fallen at shorter horizons but is little changed from 2008Q2 onward. This combination produced a higher expected value, raising the upside risk to inflation. The as-forecasted core PCE inflation in 2007Q1 and the reduction in our 2007Q2 forecast have increased the probability of core PCE inflation below 2% at the end of 2007 from 45% in the May Blackbook to 50%, but this probability is little changed at longer horizons [Exhibit C-3].

The increase in the expected value of the inflation forecast despite little change in the 95th percentile largely reflects the reduced weight on the *Over-Tightening* scenario. The increased probability of entering the *Productivity Slump* scenario and the greater weight on the generic upside risk scenario were counteracted by the lower weight on the *Effects of Overheating* scenario and the increased weight on the *Productivity Boom* scenario [Exhibit C-1].

For output, the entire distribution shifted up, with both the 5th and 95th percentiles increasing over the forecast horizon relative to the last Blackbook. The upward shift of the 5th percentile illustrates the reduction of some of the more extreme downside risks to real activity, particularly at shorter horizons. With the reduction of these risks, our current probability of continued expansion through 2008 is 94%, up from 89% in May [Exhibit C-3].

Changes in the probabilities of the *Productivity Boom* and *Over-Tightening* scenarios were the key factors in these changes in the output forecast distribution. Specifically, the upward shift of the 95th percentile largely reflects the increased weight on the *Productivity Boom* scenario, while the upward shift of the 5th percentile largely reflects lower weight on the *Over-Tightening* scenario and increased weight on the central scenario.

4. Forecast Comparison

4.1 Greenbook Comparison

As has been the case for some time, the Board staff projects both higher inflation and lower output growth than we do for both 2007 and 2008. However, the gap between the two forecasts closed somewhat over the inter-meeting period, as their forecasts for both inflation and output growth moved closer to ours.

Conditioning assumptions. As in the May Greenbook, the baseline forecast is conditioned on the assumption that the policy rate stays at 5.25% through 2008. This path is somewhat above our path and the market-implied path in the second half of 2008 and beyond, though these gaps have closed considerably since May [Exhibit B-2].

We assume lower inflation persistence than do the Board staff and a somewhat lower perceived FOMC inflation goal; they assume that monetary policy aims for long-run PCE inflation of 2% (which they judge to be close to current readings on long-run inflation expectations), while we assume a target of 1.5%.

The Board staff assumption for potential output, around 2.5% for 2007 and 2008, remains lower than ours; some of this difference reflects a lower trend for structural labor productivity growth, but a more significant portion comes from lower trend growth in hours worked. The Board staff continues to assume that the labor force participation rate declines over the forecast horizon, while we assume a stable participation rate of 66.0% through 2008.

The Board's staff forecast for global growth in 2007 is above ours. We expect foreign growth to slow to 3.2% (3.1% in May) in 2007 from 3.8% last year, while the Board forecasts less of a slowdown to 3.5% (3.2% in May) growth (using our weights). The Board expects faster growth for Japan, China, and the U.K. than we do and slower growth for Korea. Projections for other major economies are similar. The forecasts for global growth in 2008 are similar.

Inflation. The Board staff's expected trajectory for core PCE inflation is lower than it was in the May Greenbook [Exhibit B-6]. Core PCE inflation is projected to be 2.0% for both 2007 and 2008, compared to 2.3% and 2.1%, respectively, in May. Their lower forecast reflects their response to the moderation in core inflation in April and May; even though they view much of the moderation as transitory (as we do), it still was inconsistent with their previous expectation of no moderation in 2007. They thus took the moderation as a signal that inflation would be lower than previously projected. This adjustment closes some of the gap between the two forecasts, although our forecast is still 0.1 percentage points lower for 2007 and 0.2 percentage points lower for 2008.

Real activity. The Board staff forecast of output growth for 2007 and 2008 is higher than it was in the May Greenbook, although it remains below our forecast. Output growth is projected to be 2.1% for 2007 (up from 1.9%) and 2.5% for 2008 (up from 2.4%), reflecting an increase in both consumption and investment components of aggregate demand. Their improved outlook for consumption expenditures largely results from their response to the recent upward revisions to personal income as well as to continued solid employment growth. However, it remains below our forecast for both 2007 and 2008, contributing significantly to the approximately 0.5 percentage point gap between the forecasts in both years.

Another factor contributing to the gap between the two forecasts are our different profiles for residential investment. The gap between the two forecasts has changed little since the May Greenbook, though the Board staff now projects slightly more weakness in 2007 and 2008 than previously. Their path for housing starts remains higher than ours [Exhibit B-

2], though we continue to see some likelihood of a change in our projection in response to upcoming data.

Their projection for business fixed investment, though stronger than in the May Greenbook, also remains below our estimate in both 2007 and 2008. The Board staff attributes the expectation of stronger growth to stronger output growth and an improvement in business attitudes.

The gap between our labor market forecast and that of the Board staff has closed somewhat since May. The Board staff forecast now maintains an unemployment rate below their 5% NAIRU through 2008, though their expected 2008Q4 unemployment rate of 4.8% is still above our projection of 4.6%. Consistent with this change, their projection for monthly nonfarm payroll growth has increased by 17,000 for 2007 and 33,000 for 2008, moving it closer to our projection. Even so, a significant gap between the two forecasts for payroll growth persists in both years, particularly in 2008, when their monthly growth forecast is 55,000 below ours.

The Board staff projects that net exports will contribute 0.1 percentage points to real GDP growth in 2007, while our forecast has a 0.2 percentage point drag. This difference is primarily the result of the Board staff forecast having weaker domestic demand growth, which leads to a lower forecast of import growth. The difference in import growth is most pronounced in Q2, for which the Board projects declining imports (primarily because of sharp drops in oil and computer imports), while we forecast a slight increase. The gap in import growth closes by 2007Q4. There are relatively minor differences between the two forecasts for exports.

Uncertainty around forecasts. The uncertainty around the FRBNY and Board forecasts has not changed substantially since May. The 70% probability intervals for inflation and output in 2007 and 2008 are shown in Table 1 below, with the May values in parentheses. For core PCE inflation, the probability intervals around the two forecasts have about the

same width in both 2007 and 2008. With the convergence in the point forecasts since May, the levels of the 15th and 85th percentiles also are now quite similar.

As in May, our probability intervals for real GDP growth are somewhat narrower than those of the Greenbook forecast in both 2007 and 2008. In 2007, the width of our 70% probability interval is 1.7 percentage points compared to 2.3 percentage points for the Greenbook; with the decrease in the width in our 2007 interval relative to May, this difference has increased somewhat since the last Blackbook. In 2008, our interval is about 0.3 percentage points narrower, about the same gap as in May.

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

	Core PCE Inflation		**Real GDP Growth**	
	FRBNY	*Board*	*FRBNY*	*Board*
2007	1.5-2.4 (1.5-2.7)	1.6-2.5 (1.8-2.7)	1.7-3.4 (1.2-3.2)	1.0-3.3 (0.8-3.1)
2008	1.2-2.7 (1.1-2.7)	1.2-2.8 (1.3-2.9)	1.4-4.2 (1.0-3.7)	1.0-4.1 (0.8-3.9)

To gauge the importance of the differences between our outlook and the Greenbook forecasts we calculate the percentile of the baseline Greenbook forecasts for inflation and output in our forecast distributions. The results are shown in Table 2, with May values in parentheses. Using this metric, our forecasts of core inflation are fairly close when we account for our risk assessment, with the discrepancy closing somewhat since May (particularly at longer horizons). This reflects both the narrowing of the gap between the point forecasts and the increase in upside risk to our inflation forecast.

The discrepancy between the two output forecasts has become much more substantial since May. While two forecasts were fairly close in May, the reduction in our downside risk over the inter-meeting period has widened the gap between the two forecasts by this metric, even as the Greenbook forecast has shifted up more than our point forecast. The divergence in 2007 is quite striking, as the Greenbook forecast is now in the 34th percentile of our forecast distribution when it was close to the median in May.

Table 2: Percentile of Greenbook Forecast in FRBNY Forecast Distribution

	Core PCE Inflation	Real GDP Growth
2007	54 (55)	34 (47)
2008	49 (52)	46 (57)
2009	59 (64)	40 (53)

Alternative Greenbook forecasting scenarios. The Greenbook's alternative scenarios focus primarily on alternative assumptions about aggregate demand conditions. The first three scenarios examine the implications of a *Greater housing correction*, *Flat business investment*, and *Tighter financial conditions*. Overall, these slower aggregate demand growth scenarios involve a significant negative effect on output growth, as they push year-to-year growth below 2% by early 2008, and generally mild effects on core inflation. As a result, monetary policy is looser than in the baseline scenario; the FFR falls below 5% in all three scenarios by early 2008.

The *Stronger aggregate demand* scenario, meanwhile, produces higher output growth (around 4% for 2007 and 2008) and a higher policy rate (above 6%) than in the baseline; stable inflation expectations and tighter monetary policy keep inflation close to the baseline forecast.

As in previous Greenbooks, the *Lower NAIRU* scenario, by implying additional slack in resource utilization, allows core inflation to fall to 1.75% at the end of 2008. The moderation in inflation, combined with gradual policymaker understanding of the lower NAIRU, eventually prompts some policy easing that stimulates output growth relative to the baseline. Interestingly, the projections for core inflation and output growth in this scenario are more similar to our forecast than those in the Greenbook baseline forecast, suggesting an important source of the divergence between our view and that of the Board staff.

The last scenario features an increase in inflation expectations, consistent with a *perceived* shift in the stabilization goals of the Fed. As a result core inflation drifts up to 2.5% in 2008 with little impact on output growth. The projected paths for output and inflation likely reflect the policy rule assumptions in the simulations. Since the policy rule in FRB/US responds to observed inflation, rather than the shift in inflation expectations, they tighten fairly slowly and only after inflation moves up. A more rapid response to the increase in inflation expectations would likely result in lower inflation over the forecast horizon.

4.2 Comparison with Private Forecasters

As in May, though our near-term outlook for inflation is comparable to the projections of private forecasters, our near-term outlook for output is largely more optimistic [Exhibit B-8]. Compared to Blue Chip and the median SPF projections, our real growth forecast is considerably higher for 2007, with a difference of about 0.5 percentage points. Growth projections from Macro Advisors are closer to ours but are still 0.3 percentage points below ours for 2007. Our interesting exception comes from the 2007Q3 PSI forecast, which at 3.1%, is almost identical to our forecast of 3.0%. While the PSI forecast for GDP growth in 2007Q2 is lower than other GDP forecasts (because of the weak GDP in Q1 and some weakness in sentiment indices in Q1), the substantial predicted rebound in Q3 reflects the significant pickup in business sentiment indices over the recent period.

Two potential explanations help to reconcile the discrepancy between our forecast and those of private sector forecasters. First, our forecast incorporates the favorable data releases of recent weeks. Second, our near-term outlook for real growth reflects our projection of continued firmness in consumer spending, which assumes few spillovers from the housing slump, and may be more optimistic than that of other analysts.

Differences between our projections and those of private forecasters for total CPI inflation likely reflect differences in energy price inflation assumptions as projections of core CPI over 2007 are comparable (particularly once the divergence related to the date of the forecast is taken into account). For 2008 (Q4/Q4), however, our core CPI and core

PCE inflation forecasts are slightly more optimistic. Macro Advisors' (core CPI) and the median SPF (core PCE) core inflation forecasts are both 0.2 percentage points higher than our projection. The discrepancy between our forecast and the Macro Advisers estimate likely reflects the differences between our NAIRU assumptions; Macro Advisors assumes a much higher NAIRU (5.4%) than we do.

Comparing our forecast distribution for core PCE inflation in 2007 (Q4/Q4) with that from the May SPF, the SPF distribution has a higher probability of core PCE inflation above 2.5% [Exhibit B-9]. In part, this difference may reflect the difference in timing of the forecasts: the SPF forecasts did not have any April or May inflation data (which show a further moderation in core inflation) available. It may also reflect the beliefs of some of these forecasters about greater persistence of the higher core inflation readings at the beginning of the year, as well as possible feed-through of recent energy price increases into core inflation. Both distributions show little probability of core inflation below 1% in 2007. For 2008, the SPF distribution is more concentrated around its median than is our distribution. This may indicate the confidence of the SPF respondents in their medium-term forecasts (in part because of the perceived low volatility of core inflation), but an examination of their forecast performance would be needed to determine whether this confidence is warranted.

For real GDP growth from 2006 to 2007, the SPF distribution puts more probability on lower outcomes (and less on higher outcomes) than our forecast distribution [Exhibit B-9]. This may reflect the greater downside risk to real activity perceived in April and early May; our distribution in the May Blackbook (shortly before the release of the SPF, but probably incorporating much of the same information) had greater probability of low outcomes at that time [Exhibit C-3]. The SPF distribution for real GDP growth from 2007 to 2008 has little probability of growth above 4%, suggesting that the respondents see little upside possibility. Also, much like the core PCE inflation distribution, the growth distribution is more concentrated around the median than is our distribution. Despite an overall more optimistic growth distribution, the SPF also places a higher probability of a negative growth quarter in each of the next four quarters than does our

forecast distribution. By this measure, our forecast is more optimistic than any of the other forecasts pictured here, as both the measures from the Board also have a higher probability of a negative growth quarter.

5. Robustness of Policy Recommendation

5.1 Sensitivity to Alternative Scenarios and Policy Rules

We have changed our FFR recommendation since May, as we have pushed back the date of the first rate cut from 2007Q4 to 2008H2. Our recommendation remains fairly close to the policy prescription of the *Baseline* rule in three of the four alternative scenarios [Exhibit D-1]. The exception continues to be the *Over-Tightening* scenario, but the weight on this scenario is now close to zero, making its unusual policy implications less relevant [Exhibit C-1]. The prescriptions using the *Baseline* rule remain close to our now-higher policy recommendation under the other three alternative scenarios because we have increased the assumed neutral rate from 4.125% to 4.5%. With our revised neutral rate of 4.5%, an implicit inflation target of 1.5%, and inflation near its current level of 2%, the *Baseline* rule implies a FFR of 5.25% over more (relative to the last Blackbook) of the forecast horizon. Although the nominal FFR paths using the *Baseline* rule are similar under all scenarios besides the *Over-Tightening* scenario, the real FFR paths differ significantly, reflecting the differences in inflation outcomes in the alternative scenarios and the resulting policy stances [Exhibit D-1].

We consider the same three alternative policy rules that we considered in the May Blackbook: 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 relatively benign inflation outlook, continues to prescribe cuts in the FFR [Exhibit D-2]. The *Outcome-Based* rule, which is based on the average behavior of the FOMC in the last 20 years, embeds a neutral rate assumption of 3.5% (though the implicit neutral rate is quite sensitive to a change in the assumption about the inflation target) and a much higher weight on output gap fluctuations than the *Baseline* rule. It also reacts more strongly than even the *Dove* rule to our low-growth alternative scenarios, as we are unable to adjust for changes in potential in some of these alternative scenarios when using the *Outcome-*

Based rule (as we can for our other alternative rules). Under our central scenario, in which output remains close to potential, the FFR converges back to the implicit neutral rate of about 3.5% in this rule [Exhibit D-3].

The prescription of the *Opportunistic Disinflation* rule, which keeps the FFR at 5.25% over the forecast horizon under the central scenario as well as the alternative scenarios aside from the *Over-Tightening* scenario, continues to be slightly above our policy recommendation [Exhibit D-3]. This rule would better preserve Fed credibility, if *ex post* it appears that either of the *Productivity Slump* or *Effects of Overheating* scenarios explains recent developments well.

The *Dove* rule is designed to be very sensitive to drops in output below potential. Thus, despite the reduction in the downside risk to real activity it still prescribes cuts in the FFR in 2007 [Exhibits D-2 and D-3]. We currently do not include a complementary rule that is very sensitive to increases in inflation. The *Opportunistic Disinflation* rule reacts to inflation moderating from above 2% by slowing (relative to the *Baseline* rule) the movement of the FFR back to the neutral rate. If we drop the *Over-Tightening* scenario in the next cycle, we will also likely replace the *Dove* rule with an *Inflation Hawk* rule. We would construct this rule such that it implied a stronger reaction to inflation above target, increasing the probability of an FFR above 6% over the near term. Currently, the distributions of the FFR under each of our rules (combined with our forecast distribution) do not imply a probability of greater than 5% of such an event [Exhibit D-5].

5.2 Comparison to Market Expectations

The FFR path priced into financial markets has moved up dramatically since May; the expected FFR for May 2009 is now above 5%, compared with a level of less than 4.5% before the last FOMC meeting. With the reduction in the downside risk to real activity and the increase in the upside risk to inflation in our outlook, as well as the increase in our neutral rate assumption, all of our policy rules similarly indicate that the future path of policy should be higher than it was at the time of the May Blackbook.

The increase in market expectations is larger than the increase in the recommendation prescribed by our *Baseline* rule under the expected value of our forecast distribution [Exhibit D-2]. The difference between the increase in market expectations and the increase in *Baseline*-rule recommendation is even larger under our central forecast scenario [Exhibit D-1]. Under both the expected value of the forecast distribution and our central forecast scenario the prescription of the *Baseline* rule is now slightly below the market-implied path [Exhibits D-1, D-4, and D-5]. The path prescribed by the *Opportunistic Disinflation* rule under the expected value of the forecast distribution now matches almost exactly the market path over most of the forecast horizon [Exhibit D-2]. The movement of the market path above the *Baseline* rule prescription, along with its new proximity to the *Opportunistic Disinflation* rule path, suggests that the recent shift in the market path reflects some reassessment of FOMC preferences; market participants now seem to place a greater weight on policy actions similar to the *Opportunistic Disinflation* rule. The paths under the *Dove* and *Outcome-Based* rules are now even further below the market path, reflecting the stronger responses under those rules to below-potential output growth [Exhibit D-2].

The effect of the reassessment of downside risk to output, however, seems to dominate any change in market participants' understanding of FOMC preferences; though the movements in the market path have been larger, the shifts in the paths prescribed by the policy rules and their distributions, which reflect only the significant changes to our risk assessment, largely mirror those in the market. The implied distributions of most rules [Exhibit D-5] capture the reduction in negative skewness priced into markets, which is evident in our skewness measure [Exhibit A-6]. Implied volatility around the market-implied path, as well as that around our policy rules, has fallen since May and is close to historically low levels. The very low volatility associated with the *Opportunistic Disinflation* rule distribution, apparent in the small width of the 90% probability interval, is particularly striking [Exhibit D-5].

Overall, our analysis suggests that the increase in market expectations is consistent with our decrease in downside real activity risk and increase in upside inflation risk over the

inter-meeting period. We attribute the movement in the market path above our *Baseline* rule, which cannot be easily attributed to the changes in the outlook, to markets placing less relative weight on policy rules more sensitive to output fluctuations (*Dove* and *Outcome-Based*) and more relative weight on rules that are more sensitive to inflation fluctuations (*Opportunistic Disinflation).* Our *Average* rule, which weights the *Baseline* and alternative rules to match the market path as closely as possible, now places 40% of the weight on the *Opportunistic Disinflation* rule, 50% of the weight on the *Baseline* rule, and 10% of the weight on the *Dove* rule; their respective weights in the *Average* rule last cycle were 25%, 60%, and 15% [Exhibit D-4]. If we exclude the *Dove* rule, which, as mentioned previously, has become less relevant with the recent changes to our risk assessment, the probabilistic comparisons suggest a substantial convergence of the market and our assessment relative to May.

To assess our previous projections of the FFR and consider the changes in market expectations over the past year, we compare our projection and distribution (under the *Baseline* rule) in June 2006 with our current projection as well as with the evolution of market expectations [Exhibit D-6]. The current expected FFR path is very similar to that of June 2006, reflecting that the fairly similar risk profiles in these two periods. Market expectations over the past year have been in the lower half of the June 2006 FFR distribution, reflecting the market's greater concern during most of this period about downside real risks as well as perceptions that the FOMC would respond promptly to any such realizations. Because of those concerns and perceptions, our conditioning assumption for the FFR generally has been above market expectations over most of the past year.

6. Key Upcoming Issues

Economic developments during the inter-meeting period generally were in accord with our outlook, causing us to increase our confidence in the central forecast scenario and reduce the probabilities on the *Over-Tightening* and *Effects of Overheating* scenarios. These developments have led to only minor changes in our near-term outlook and no changes in our medium-term outlook: we have raised slightly our real GDP growth

forecast and lowered slightly our core PCE forecast for 2007, largely reflecting some additional strength to our forecasted rebound in Q2 growth and the significant moderation in Q2 inflation; we have maintained our 2008 real GDP growth and core PCE inflation forecast. However, we have markedly changed our risk assessment: we have reduced the downside risk to the growth outlook and increased the upside inflation risk. Market participants appeared to have interpreted the economic developments similarly, as they have now significantly reduced the probability of some previously anticipated rate cuts. Consequently, our outlook and risk assessment are qualitatively consistent with the view embedded in market expectations of the monetary policy path.

Looking forward, one key issue impacting our outlook and policy assessment is the recent behavior of financial markets. Although qualitatively consistent with changes in our risk assessment, the rise in long-term interest rates and in the expected policy path was considerably larger than we would expect given the change in our risk assessment. Although some technical factors such as mortgage convexity hedging may have temporarily exacerbated some movements, the general nature of the rise across asset classes and market locations indicates more fundamental factors. One possible explanation is that with some apparent potential headwinds (such as subprime mortgage problems) apparently having little impact on activity, market participants see U.S. and global growth as more robust than they had previously. Such an explanation would be consistent with the introduction of a "high global demand" scenario in a subsequent Blackbook.

Another possible explanation is that market participants have adjusted their expected policymaker reaction function in response to recent events. Although real GDP growth has been below many estimates of its potential rate for the last four quarters, FOMC policy has remained relatively tight, and FOMC communications have emphasized the inflation threat. Consequently, market participants may see the FOMC as more willing to keep policy tight to ensure a further moderation of inflation toward an implicit target below 2%. Both these explanations of recent market movements raise the issue of whether our policy path recommendation is sufficiently tight to achieve FOMC goals.

Even though much of the developments in financial markets appear consistent with less downside risk and assessments of a tighter policy path, other developments have been more puzzling. In particular, according to the Board staff three-factor nominal yield model, term premia rose during the inter-meeting period, a development apparently at odds with the decline in downside real risk. Because we have not completely understood the fall in term premia over the last three years, it is possible that additional forces such as foreign central bank purchases of dollar-denominated assets have played a role. However, the extent of such effects on term premia remains unclear, and thus the behavior of term premia is another issue that calls for additional investigation.

Beyond financial markets, many of the key issues that can impact the economic outlook and policy are the same as those identified in recent Blackbooks. The housing market slump and subprime mortgage problems, as well as any potential spillovers into the rest of the economy, remain a source of concern. The recent data, especially continued solid consumption growth, suggest that the spillovers have been fairly minor so far, consistent with our central forecast. However, a pronounced imbalance among the pace of sales, housing starts, and inventory levels remains, suggesting that a further drop in housing activity, as well as weaker home prices, may be required as part of the continuing correction. Recent stresses evident in subprime-related MBS and CDOs also indicate that the problems in the subprime mortgage market still could negatively impact financial markets and the economy. In addition, the recent rise in long-term interest rates and its impact on fixed mortgage rates and ARMs provide an additional source of the negative spillover effects expected by more pessimistic analysts. Realization of such events would be consistent with the *Effects of Overheating* or *Over-Tightening* alternative scenarios; the fact that we have yet to see them is one factor that prompted us to reduce their probabilities, so much in the case of the *Over-Tightening* scenario, that we are considering removing it from our scenario analysis in subsequent Blackbooks.

Another continuing issue is the slower productivity growth of the past year. Despite a downward revision of productivity growth for 2007Q1, the probability of the low trend productivity growth state in the Kahn-Rich model declined. This reduction occurred

because the low productivity growth number was offset by strong consumption growth and an upward revision to real compensation growth. At this time, we thus continue to view the slow productivity growth as more of a cyclical slowdown than a decline in the trend growth rate. As noted previously, the revisions to real GDP in the summer will be extremely informative in our assessment of this issue. It is possible that real GDP will be revised upward, prompting upward revisions to productivity. If not, it may lead us to increase the probability of the *Productivity Slump* scenario or reduce further our estimate of trend productivity growth and possibly potential GDP growth. The latter possibility would have implications for our assessment of the policy stance as well as its future path.

With recent capital spending indicators looking stronger, consistent with our view that the weakness in recent quarters reflected temporary factors expected to subside, the issue of the recent tepid growth in equipment and software expenditures has taken on less urgency. Nevertheless, the rebound still appears to be fairly moderate, suggesting that these expenditures will remain somewhat lackluster. Furthermore, the rebound remains tentative and could prove to be temporary. As such, we cannot yet rule out the possibility that capital spending trends may signal weaker future demand or lower productivity growth, both of which would suggest lower returns on real investment. A renewal of such weakness would indicate a greater probability of the *Effects of Overheating* or the *Productivity Slump* alternative scenarios. Although renewed weakness in capital spending would have negative effects on real activity, the increase in upside inflation risks from these alternative scenarios suggests the FOMC would have to maintain nominal policy rates near current levels.

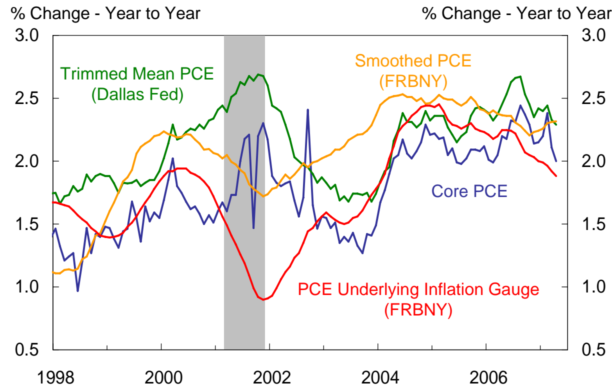
A last issue of significant policy relevance is the incoming data on inflation. The May core CPI and April core inflation data showed continued moderation from March and were consistent with our forecast of slowly moderating core inflation toward the implicit target. Nevertheless, we have seen some divergence between the recent behavior of core inflation and some alternative measures of underlying inflation. In particular, the trimmed mean moderated significantly less while smoothed inflation rose slightly. Consequently, we see some possibility that the recent core inflation numbers may be too optimistic with

regard to a moderation of underlying inflation, much like the elevated January and February readings proved to be too pessimistic with regard to this moderation. As mentioned in the May Blackbook, developments in foreign exchange markets, rising import prices, and strong global demand remain potential upside risks to the inflation outlook. These issues thus may need further scrutiny.

A. Significant Developments

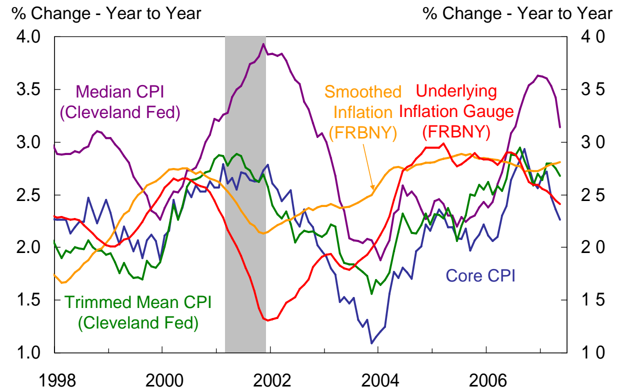
Exhibit A-1: Measures of Trend Inflation

Alternative Measures of PCE Inflation



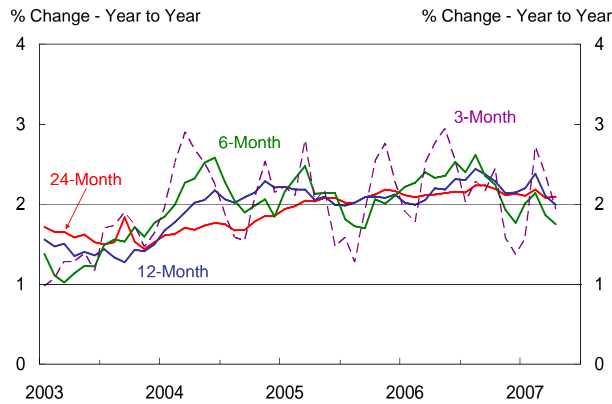
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Alternative Measures of CPI Inflation



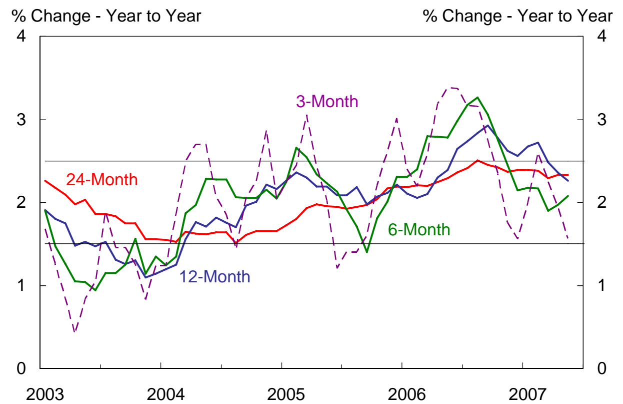
Source: Bureau of Labor Statistics, Cleveland Fed, MMS Function (FRBNY), and Swiss National Bank

Core PCE Inflation over Various Horizons



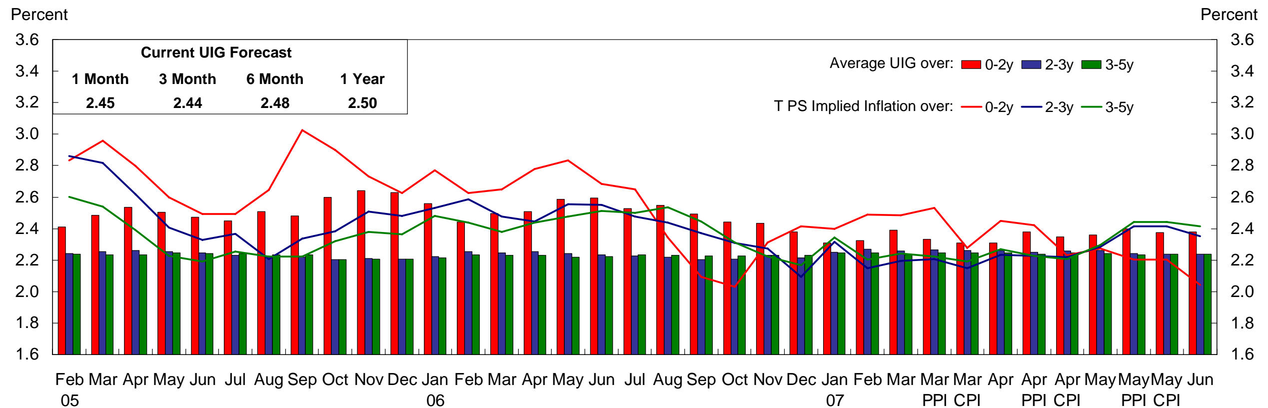
Source: Bureau of Economic Analysis

Core CPI Inflation over Various Horizons



Source: Bureau of Labor Statistics

Exhibit A-2: Underlying Inflation Gauge (UIG)

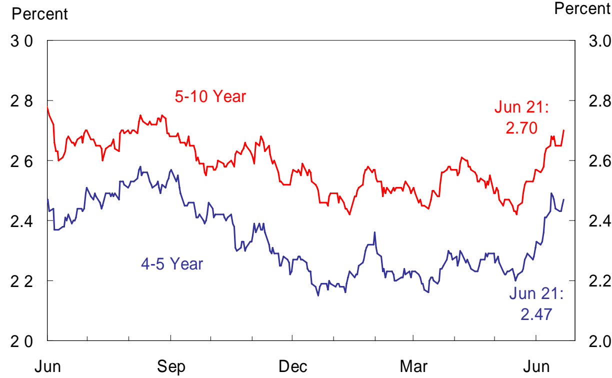


Source: MMS Function (FRBNY), Federal Reserve Board, and Swiss National Bank

A. Significant Developments

Exhibit A-3: Implied Inflation

TIPS Implied Inflation: 4-5, 5-10 Year Horizons

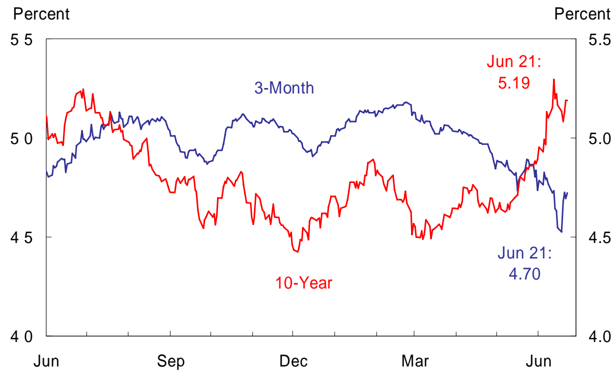


Source: Federal Reserve Board

Note: Carry-adjusted.

Exhibit A-4: Treasury Yields

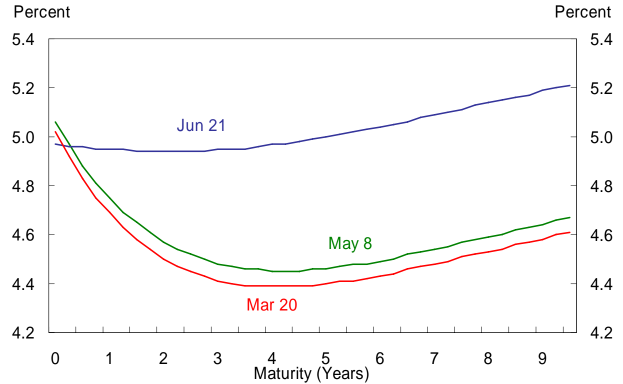
Short- and Long-Term Rates



Source: Bloomberg

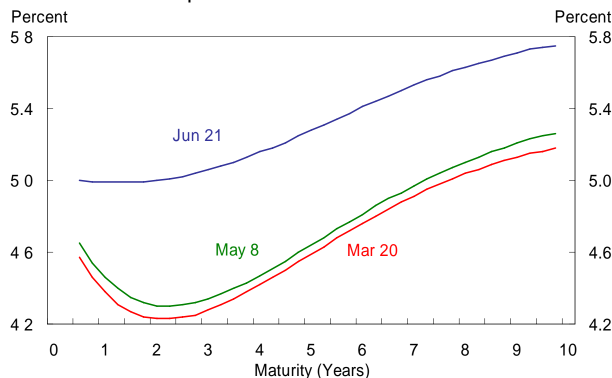
Note: Yields of on-the-run securities.

Yield Curves



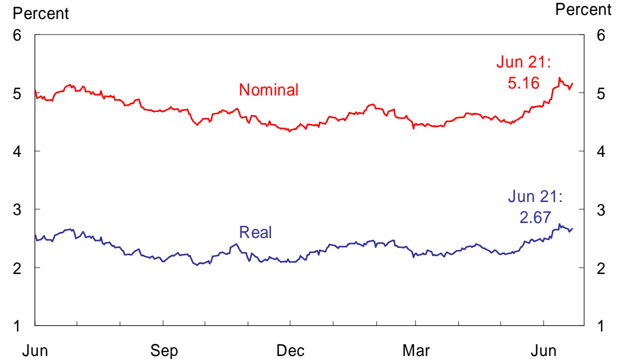
Source: Federal Reserve Board

Yield Curves: Implied One-Year Forward Rates



Source: Federal Reserve Board

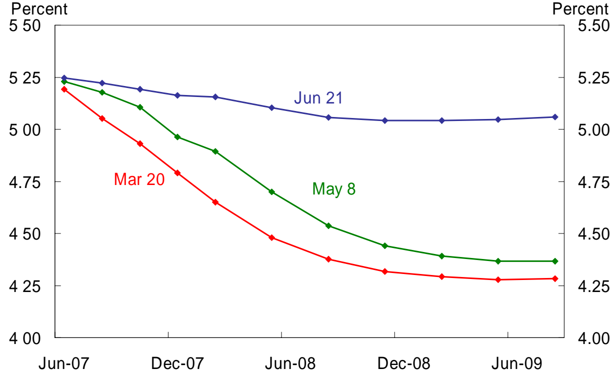
4-5 Year Forward Rates

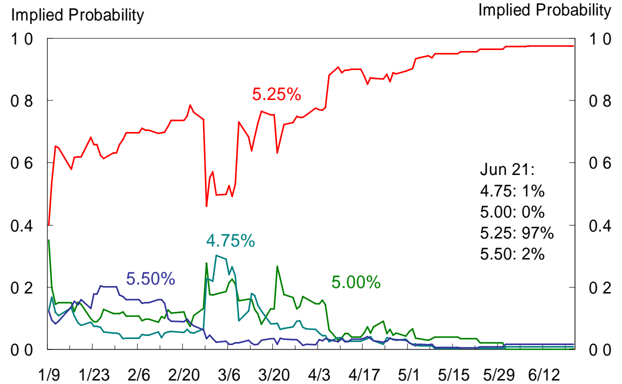


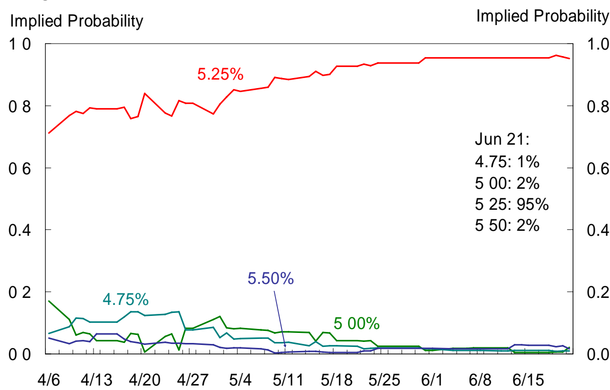
Source: Federal Reserve Board

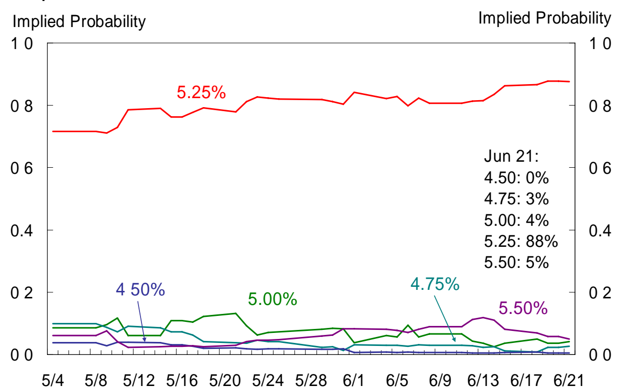
A. Significant Developments

Exhibit A-5:
Policy Expectations



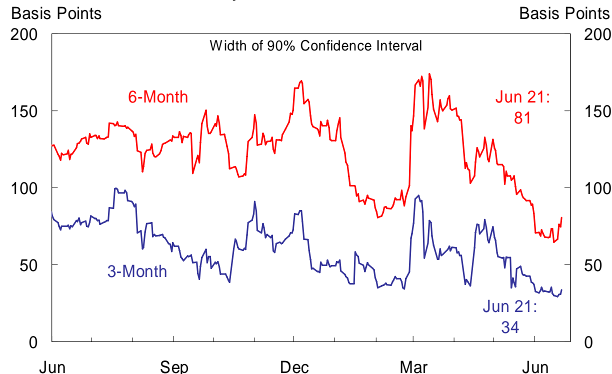


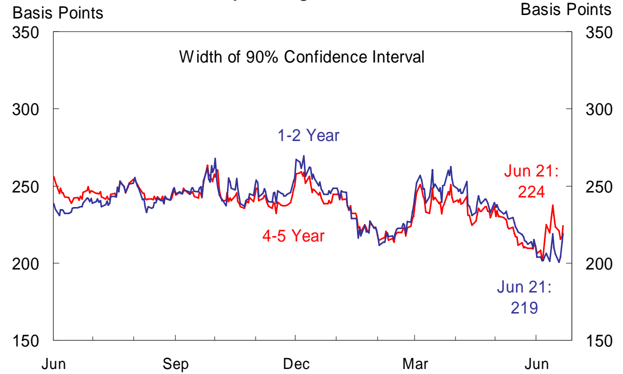


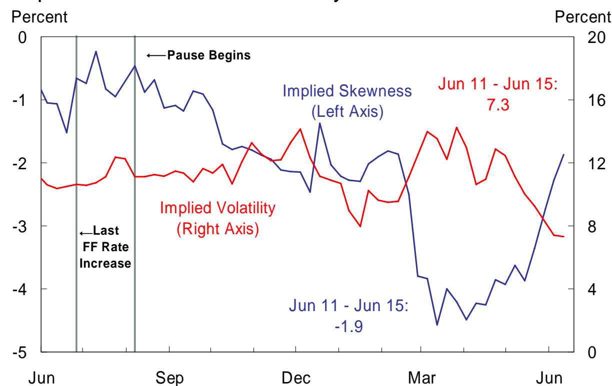


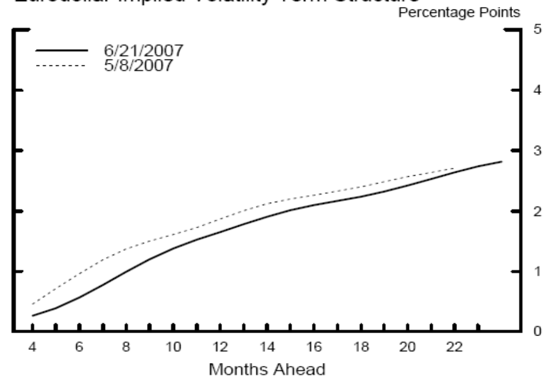
A. Significant Developments

Exhibit A-6:
Policy Uncertainty





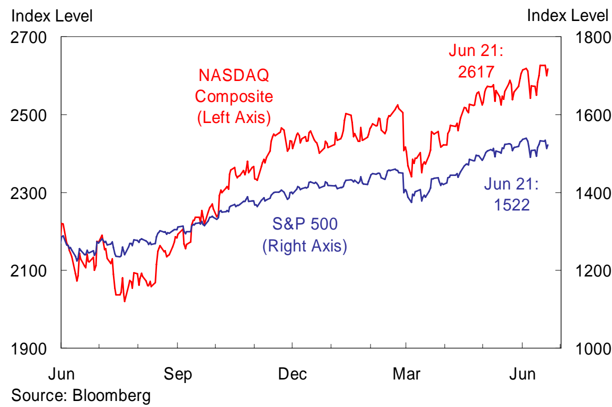




A. Significant Developments

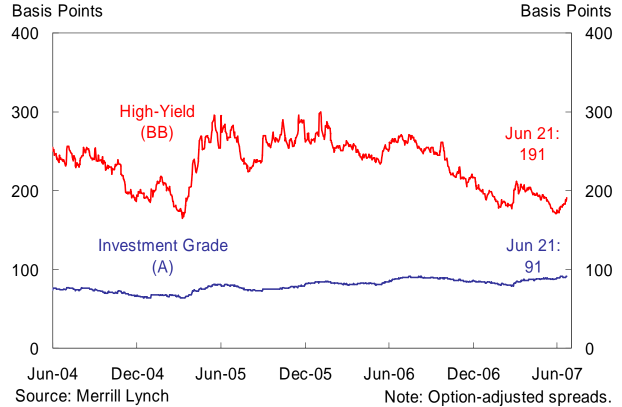
Exhibit A-7: Equity Markets and Corporate Credit Risk

Equity Market Performance



Source: Bloomberg

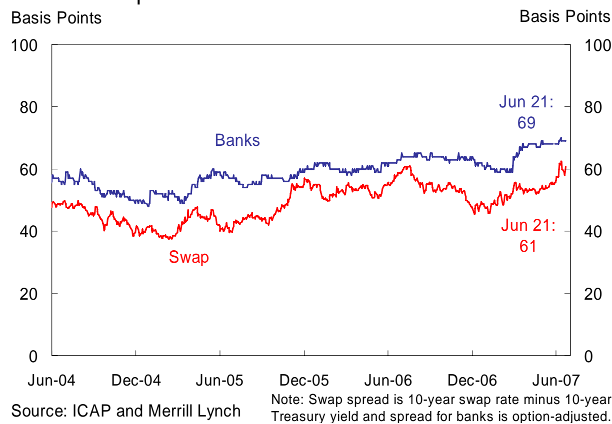
Corporate Credit Spreads



Source: Merrill Lynch

Note: Option-adjusted spreads.

AA Credit Spreads



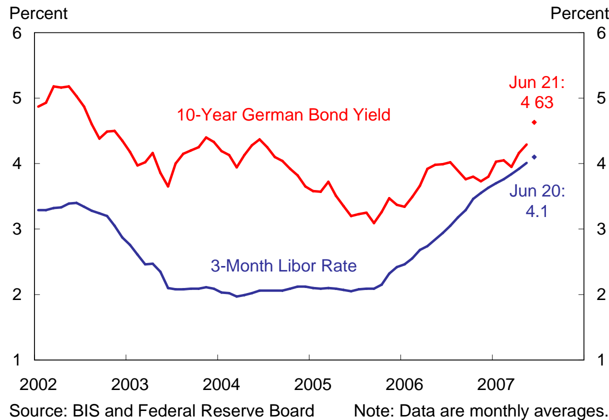
Source: ICAP and Merrill Lynch

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

A. Significant Developments

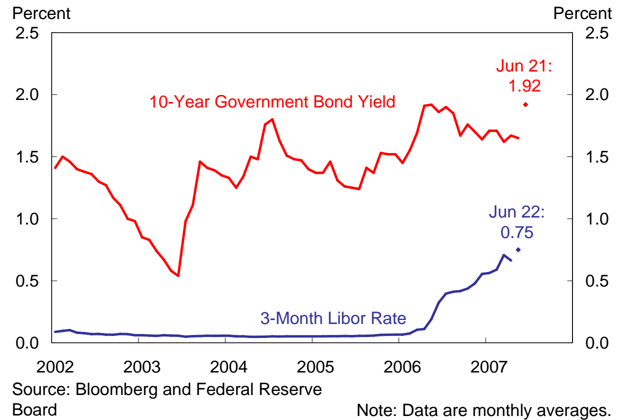
Exhibit A-8: Global Interest Rates and Equity Markets

Euro Area Short and Long-Term Interest Rates



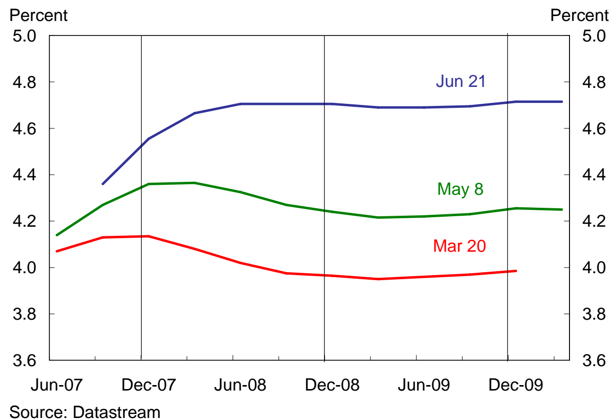
Source: BIS and Federal Reserve Board Note: Data are monthly averages.

Japan Short and Long-Term Interest Rates



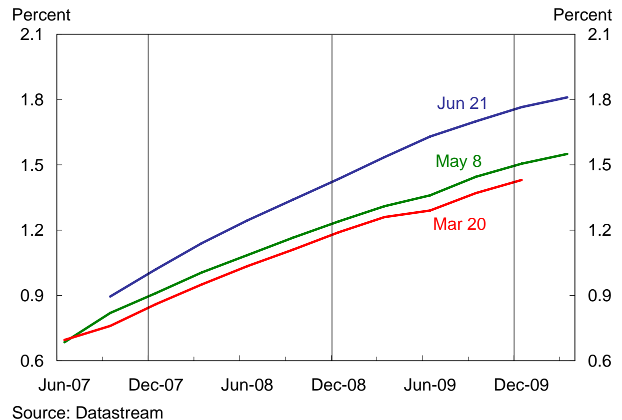
Source: Bloomberg and Federal Reserve Board Note: Data are monthly averages.

Three-Month Eurocurrency Futures Rates: Euro



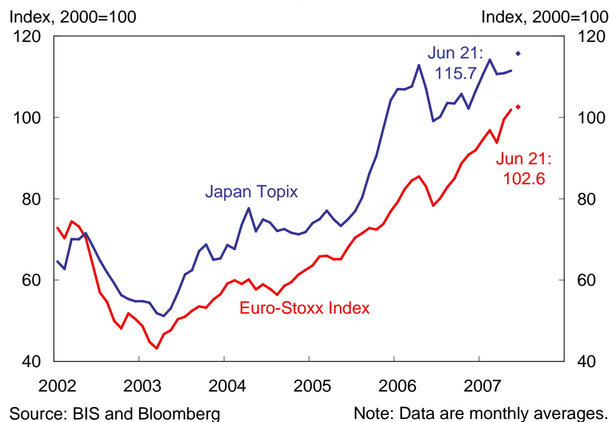
Source: Datastream

Three-Month Eurocurrency Futures Rates: Yen



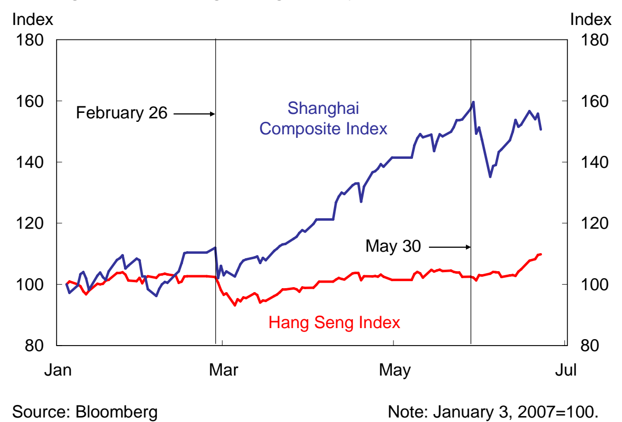
Source: Datastream

Euro Area and Japan Equity Indices



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

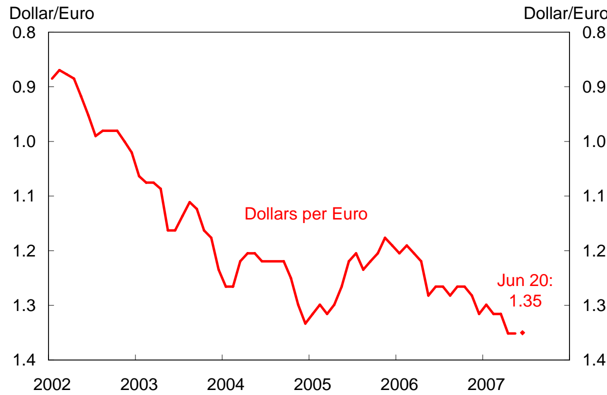
Shanghai and Hong Kong Equity Indices

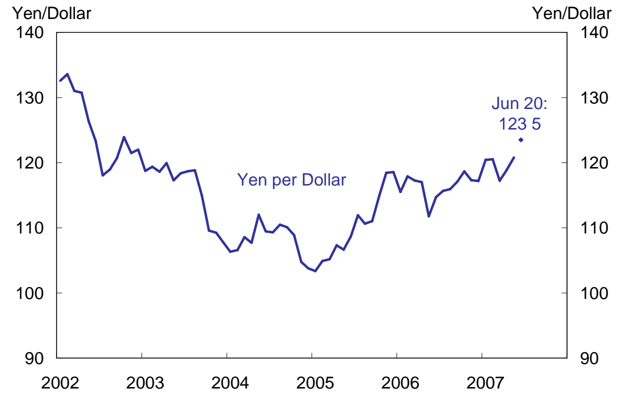


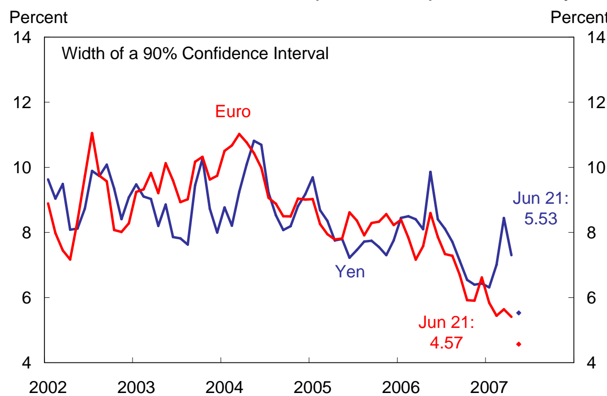
Source: Bloomberg Note: January 3, 2007=100.

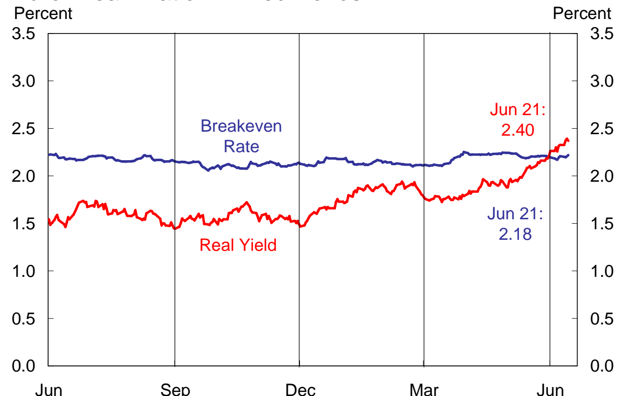
A. Significant Developments

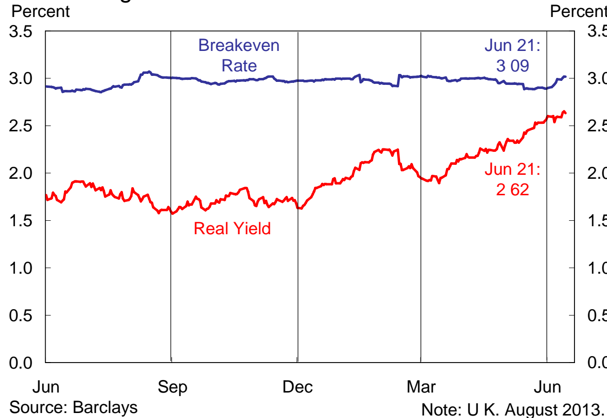
Exhibit A-9: Exchange Rates and Global Inflation-Linked Rates

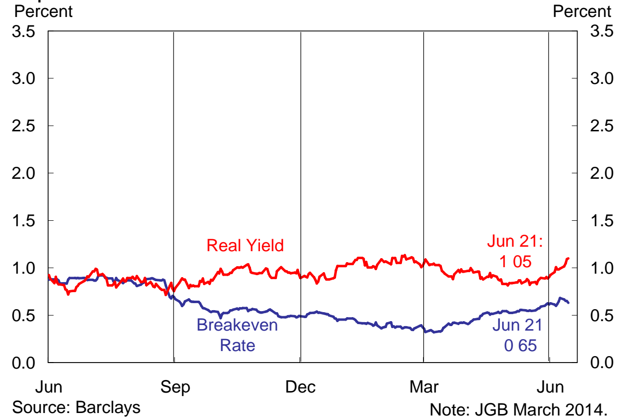












B. FRBNY Forecast Details

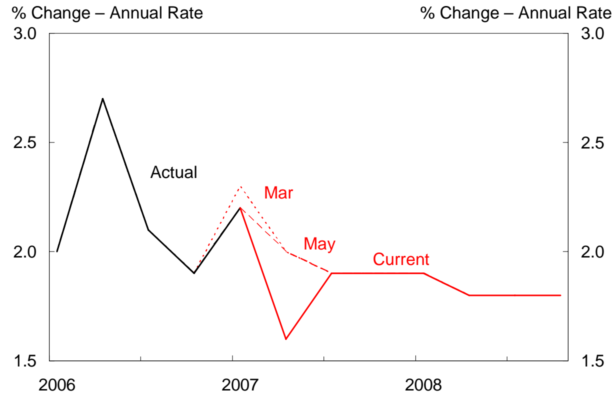
Exhibit B-1: Quarterly and Annual Projections of Key Variables

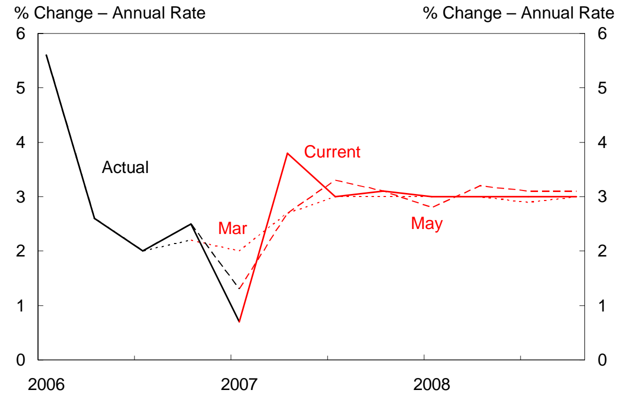
	Core PCE Inflation			Real GDP Growth			Unemployment Rate*			Fed Funds Rate**		
	Mar	May	Jun	Mar	May	Jun	Mar	May	Jun	Mar	May	Jun
2006												
Q1	*2.0*	*2.0*	*2.0*	*5.6*	*5.6*	*5.6*	*4.7*	*4.7*	*4.7*	*4.4*	*4.4*	*4.4*
Q2	*2.7*	*2.7*	*2.7*	*2.6*	*2.6*	*2.6*	*4.6*	*4.6*	*4.6*	*4.9*	*4.9*	*4.9*
Q3	*2.1*	*2.1*	*2.1*	*2.0*	*2.0*	*2.0*	*4.7*	*4.7*	*4.7*	*5.3*	*5.3*	*5.3*
Q4	*1.9*	*1.8*	*1.8*	*2.2*	*2.5*	*2.5*	*4.5*	*4.5*	*4.5*	*5.3*	*5.3*	*5.3*
2007												
Q1	2.3	*2.2*	*2.2*	2.0	*1.3*	*0.7*	4.6	*4.5*	*4.5*	5.3	*5.3*	*5.3*
Q2	2.0	2.0	1.6	2.7	2.7	3.8	4.6	4.6	4.5	5.3	5.3	5.3
Q3	1.9	1.9	1.9	3.0	3.3	3.0	4.6	4.6	4.6	5.0	5.3	5.3
Q4	1.9	1.9	1.9	3.0	3.1	3.1	4.6	4.6	4.6	5.0	5.0	5.3
2008												
Q1	1.9	1.9	1.9	3.0	2.8	3.0	4.6	4.6	4.6	5.0	5.0	5.3
Q2	1.8	1.8	1.8	3.0	3.2	3.0	4.6	4.6	4.6	5.0	5.0	5.3
Q3	1.8	1.8	1.8	2.9	3.1	3.0	4.6	4.6	4.6	4.8	4.8	5.0
Q4	1.8	1.8	1.8	3.0	3.1	3.0	4.6	4.6	4.6	4.8	4.8	5.0
Q4/Q4												
2005	*2.1*	*2.1*	*2.1*	*3.1*	*3.1*	*3.1*	*-0.4*	*-0.4*	*-0.4*	*2.0*	*2.0*	*2.0*
2006	*2.2*	*2.2*	*2.2*	*3.1*	*3.1*	*3.1*	*-0.5*	*-0.5*	*-0.5*	*1.0*	*1.0*	*1.0*
2007	2.0	2.0	1.9	2.7	2.6	2.7	0.1	0.1	0.1	-0.3	-0.3	0.0
2008	1.8	1.8	1.8	3.0	3.0	3.0	0.0	0.0	0.0	-0.3	-0.3	-0.3

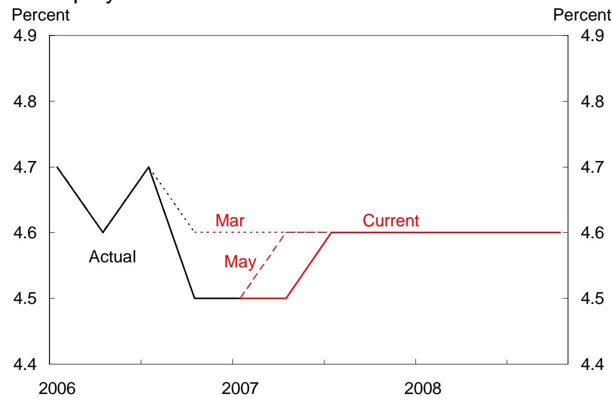
Note: Columns reflect the forecast dates. Numbers in gray are from previous Blackbooks, and numbers in italics are released data.
*Quarterly values are the average rate for the quarter. Yearly values are the difference between Q4 of the previous year and Q4 of the listed year.
**Quarterly values are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

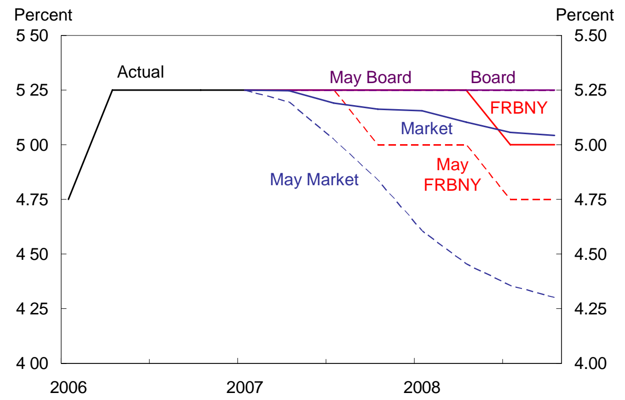
B. FRBNY Forecast Details

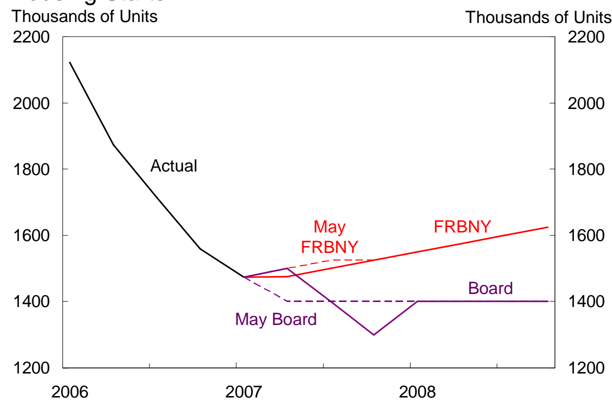
Exhibit B-2: Evolution of Projected Quarterly Paths of Key Indicators and Forecast Assumptions

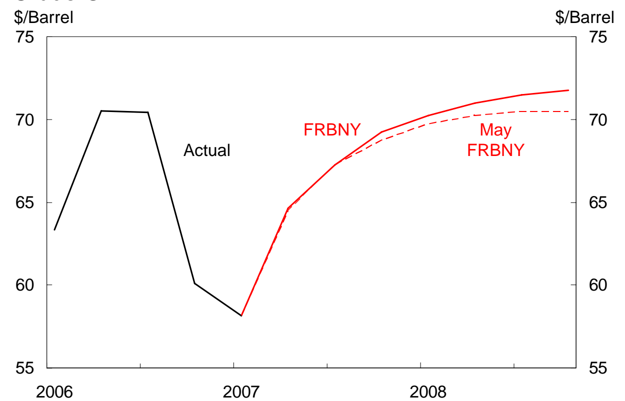












B. FRBNY Forecast Details

Exhibit B-3: Near-Term Projections

	Quarterly Growth Rates (AR)		Quarterly Growth Contributions (AR)	
	2007Q2	2007Q3	2007Q2	2007Q3
OUTPUT				
Real GDP	3.8	3.0	3.8	3.0
	(2.7)	(3.3)	(2.7)	(3.3)
Final Sales to Domestic Purchasers	2.5	2.8	2.6	2.9
	(2.4)	(2.8)	(2.5)	(2.9)
Consumption	2.8	3.0	2.0	2.1
	(3.0)	(3.0)	(2.1)	(2.1)
BFI: Equipment and Software	6.0	6.0	0.4	0.4
	(6.0)	(6.0)	(0.4)	(0.4)
BFI: Nonresidential Structures	12.0	8.0	0.4	0.3
	(8.0)	(8.0)	(0.2)	(0.3)
Residential Investment	-15.0	-10.0	-0.8	-0.5
	(-16.0)	(-10.0)	(-0.9)	(-0.5)
Government: Federal	3.4	3.8	0.2	0.3
	(3.0)	(3.0)	(0.2)	(0.2)
Government: State and Local	3.0	3.0	0.4	0.4
	(3.0)	(3.0)	(0.4)	(0.4)
Inventory Investment	--	--	1.0	0.0
	--	--	(0.3)	(0.3)
Net Exports	--	--	0.2	0.1
	--	--	(-0.2)	(0.1)
INFLATION				
Total PCE Deflator	4.5	2.1		
	(3.5)	(2.1)		
Core PCE Deflator	1.6	1.9		
	(2.0)	(1.9)		
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	2.6	2.3		
	(2.1)	(2.3)		
Compensation per Hour	1.5	6.3		
	(3.7)	(6.3)		
Unit Labor Costs	-1.1	4.1		
	(1.6)	(4.1)		

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		
	2006	2007	2008	2006	2007	2008
OUTPUT						
Real GDP	*3.1*	2.7	3.0	*3.1*	2.7	3.0
	(3.1)	(2.6)	(3.0)	*(3.1)*	(2.6)	(3.0)
Final Sales to Domestic Purchasers	*2.7*	2.7	3.1	*2.8*	2.9	3.3
	(2.7)	(2.5)	(3.1)	*(2.8)*	(2.7)	(3.3)
Consumption	*3.6*	3.3	3.0	*2.5*	2.3	2.1
	(3.6)	(3.2)	(3.0)	*(2.5)*	(2.3)	(2.1)
BFI: Equipment and Software	*4.0*	5.0	5.0	*0.3*	0.4	0.4
	(4.0)	(5.0)	(5.0)	*(0.3)*	(0.4)	(0.4)
BFI: Nonresidential Structures	*11.2*	8.5	6.0	*0.3*	0.3	0.2
	(11.2)	(8.5)	(6.0)	*(0.3)*	(0.2)	(0.2)
Residential Investment	*-12.8*	-11.5	3.0	*-0.8*	-0.6	0.1
	(-12.8)	(-12.1)	(3.0)	*(-0.8)*	(-0.6)	(0.1)
Government: Federal	*2.4*	1.7	2.0	*0.2*	0.1	0.1
	(2.4)	(1.5)	(2.0)	*(0.2)*	(0.1)	(0.1)
Government: State and Local	*2.8*	3.2	2.5	*0.3*	0.4	0.3
	(2.8)	(3.1)	(2.5)	*(0.3)*	(0.4)	(0.3)
Inventory Investment	--	--	--	*-0.2*	0.0	-0.2
	--	--	--	*(-0.2)*	(0.1)	(-0.2)
Net Exports	--	--	--	*0.5*	-0.2	-0.1
	--	--	--	*(0.5)*	(-0.2)	(-0.1)
INFLATION						
Total PCE Deflator	*1.9*	3.0	2.1			
	(1.9)	(2.8)	(2.1)			
Core PCE Deflator	*2.2*	1.9	1.8			
	(2.2)	(2.0)	(1.8)			
Total CPI Inflation	*1.9*	3.7	2.3			
	(1.9)	(3.1)	(2.3)			
Core CPI Inflation	*2.7*	2.1	2.0			
	(2.7)	(2.3)	(2.1)			
GDP Deflator	*2.5*	2.8	2.4			
	(2.5)	(2.7)	(2.4)			

Note: Numbers in parentheses are from the previous Blackbook, and numbers in italics are released data.

B. FRBNY Forecast Details

Exhibit B-5: Projections of Other Key Economic Variables

	Q4/Q4 Growth Rates		
	2006	2007	2008
INTEREST RATE ASSUMPTIONS			
Federal Funds Rate (End-of-Year)	*5.25*	5.25	5.00
	(5.25)	(5.00)	(4.75)
10-Year Treasury Yield (Avg. Q4 Level)	*4.6*	5.3	5.3
	(4.6)	(4.9)	(5.0)
PRODUCTIVITY AND LABOR COSTS*			
Output	*3.5*	2.8	3.3
	(3.5)	(2.9)	(3.4)
Hours	*1.9*	0.8	1.0
	(1.9)	(0.8)	(1.1)
Output per Hour	*1.6*	2.0	2.3
	(1.6)	(2.1)	(2.2)
Compensation per Hour	*5.6*	3.6	4.7
	(5.0)	(4.0)	(4.7)
Unit Labor Costs	*4.0*	1.6	2.4
	(3.4)	(2.0)	(2.4)
LABOR MARKET			
Unemployment Rate (Avg. Q4 Level)	*4.5*	4.6	4.6
	(4.5)	(4.6)	(4.6)
Participation Rate (Avg. Q4 Level)	*66.3*	66.0	66.0
	(66.3)	(66.3)	(66.3)
Monthly Nonfarm Payroll Growth (Thous.)	*192*	143	138
	(192)	(158)	(132)
INCOME			
Personal Income	*5.8*	6.2	5.9
	(5.5)	(6.0)	(5.9)
Real Disposable Personal Income	*3.2*	3.3	4.0
	(2.9)	(3.3)	(4.0)
Corporate Profits Before Taxes	*18.3*	0.5	0.3
	(18.3)	(4.3)	(0.5)

Note: Numbers in parentheses are from the previous Blackbook, and numbers in italics are released data.
*Nonfarm business sector.

B. FRBNY Forecast Details

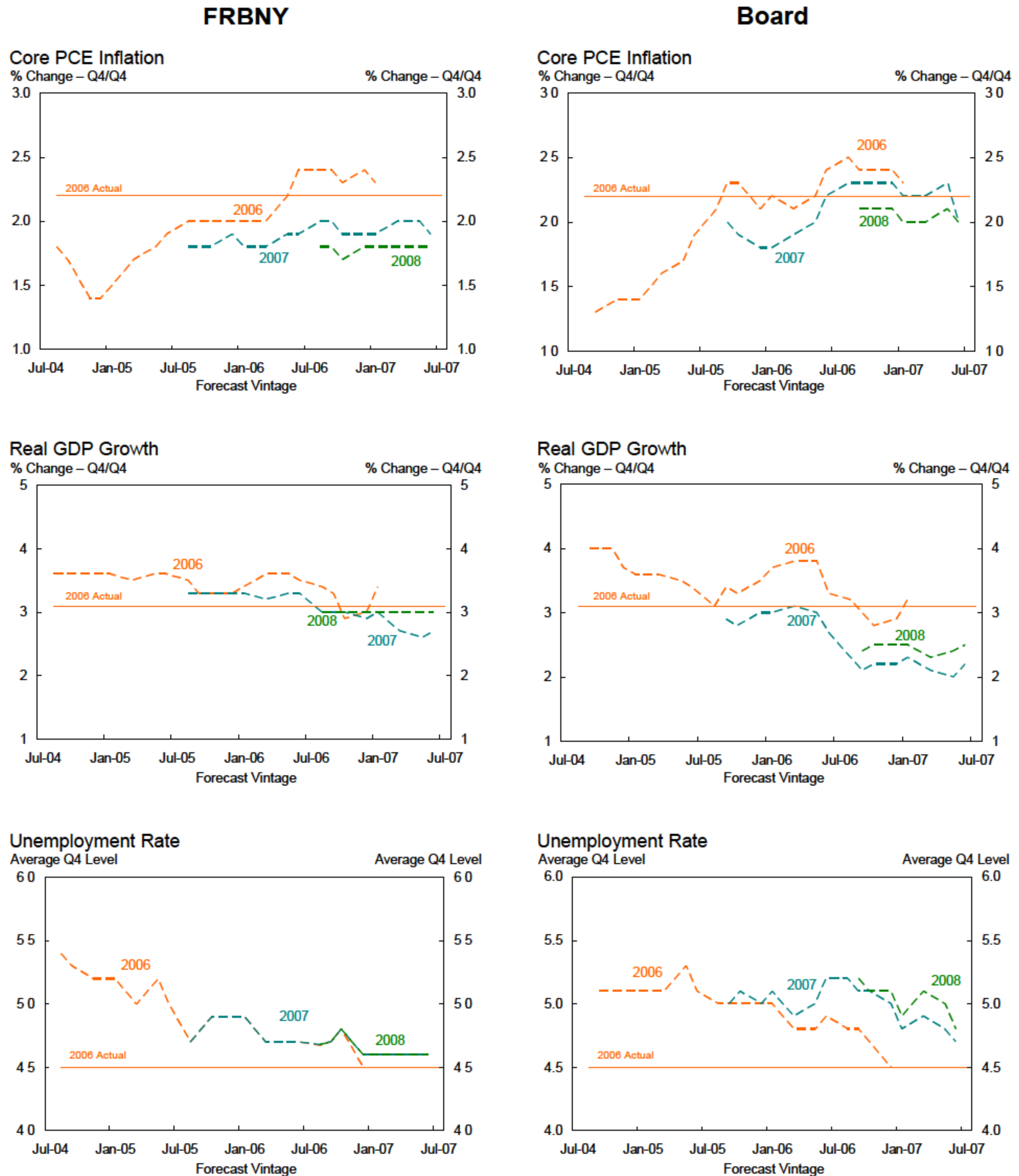
Exhibit B-6: FRBNY and Greenbook Forecast Comparison

	FRBNY		Board	
	2007	2008	2007	2008
OUTPUT				
Real GDP	2.7	3.0	2.2	2.5
	(2.6)	(3.0)	(2.0)	(2.4)
GDP Growth Contributions				
Final Sales to Domestic Purchasers	2.9	3.3	2.1	2.6
	(2.7)	(3.3)	(1.8)	(2.5)
Consumption	2.3	2.1	1.9	1.8
	(2.3)	(2.1)	(1.7)	(1.7)
BFI	0.6	0.6	0.4	0.5
	(0.6)	(0.6)	(0.3)	(0.4)
Residential Investment	-0.6	0.1	-0.8	-0.1
	(-0.6)	(0.1)	(-0.8)	(0.0)
Government	0.5	0.4	0.6	0.4
	(0.5)	(0.4)	(0.6)	(0.4)
Inventory Investment	0.0	-0.2	0.1	-0.1
	(0.1)	(-0.2)	(0.1)	(-0.1)
Net Exports	-0.2	-0.1	0.1	0.0
	(-0.2)	(-0.1)	(0.1)	(0.0)
INFLATION				
Total PCE Deflator	3.0	2.1	2.9	2.0
	(2.8)	(2.1)	(2.9)	(2.1)
Core PCE Deflator	1.9	1.8	2.0	2.0
	(2.0)	(1.8)	(2.3)	(2.1)
INTREST RATE ASSUMPTION				
Fed Funds Rate (End-of-Year)	5.25	5.00	5.25	5.25
	(5.00)	(4.75)	(5.25)	(5.25)
PRODUCTIVITY AND LABOR COSTS*				
Output per Hour	2.0	2.3	2.1	2.5
	(2.1)	(2.2)	(1.9)	(2.6)
Compensation per Hour	3.6	4.7	4.0	4.9
	(4.0)	(4.7)	(3.9)	(4.9)
Unit Labor Costs	1.6	2.4	1.9	2.3
	(2.0)	(2.4)	(1.9)	(2.2)
LABOR MARKET				
Unemployment Rate (Avg. Q4 Level)	4.6	4.6	4.7	4.8
	(4.6)	(4.6)	(4.8)	(5.0)
Participation Rate (Avg. Q4 Level)	66.0	66.0	65.9	65.8
	(66.3)	(66.3)	(66.1)	(65.8)
Monthly Nonfarm Payroll Growth (Thous.)	143	138	117	83
	(158)	(132)	(100)	(50)
HOUSING				
Housing Starts (Avg. Q4 Level, Thous.)	1525	1625	1400	1400
	(1500)	(1600)	(1400)	(1400)

Note: All values are 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

	Release Date	Real GDP Growth			
		2007Q2	2007Q3	2007 Q4/Q4	2008 Q4/Q4
FRBNY	6/22/2007	3.8	3.0	2.7	3.0
		(2.7)	(3.3)	(2.6)	(3.0)
PSI Model	6/19/2007	2.2	3.1	--	--
		(1.8)	(2.1)	--	--
Blue Chip	6/10/2007	2.8	2.6	2.2	3.0
		(2.4)	(2.6)	(2.3)	(2.9)
Median SPF	5/14/2007	2.4	2.6	2.1	2.9
		(2.7)	(3.0)	(2.8)	(3.0)
Macro Advisers	6/19/2007	3.3	2.9	2.4	3.0
		(2.5)	(2.8)	(2.4)	(2.8)

	Release Date	Core PCE Inflation			
		2007Q2	2007Q3	2007 Q4/Q4	2008 Q4/Q4
FRBNY	6/22/2007	1.6	1.9	1.9	1.8
		(2.0)	(1.9)	(2.0)	(1.8)
Median SPF	5/14/2007	2.0	2.1	2.1	2.1
		(2.0)	(2.0)	(2.0)	(2.0)

	Release Date	CPI Inflation			
		2007Q2	2007Q3	2007 Q4/Q4	2008 Q4/Q4
FRBNY	6/22/2007	6.3	2.4	3.7	2.3
		(4.0)	(2.4)	(3.1)	(2.3)
Blue Chip	6/10/2007	4.6	2.3	3.2	2.4
		(3.7)	(2.3)	(3.0)	(2.4)
Median SPF	5/14/2007	4.2	2.5	3.2	2.4
		(2.4)	(2.6)	(2.5)	(2.3)
Macro Advisers	6/19/2007	5.9	2.7	3.7	2.3
		(5.6)	(2.7)	(3.6)	(2.4)

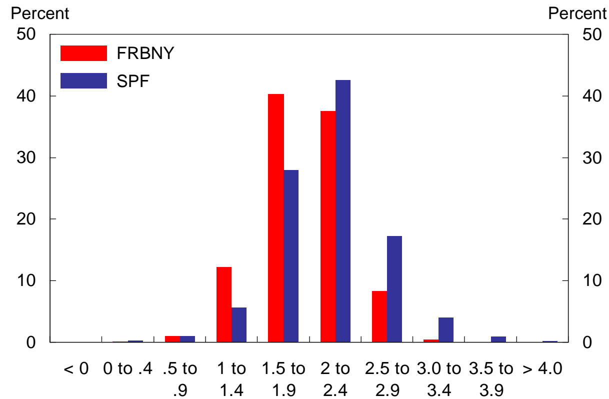
	Release Date	Core CPI Inflation			
		2007Q2	2007Q3	2007 Q4/Q4	2008 Q4/Q4
FRBNY	6/22/2007	1.7	2.2	2.1	2.1
		(2.2)	(2.3)	(2.3)	(2.1)
Median SPF	5/14/2007	2.2	2.3	2.3	2.3
		(2.2)	(2.3)	(2.3)	(2.3)
Macro Advisers	6/19/2007	2.0	2.3	2.2	2.3
		(2.0)	(2.4)	(2.3)	(2.3)

Note: Numbers in parentheses are from previous releases. Previous release of SPF is February and of all others is May. All values are quarterly percent changes at an annual rate.

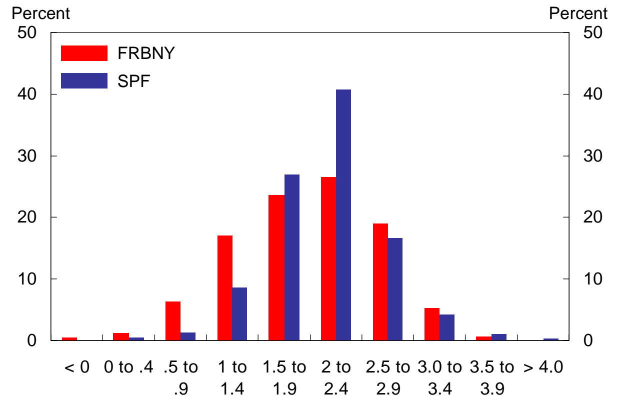
B. FRBNY Forecast Details

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

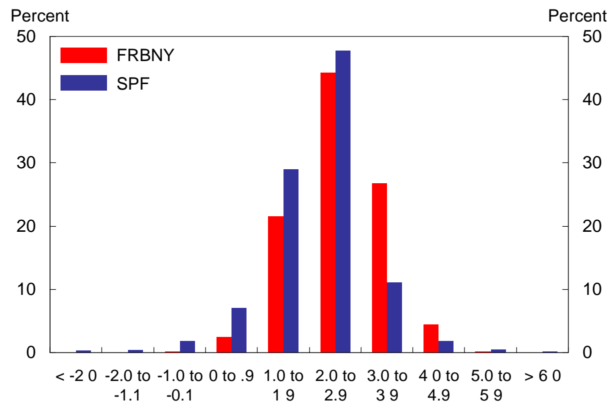
2007Q4/Q4 Core PCE Inflation Probabilities



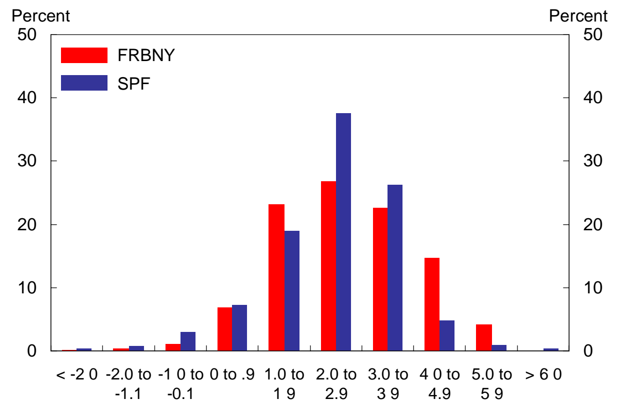
2008Q4/Q4 Core PCE Inflation Probabilities



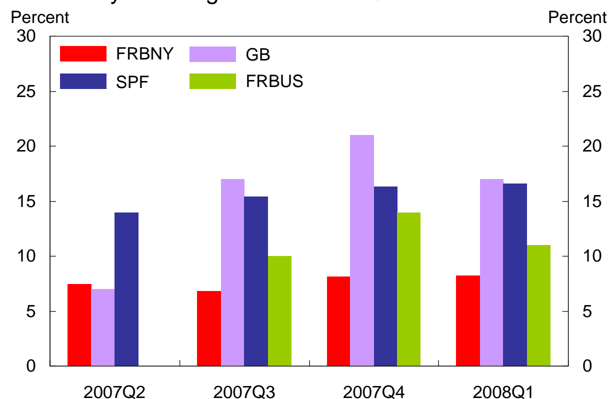
2007/2006 Real GDP Growth Probabilities



2008/2007 Real GDP Growth Probabilities



Probability of a Negative-Growth Quarter

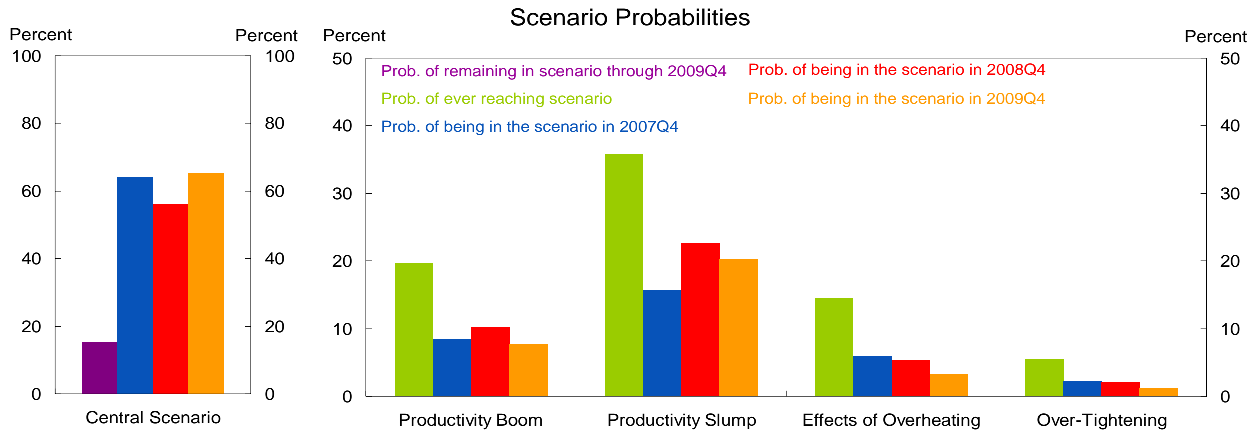


Source: MMS Function (FRBNY), FRB Philadelphia Survey of Professional Forecasters, and Federal Reserve Board
Note: SPF forecast was released May 14, 2007. Board forecasts are from the Greenbook.

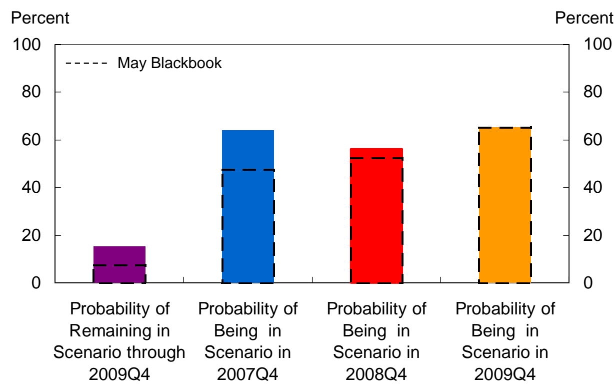
C. FRBNY Forecast Distributions

Exhibit C-1: Risks

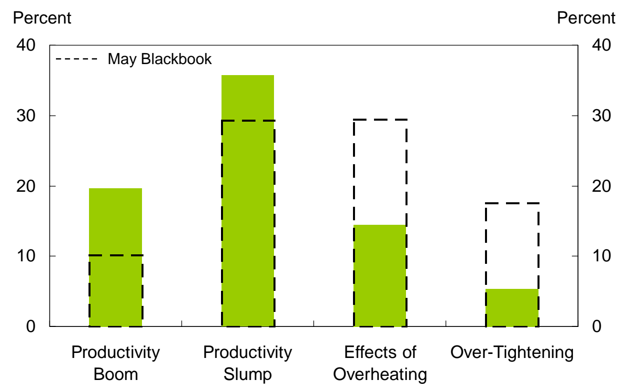
Scenario Probabilities



Change in Central Scenario Probability



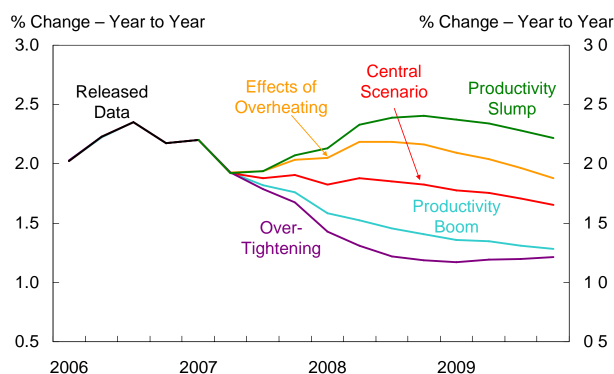
Change in Alternative Scenario Probabilities*



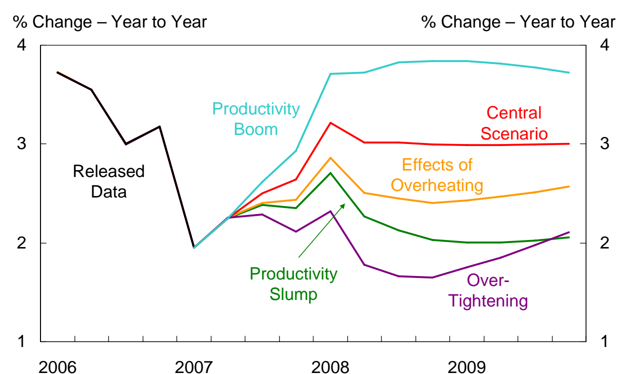
*Probability of ever reaching scenario

Exhibit C-2: Projections under Alternative Scenarios

Core PCE Inflation



Real GDP Growth

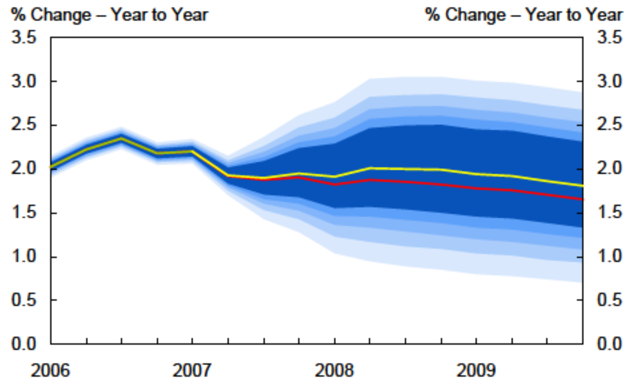


Source: MMS Function (FRBNY)

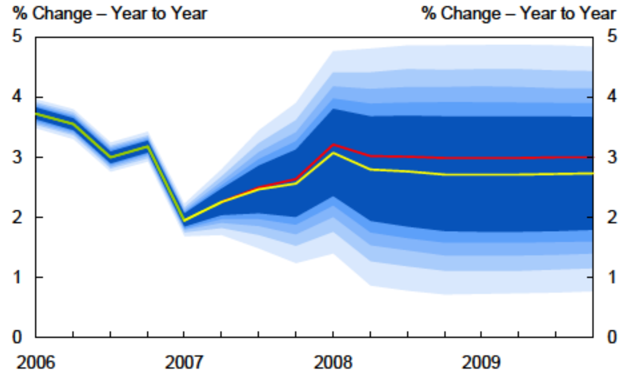
C. FRBNY Forecast Distributions

Exhibit C-3: Inflation and Output Forecast Distributions

Core PCE Inflation Forecast Distribution

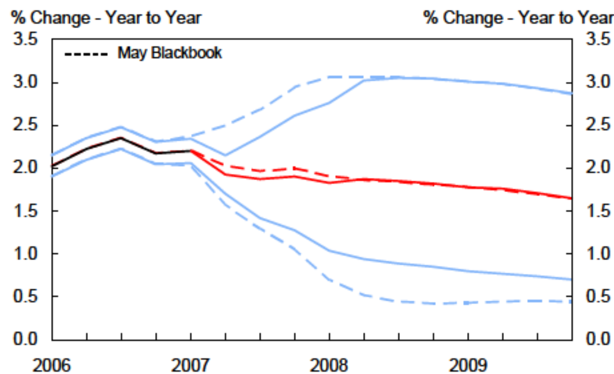


Real GDP Growth Forecast Distribution

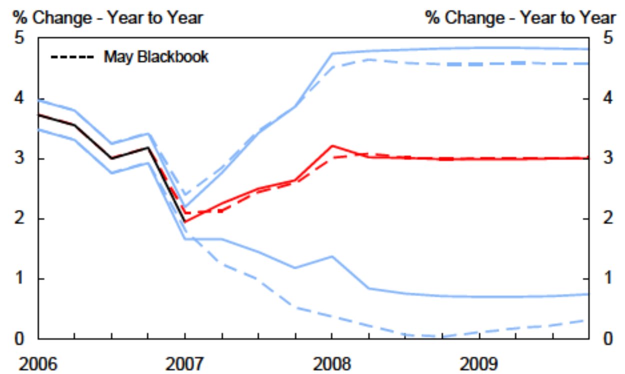


The yellow line is the expected value of the forecast distribution, the red line is the central scenario projection, and the green line is released data. The shading represents the 50, 60, 70, 80, and 90 percent chance that the four-quarter change will be within the respective range.

Change in Core PCE Inflation Forecast Distribution

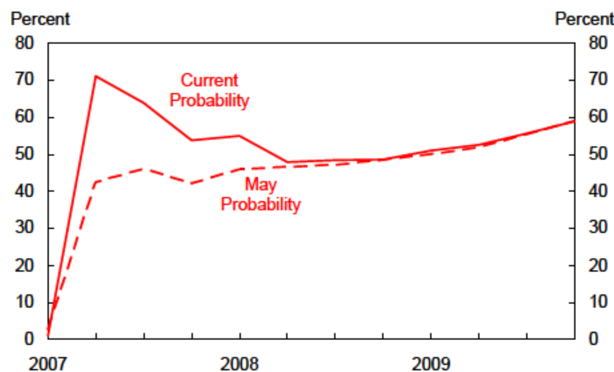


Change in Real GDP Growth Forecast Distribution

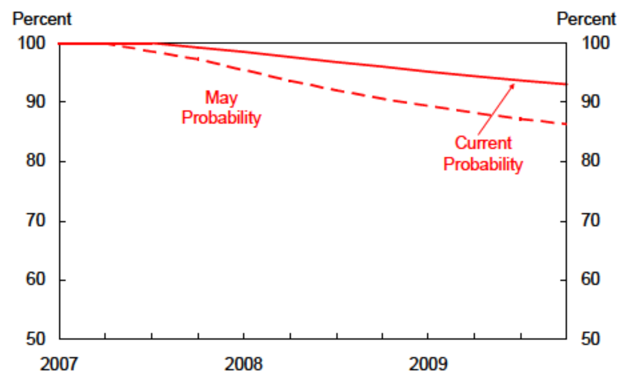


The blue lines are the 90% chance the four-quarter change will be within the lines, the red line is the central scenario projection, and the black line is released data. Dashed lines represent forecasts from previous Blackbook.

Probability of Four-Quarter Core PCE Inflation below 2%



Probability of Continuing Expansion*



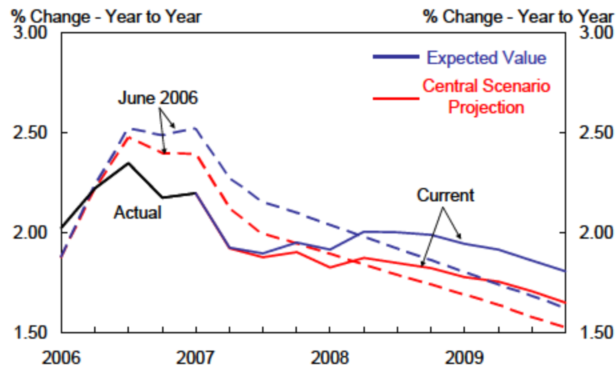
*No two consecutive quarters of negative growth

Source: MMS Function (FRBNY)

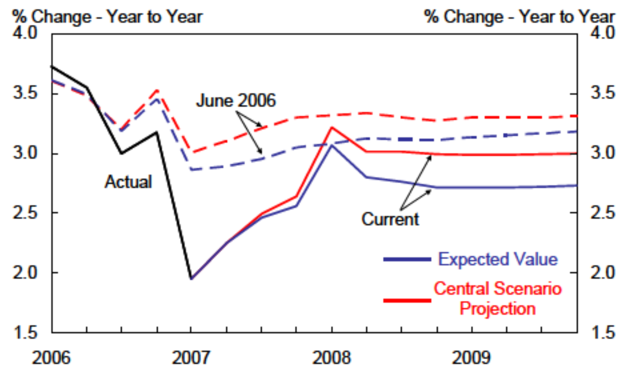
C. FRBNY Forecast Distributions

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

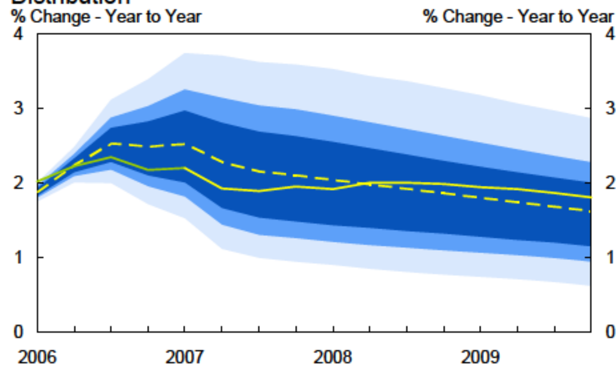
One-Year Comparison of Core PCE Inflation Forecast



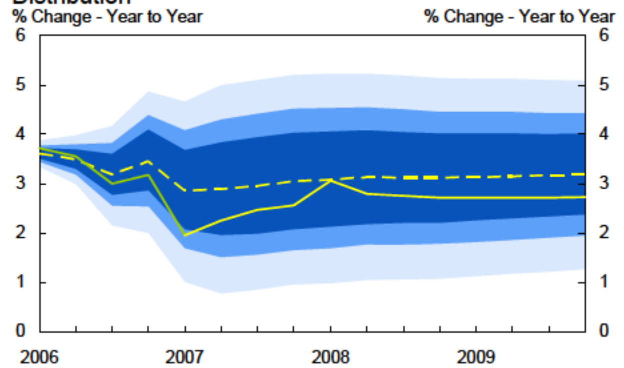
One-Year Comparison of Real GDP Growth Forecast



One-Year Comparison of Core PCE Inflation Forecast Distribution



One-Year Comparison of Real GDP Growth Forecast Distribution



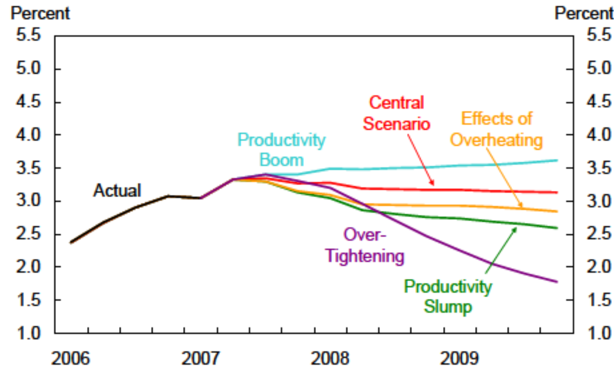
The solid yellow line is the **current** expected value of the forecast distribution, while the dashed yellow line is the **June 2006** expected value. The shading represents the 50, 75 and 90 percent probability intervals from the **June 2006** forecast. The green lines are released data.

Source: MMS Function (FRBNY)

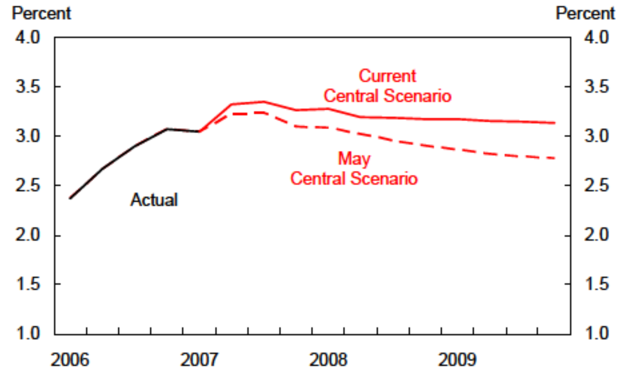
D. FRBNY Fed Funds Rate Projections

Exhibit D-1: *Baseline*
Policy Rule Analysis

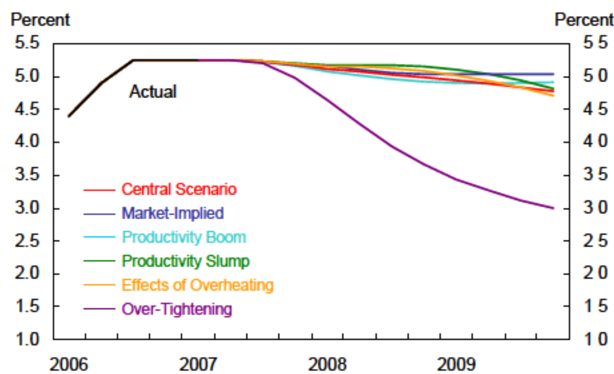
Real FFR under Alternative Scenarios



Change in Central Scenario Real FFR



Nominal FFR under Alternative Scenarios



Change in Central Scenario and Market-Implied Nominal FFR

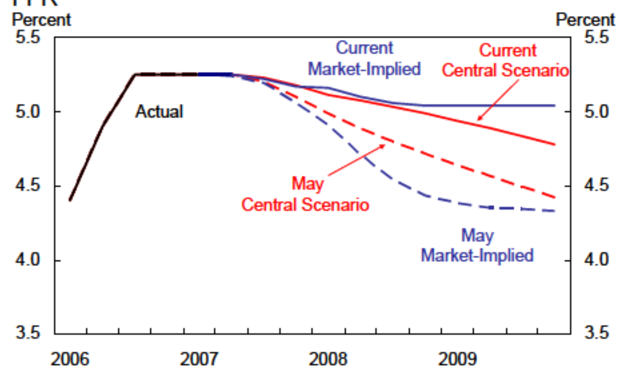
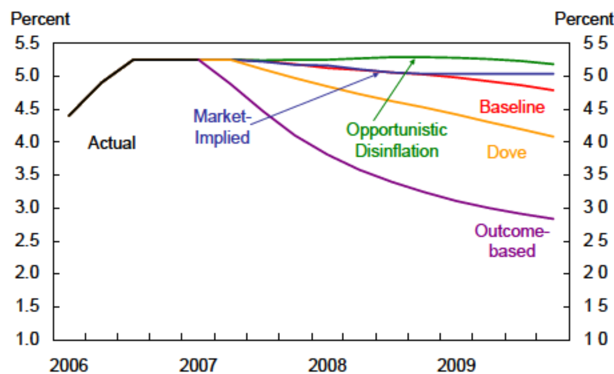


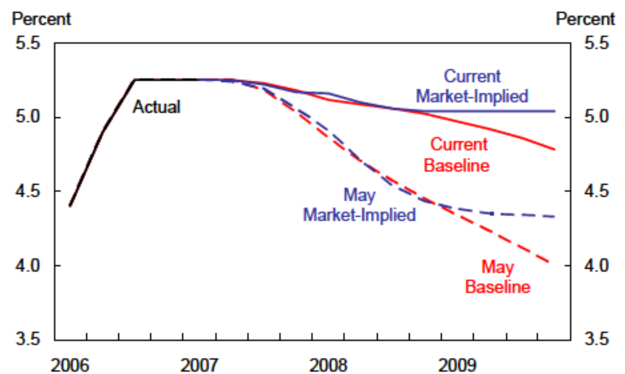
Exhibit D-2: Alternative Policy Rules under Expected Value of Forecast Distribution

Nominal FFR using Alternative Policy Rules*



*Evaluated using yellow line from C-3

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



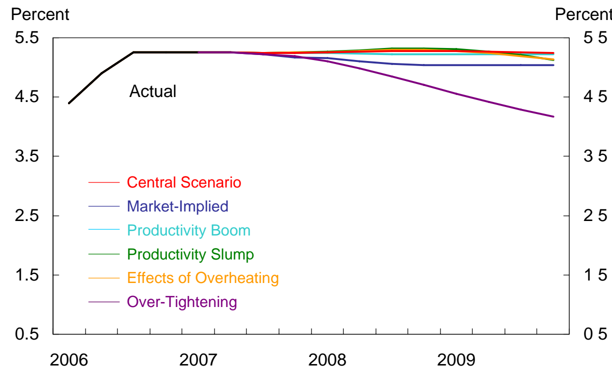
*Evaluated using yellow line from C-3

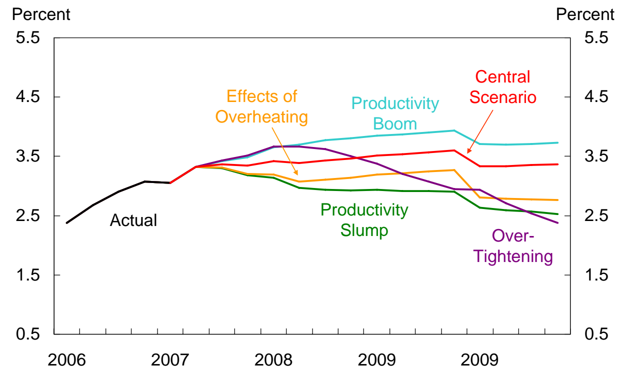
Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

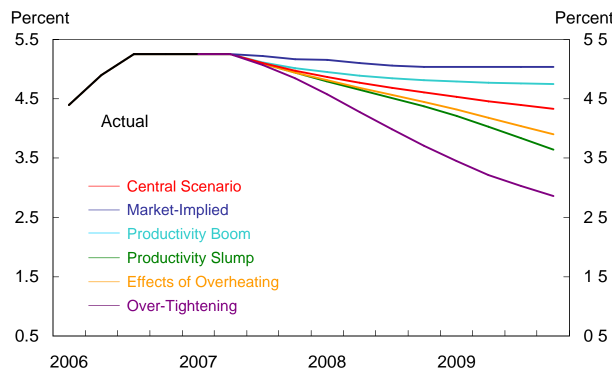
Exhibit D-3: Alternative Policy Rule Analysis

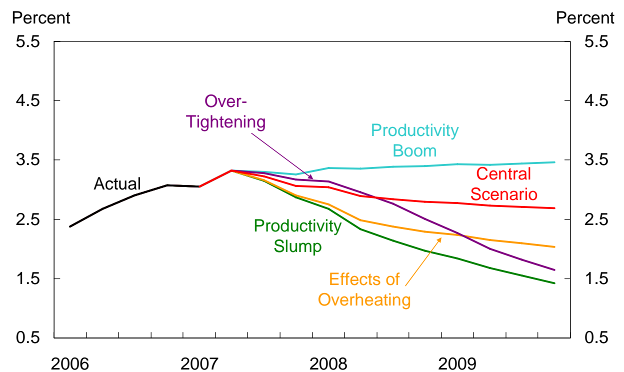
Policy Rule: *Opportunistic Disinflation*



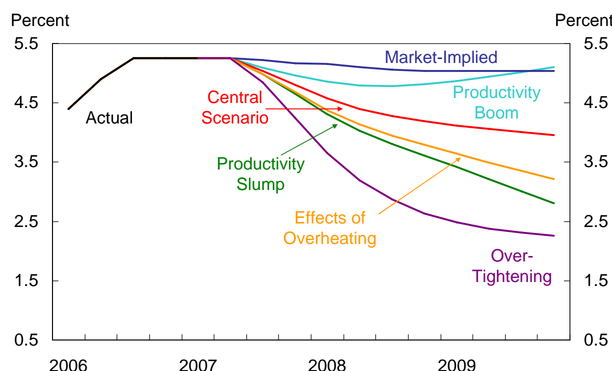


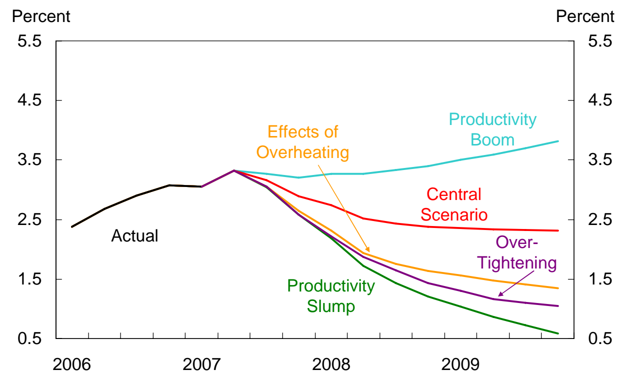
Policy Rule: *Dove*





Policy Rule: *Outcome-based*





Source: MMS Function (FRBNY)

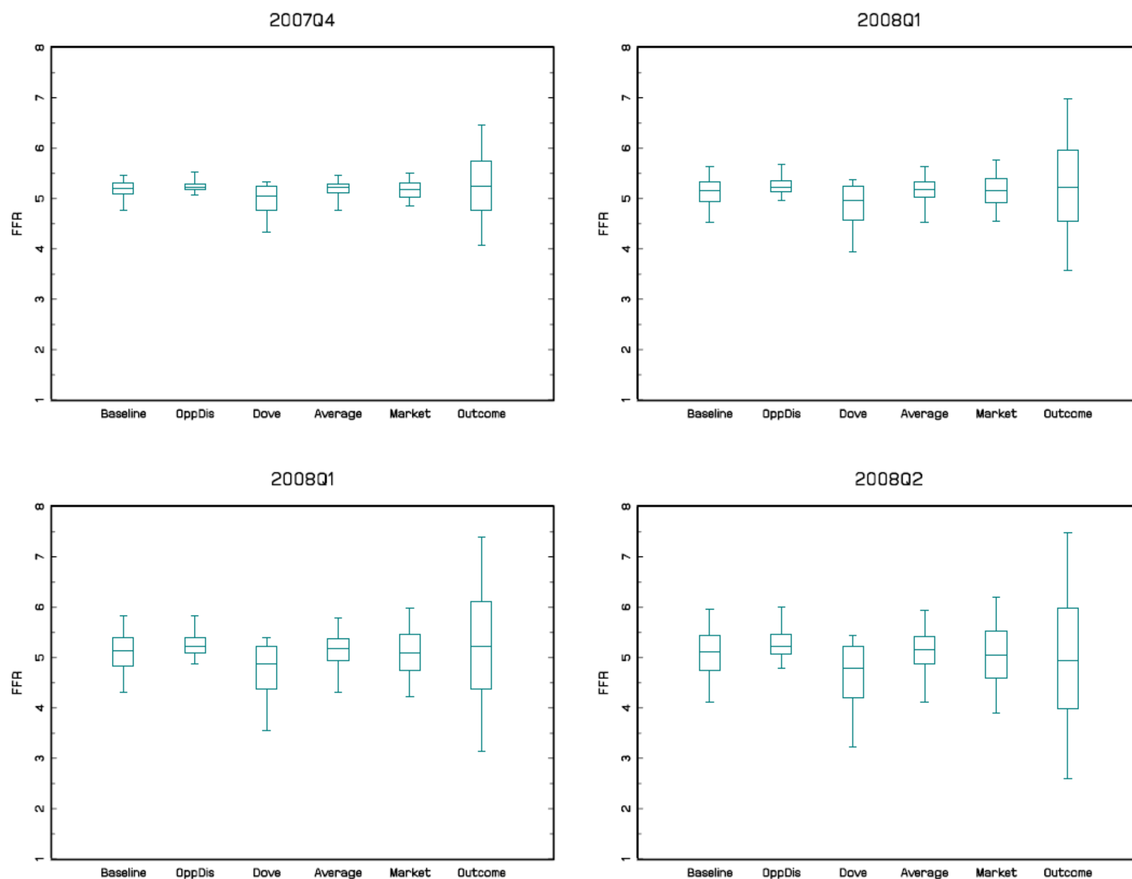
D. FRBNY Fed Funds Rate Projections

Exhibit D-4: Comparison between Market and Policy Rule FFR Expectations: 2008Q2

	Percentile of FRBNY Expectation in Market Distribution	Percentile of Market Expectation in FRBNY Distribution
Baseline	49 (50)	47 (32)
Opportunistic Disinflation	62 (72)	25 (11)
Dove	24 (34)	64 (58)
Outcome-based	61 (81)	46 (32)
Average	52 (50)	40 (36)

Note: "Average" weights baseline at .50, dove at .10, and opportunistic disinflation at .40. Numbers in parentheses represent data from the May Blackbook, with "Average" weighting baseline at .60, dove at .15 and opportunistic disinflation at .25.

Exhibit D-5: FFR Distributions

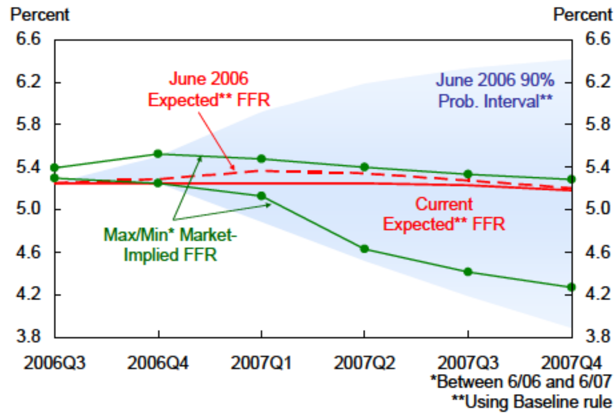


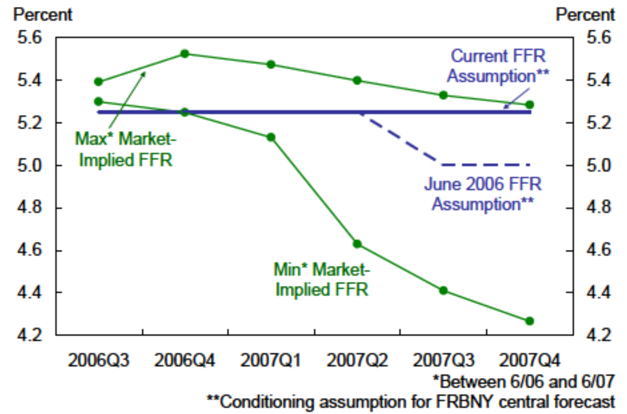
Note: The box represents the 50% probability interval, the line in the box the median, and the tails the 90% probability interval.

Source: MMS Function (FRBNY)

D. FRBNY Fed Funds Rate Projections

Exhibit D-6: Evolution of FFR Expectations and Assumption





Source: MMS Function (FRBNY)

Exhibit Changes

We have made a few changes to Exhibits A and B this cycle so that the charts more closely correspond to the order and content of the Blackbook text. Most notably, we changed the title of Exhibit B and reversed the order of Exhibits A and B; some charts have also moved between sections. The new Exhibit A is Significant Developments, and the new Exhibit B is Forecast Details. Changes to the ordering and selection of charts in each of these exhibits are detailed below. We also made some small changes to the charts in Exhibit C and D; these changes are explained below.

A. Significant Developments

This section now contains the PCE, CPI, and UIG charts that were the last exhibits in Forecast Details. It also contains most of the domestic and global financial market charts that were in Financial Markets. Starting this cycle, we will no longer include a static set of domestic and global financial market charts. Instead, these charts will be selected based on their relevancy to the developments and issues under discussion. The selection of charts will typically fall under the following broad categories:
Exhibit A-1: Measures of Trend Inflation
Exhibit A-2: Underlying Inflation Gauge (UIG)
Exhibit A-3: Implied Inflation
Exhibit A-4: Treasury Yields
Exhibit A-5: Policy Expectations
Exhibit A-6: Policy Uncertainty
Exhibit A-7: Equity Markets and Corporate Credit Risk
Exhibit A-8: Global Interest Rates and Equity Markets
Exhibit A-9: Exchange Rates and Global Inflation-Linked Rates

B. FRBNY Forecast Details

This section is almost identical to the prior Forecast Details exhibit [Exhibit A]. It includes tables and charts that describe our forecast and compare it to other forecasters,

including the Board staff. As noted above, the PCE, CPI, and UIG charts that formerly comprised Exhibits A-12 and A-13 are now in the Significant Developments section.

C. FRBNY Forecast Distributions

In this section, we added a new pair of real GDP growth and core PCE inflation charts to Exhibit C-4 that compares the central scenario projection and the expected value of the forecast distribution from the Blackbook of one year ago (eight FOMC cycles earlier) to the current projection and expected value. Also in Exhibit C-4, we replaced the central scenario projections that were in the forecast distribution comparison charts with the expected value of the forecast distribution.

D. FRBNY Fed Funds Rate Projections

In this section, we added one new exhibit – Exhibit D-6: Evolution of FFR Expectations and Assumption – that contains two charts. The left chart in this exhibit compares, over the horizon from 2006Q3 to 2007Q4, the 90 percent probability interval and the expected fed funds rate using the *Baseline* policy rule from the Blackbook of one year ago to the current expected fed funds rate using the *Baseline* policy rule. Also included in this chart are the maximum and minimum market-implied FFRs for the quarters pictured, where the maximum and minimum are taken over yields from one year ago to the current Blackbook date (or the contract expiration date, if the contract expired before the current Blackbook). The right chart compares, over the same horizon, the current FFR conditioning assumption for the FRBNY central forecast to the conditioning assumption from the Blackbook of one year ago. As in the left chart, this chart includes the maximum and minimum market-implied FFRs for the quarters pictured.

Exhibit C Documentation

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.

Descriptions of Alternative Scenarios

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 onward, High II). The July 2006 NIPA revisions prompted us to reduce the estimate of potential output growth in our central forecast; our current central projection for medium-term productivity growth is slightly lower than that of the pre-1973 epoch.

Alternative 1: *Productivity Boom*

The developments in the labor market and the sustained strength of labor productivity growth in the first part of this decade suggest that firms are using labor more efficiently. As such, productivity growth above our assumed trend could return and persist, implying a higher potential growth rate and thus expected higher real growth than our current estimate. Strong productivity growth would 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 will not be sustained as the IT-driven surge runs its course, resulting in a period of productivity growth below the trend in our central forecast. Furthermore, we could also see lower productivity growth from increases in the level and volatility of energy and commodity prices, 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 two additional scenarios, both related to the impact of past monetary policy and possible misperceptions of its past and current stances.

Alternative 3: *Effects of Overheating*

We see two potentially connected forms of this alternative. The first is a more standard scenario in which the extremely accommodative policy stance that the U.S. and other countries adopted in response to the global slowdown of 2000-2003 produces a persistent rise in inflation above implicit targets and an abrupt slowdown in real output growth starting in mid-2006. If central banks have consistently underestimated the equilibrium real rate (i.e., overestimated the slack in the global economy), their misperception would have led to excess aggregate demand growth over 2005-06 and, ultimately, to an increase in both inflation and inflation expectations.

The second form of this scenario (described in the special topic *The Free Lunch* in the May 2006 Blackbook) highlights the possibility that the U.S. economy could be overheating, but that the overheating might not manifest itself immediately in high domestic consumer inflation (i.e. a rate well above the FOMC's implicit target). If the dollar is not freely floating and, moreover, if the dollar is being boosted by capital inflows that are acting to keep the dollar strong, then it is possible that market interest rates could be held below the "true" equilibrium rate (i.e. the rate that would prevail without such inflows) for a significant period of time. The implications for output and inflation in this circumstance are similar to those of the above, more standard, scenario.

Alternative 4: *Over-Tightening*

We base our outlook on the assumption that the neutral policy rate is between 4.25% and 4.75%, with an implicit core PCE inflation target of 1.5%. For the past few years, however, core PCE inflation has been running above 2%. This combination of factors is consistent with recent fed funds rate levels and, if above-target inflation continues, is consistent with holding the FFR above 5%. We see some risk, however, that the recent high inflation is a lagging indicator of demand pressures that have already subsided. In addition, we also see some risk that the neutral rate is actually lower than we assume. If

either of these were true, it would imply recent policy has been more restrictive than necessary, which would cause the economy to slow significantly below potential over the forecast horizon.

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. *Over-Tightening*: inflation below central forecast, output far below central forecast.

Exhibit D Documentation

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.

Policy Rules

In all policy rule specifications based off the baseline rule, the policy rate responds to deviations of inflation from target and of output from potential, while incorporating some degree of inertia. Our future paths of these deviations come from the forecast distributions of inflation and output. In these rules, we specify an implicit inflation target of 1.5% and assume potential output growth is 3%.

Policy Rule – Baseline Specification:

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

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

$i_{2007Q2} = 5.25$ (initial FFR value)

$i^* = 4.5$ (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 3% potential growth rate

For the next quarter we amend the prescription of the *Baseline* policy rule to capture some of the discreteness in the movement of the FFR. We translate the prescription of the *Baseline* rule using the following table, where r* is the i_{2007Q3} calculated directly using the *Baseline* rule:

Baseline Policy Rule Prescription	Average FFR in 2007Q3
r* < 3.00	r*
3.00 < r* < 3.75	4.00
3.75 < r* < 4.00	4.50
4.00 < r* < 4.25 4.25 < r* < 4.50 4.50 < r* < 4.75	4.75
4.75 < r* < 5.00	5.00
5.00 < r* < 5.25 5.25 < r* < 5.50	5.25
5.50 < r* < 5.75 5.75 < r* < 6.00	5.50
r* > 6.00	r*

The two modifications 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* policy rule to deviations of inflation from target when inflation is falling but still above the upper bound of the implicit target range (taken to be 2%). Its primary effect is thus to lower the policy rate more slowly in such circumstances than does 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 previous quarter's core PCE inflation value for the current quarter's value in the *Baseline* policy rule specification (i.e. $\pi_t = \pi_{t-1}$). In all other cases we follow the *Baseline* rule. Thus, if the four-quarter average of inflation in the last quarter is below the value for the current quarter or simply below 2%, then the *Opportunistic Disinflation* rule offers the same prescription as the *Baseline* rule.

The *Dove* policy rule reacts more strongly to output below potential than the *Baseline* rule. If the output gap is negative, the *Dove* rule weights deviations of inflation from target and of output from potential more evenly (φ_π = 1.5 as usual, but φ_x = 1 instead of 0.5). Thus, the *Dove* rule no longer satisfies the Taylor Principle when output falls below potential.

We also want to compare the policy paths and distributions using these rules with the market-implied path. Throughout Exhibit D, we use the standard path of market policy expectations derived from fed funds and Eurodollar futures contracts and pictured in Exhibit A-5. We construct the distribution for the market-implied path by assuming it is a normal distribution centered at the path with a standard deviation derived from the data in Exhibit A-6.

Using a simple weighting scheme, it is possible to combine the *Baseline* and alternative policy rules into an *Average* rule that may better reflect market beliefs about FOMC preferences. (That is, we can think of the market-implied path as reflecting an amalgam of different perceived FOMC preferences.) Constructing this *Average* rule can also provide insight into the reasons behind shifts in the market path not explained by changes in the outlook. Each cycle we select the weights on the *Baseline* and two alternative policy rules to match the market-implied path as closely as possible. The weights from this cycle and last cycle are provided in the note to Exhibit D-4.

We also compare the above FFR paths with that generated by the Board's *Outcome-based* rule. 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)[1].

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