

FRBNY Blackbook

RESEARCH AND STATISTICS GROUP

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FRBNY BLACKBOOK

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CONTENTS

1. Overview	3
2. Recent Developments	4
i. U.S.	4
ii. Global	6
iii. Trade	8
iv. Financial	8
a. Domestic markets	8
b. Global Markets	9
c. Oil Markets	11
v. Second District	12
vi. Special Topic	14
3. Outlook	15
i. FRBNY's Central Forecast	15
ii. Comparison with Greenbook Forecasts	16
iii. Comparison with Other Forecasts	19
iv. Alternative Scenarios and Risks	20
4. Policy Alternatives	24

EXHIBITS

A. Forecast Details	26
B. Financial Markets	37
C. FRBNY Forecast Distributions	48
D. FRBNY Fed Funds Rate Projections	51
E. Regional Charts	55

1. Overview

The lower than expected GDP growth in the first quarter has not materially changed our central projection for the path of real activity. This is similar to the Greenbook. Also as in the Greenbook, our central projection for inflation has increased in response to the higher than expected inflation readings in the first quarter of 2005 and the evidence of some pass-through of energy price increases. Thus, our central projection remains consistent with a continued removal of policy accommodation with a terminal value of the Fed Funds rate (FFR) target between 4 and 4.5%. This would leave the real FFR in 2007 at 2.75%, its long run average. This is slightly above the path currently priced into markets but very similar to the results from the latest primary dealer survey,

Consumer survey measures of inflation expectations have moved higher, probably in response to higher energy prices. Market measures of future inflation suggest that, conditional on appropriate Fed policy, long-run inflation remains well-contained. The reaction of inflation expectations derived from financial markets to inflation reports in the inter-meeting period was consistent with high credibility in the Fed's ability to achieve its long-run inflation objectives.

There is increased upside risk to inflation around our central projection (assuming that the funds rate is on a path to above 4% in 2007). If the upside inflation risk continues to increase, the FOMC may soon need to adopt a somewhat more aggressive tone in both its actions and language, indicating to the markets a steeper path of interest rate increases in the second half of 2005 than currently priced in the FF futures and Eurodollar market.

On the other hand we are now assessing some downside risk to our central projection for real activity. Financial markets appear to be placing more weight on this risk than in our assessment, thus producing a lower expected path for the FFR. Another interpretation is that financial markets believe that the cumulative tightening since June 2004 is starting to have a restraining effect on real activity and less cumulative tightening will be required to bring inflation back down to implicit targets.

The overall uncertainty around our inflation and output forecast is still relatively low compared to historical experience. This benign situation also is reflected in the historically low implied volatility and risk premia priced into financial markets. In the inter-meeting period both realized and implied volatility increased, particularly in equity markets. There were also large movements in the markets view of future Fed policy actions. Implied volatility on Eurodollar options at longer horizons has not increased and is now very close and at some horizons below that implied by our forecast distribution and policy rules.

2. Recent Developments

U.S.

Summary. The data released since the last FOMC meeting have increased the risks of underlying inflation exceeding implicit goals and the downside risks to real activity. Core inflation measures for February and March generally remained on the high side, with the data suggesting some pass-through of energy price increases into core inflation. Real GDP growth in 2005Q1 was 3.1%, below our expectation at the time of the last FOMC meeting, and other indicators suggest production growth may be tepid over the short term. Payroll growth was rather weak in March, but the indicators largely remain consistent with the labor market close to trend.

Inflation. Inflation indicators for February and March generally were on the high side. The core PCE deflator increased 2.2% (annual rate) in 2005Q1, its largest increase since 2001Q4. The 3-, 6-, and 12-month changes of the core PCE deflator through March were as high as or higher than in any month in 2004. The 3-, 6-, and 12-month changes of the core CPI continue to rise, with the 12-month change at its highest level since 2002. Unlike recent months, core goods inflation moderated slightly (as was the case for core PPI inflation), but there was some firming in core services inflation. In part, the rise in core services inflation reflected some pass-through of higher energy prices to lodging and airline travel; however, there has been some firming of tenant rent and owners' equivalent rent inflation, which may be more worrisome. [See Exhibit A-6 for further data on

inflation measures.] The recent data thus have increased the upside risks of underlying inflation exceeding the implicit goal of the FOMC. Near-term and long-term inflation expectations in the preliminary April Michigan survey were at the higher end of their ranges that have prevailed over the past several years.

Real activity. Real GDP growth in 2005Q1 was 3.1% according to the advance estimate, below our projection of about 4½% at the time of the last FOMC meeting. Major factors behind this difference were weaker-than-expected fixed investment, both for equipment and software as well as structures, and government spending. Net exports were again a large drag on GDP growth, but strong inventory investment counterbalanced that.

Despite weak non-auto retail sales in March, consumer spending held up well in 2005Q1, rising 3.5% (annual rate). Spending on nondurable goods and services rose smartly in the quarter, but expenditures on durable goods were flat, in part reflecting weaker auto sales in the quarter after robust sales at the end of the year. Although housing starts declined sharply in March from extremely high levels in January and February, the housing market appears to remain robust. Home sales remained at high levels through March, and purchase mortgage applications remain strong, pointing to continued brisk sales.

Business spending and production indicators were mixed. Real investment expenditures on equipment and software rose 6.9% in 2005Q1, their slowest growth in two years. Orders for nondefense capital goods excluding aircraft were rather soft in March, indicating that the moderate pace may continue. Despite slowdown in overall equipment spending, expenditures on high-tech information equipment and software continued to surge. Consistent with this, the 12-month change in our Tech Pulse index for March was at its highest level since the recession, indicating vigorous growth in the high-tech sector. Businesses accumulated inventories at a rapid pace in 2005Q1, and inventories-sales ratios rose slightly. With firms desiring to keep these ratios low, this suggests some slowing of inventory investment in 2005Q2. Consistent with this, manufacturing production growth has moderated in the last couple of months, with the 12-month change

now a little over 4%, compared to 6% in mid-2004. Capacity utilization rates were little changed in the quarter.

Employment. Although payroll growth of 110,000 in March (with downward revisions in the previous two months) was a disappointment, there appears to have been little change in the fundamental conditions of the labor market. Despite these disappointing numbers, payroll growth averaged almost 160,000 per month in 2005Q1, which is probably near trend employment growth. Other indicators are consistent with little change in the fundamentals. Abstracting from weekly fluctuations, unemployment insurance initial claims remain near levels that have prevailed since last fall. The index of aggregate hours rose moderately for the quarter: this and the growth of nonfarm business GDP point to productivity growth of about 2%, a little under our 2½% estimate of trend productivity growth. Wage and compensation growth also was moderate for the quarter. The unemployment rate fell back again in March to 5.2%, matching the post-recession low. Labor force participation was 65.8% in March, the third consecutive month it has been at that level, which is the lowest since 1988.

Surveys. Business survey data have been mixed. The April Empire State index (as well as the Goldman Sachs Analysts Index) was rather weak, but the Philadelphia Fed index and the Chicago PMI were considerably stronger. Although available only through March, the ISM manufacturing and non-manufacturing indices are consistent with continued growth in manufacturing and services. Consumer survey data has deteriorated some, in part reflecting the influence of higher energy prices. Both the Conference Board and Michigan measures fell in March and April. The Conference Board measure remains solidly within the narrow range that has prevailed since early 2004, but the Michigan index has slipped to its lowest level since late 2003.

Global

Foreign GDP is projected to increase 2.2 percent (Q4/Q4) in 2005, a downgrade from the previous FOMC's forecast of 2.4 percent, and represents a slowdown from 2.5 percent

growth in 2004. Recent weak data for the euro area and emerging Asia were responsible for the less optimistic outlook.

Industrial Countries. The *euro area* lost momentum during the course of 2005Q1. Industrial production retreated in February after a strong January reading, while growth in industrial orders decelerated sharply in February. Industrial confidence in April was down for the fifth month in a row. The projected GDP growth for 2005 has been lowered by 0.2 percentage point from the previous FOMC forecast, to 1.5 percent (Q4/Q4), with Q2 growth marked down to 1.0 percent (saar).

The outlook for *Japan* is unchanged, with the economy expected to decelerate in Q2 and Q3. Recent data indicate activity faltering in February and March after an encouraging performance in January. Industrial production fell in February and March and ended Q1 back down at last summer's level. Exports have been falling steadily since November and only a parallel drop in imports has prevented deterioration in the trade balance.

The *Canadian* forecast is unchanged, with recent data largely favorable. Shipments and auto sales were both strong in February. The *U.K.* forecast is also unchanged, with GDP in Q1 coming in as expected at 2.4 percent (saar).

Emerging Economies.

China's 2005 growth outlook remains unchanged with stronger-than-expected growth in Q1, offset by slower growth for the rest of the year. Growth in the first quarter was driven by a sharp fall-off in imports, raising some questions about the underlying strength of the economy. Recent data indicate that growth in *Emerging Asia outside China* continues to be mixed, with exports recovering but industrial production weak across the region.

Strong, albeit moderating, economic indicators support modest 2005 growth upgrades in *Mexico* and *Argentina*, while mixed developments in *Brazil* left its forecast unchanged.

Price pressures have mounted throughout the region, prompting an upward revision of the inflation forecasts for all three countries.

Trade

The trade deficit in February 2005 was \$61 billion, \$2.5 billion higher than the January deficit. Import volumes were up sharply, with demand particularly strong for industrial supplies and consumer goods. Export growth moderated in Q1, held down by faltering sales to China and Japan.

Net exports reduced GDP growth in 2005Q1 by 1.5 percentage points. Going forward, the net export contribution to GDP growth in Q2 and Q3 of 2005 is projected to be 0.2 and -0.1 percentage point respectively. The moderation in the projected net export drag reflects some payback for a sharp deterioration over the previous two quarters. However, there are two sources of uncertainty regarding the net export contribution to GDP growth in 2005Q1. The BEA's Advance release for Q1 assumes that the trade deficit in March for goods will widen to \$65.1 from the February level of \$64.7. Given the weakening of overall domestic demand in March, there is some uncertainty surrounding this assumption. A smaller-than-assumed March deficit would moderate the currently forecasted levels of payback in Q2 and Q3.

Financial

Domestic markets

Since the day before the last FOMC meeting, breakeven inflation of 5-year TIPS has declined 13 basis points to 2.77 percent, whereas the 2-year breakeven has declined 2 basis points to 3.10 percent (Exhibits B-1 and B-2). The higher-than-expected CPI release on April 20th led to a temporary increase in breakeven inflation across the curve that was reversed in recent days in response to negative news about economic growth. Forward measures of breakevens remain below their levels at the time of the last FOMC meeting, suggesting less concern about the longer-term inflation outlook (Exhibit B-1).

Treasury yields have declined since the day before the last FOMC meeting with the 2-year yield falling 11 basis points to 3.64 percent and the 10-year yield falling 31 basis points to 4.32 percent (Exhibit B-4). Market participants attributed these declines to heightened concerns about the growth outlook in response to weaker-than-expected data. Developments in the corporate debt and equity markets led to some “flight-to-quality” to Treasuries: the largest daily falls in Treasury yields over the inter-meeting period coincided with sharp declines in major US equity indices following unfavorable news relating to General Motors and IBM. Yields picked up in response to the higher-than-expected CPI release, but remain below the levels seen at the last FOMC meeting due to the weaker than expected real activity data.

Estimates of the 10-year Treasury volatility and equity volatility increased sharply during the last days of the inter-meeting period, but remain well below their respective historical averages (Exhibit B-3). Fed funds and Eurodollar futures were quite volatile during the period, responding sensitively to the economic data (Exhibit B-5). Eurodollar implied volatility increased at short maturities, but declined at longer maturities (Exhibit B-7). This suggests that the weaker economic data increased short-run but not long-run uncertainty about monetary policy. The FRBNY implied skewness measure suggests that market participants are not pricing in large movements in the Federal Funds rate above the expected path (Exhibit B-6).

US equity prices declined over the inter-meeting period, with the S&P 500 index down 2.31 percent after earlier reaching 5-month lows (Exhibit B-3). Implied volatility as measured by the VIX has picked up 1.30 percent to 14.91 percent annual. The signs of weaker global growth, negative news about the credit status of major US companies, and higher equity volatility prompted an increase in credit spreads since the last FOMC meeting.

Global Markets

Concerns with the outlook for global growth – especially in Japan and Europe – and weakness in U.S. stocks, pressured international equity markets down during the inter-

meeting period. The FTSE-100 lost about 2.5 percent from March 23 to April 27, while the Nikkei, also responding to increased political tensions between China and Japan, dropped 4.0 percent. The timing of the largest declines – which occurred in mid-April – coincided with that of drops in U.S. equity indices. Declines in Asia were especially concentrated in the growth-sensitive technology sector.

The somewhat dimmer outlook is also affecting bond yields. Euro-area sovereign debt yields declined steadily, with the yield on the German 10-year bund falling roughly 25 basis points to near its lowest level on record. Uncertainty about the U.S. outlook weighed negatively on emerging market debt: the EMBI+ spread over comparable treasuries widened by 20 basis points over the inter-meeting period.

Monetary Policy. Expectations for policy tightening in Europe weakened: the rate implied by euribor futures contracts declined steadily over the inter-meeting period. The rate implied in the December 2005 contract, in particular, fell by roughly 30 basis points over the period, leaving the June 2006 euribor futures as the first contract to fully price in a 25 basis point increase in the policy rate. Outside Europe, however, expectations for policy tightening continue to prevail. The Bank of Japan is signaling an impending reduction of its target for banks' reserve balances (technically, a policy tightening), perhaps as early as at the beginning of summer, motivated on purely operational grounds. Given the broken link between banks' reserve balances and interest rates in Japan, expectations of policy tightening did not translate into higher interest rates. In fact, long-term yields fell, in response to weaker growth prospects. Brazil and Mexico have both been tightening their policy stance, in response to persistent pressure in headline inflation, although the tightening cycle is viewed as near its end in Brazil. Higher rates have yet to impact the recent inflation upsurge in Argentina, and may be expected to rise further.

Exchange Rates and Capital Flows. Most foreign currencies weakened relative to the dollar at the beginning of the inter-meeting period, reflecting concerns with growth and falling long-term interest rates. Later in the period, Asian currencies recovered in the

wake of renewed speculation about a near-term reevaluation of the Chinese currency. (The discount on 12-month Chinese NDFs is hovering near its highest level since end-2004.) This was especially the case for the Korean won which, historically, has responded strongly to developments in China, and which appreciated modestly relative to the dollar.

Market analysis has focused on the loosening of the *Stability and Growth Pact* and on the prospects of a “no” vote in the upcoming May 29 French EU referendum vote. Despite concerns with political stability in the euro area, the euro is trading at only modestly weaker levels against the dollar and the yen than at the time of the last FOMC meeting.

Reserve accumulation remained heavy in China and in the rest of Emerging Asia in the first quarter, although down from the pace at end-2004. Increased speculation of a revaluation of the Chinese yuan provided further support to other Asian currencies. By contrast, the Brazilian authorities have not resumed intervention since mid-March, even though the currency appreciated by about 8 percent appreciation over the inter-meeting period, and is now trading at its highest level since June 2002.

Foreign interest in U.S. assets is continuing. The most recent data on capital flows (from 2004Q4) show a sharp increase in U.S. external liabilities. Purchases of both bonds and equities both increased sharply, while direct investment flows remain relatively minor. U.S. acquisition of foreign assets also rose, with bank flows and U.S. foreign direct investment still taking the lion’s share relative to purchase of foreign securities.

Oil Markets

Oil prices rose rapidly in March, but decreased slightly in April, as crude oil inventories jumped to their highest level since May 2002. (The average Brent price through April 27 was \$52.05/barrel; the March average was \$52.97/barrel.) However, limited excess production and tight refinery capacities are bound to support oil prices in the future, and keep oil consumption growth in check in 2005. (According to the International Energy Agency, oil consumption growth will decelerate significantly in 2005, to nearly half of its

2004 level, especially in China and the rest of Emerging Asia.) Brent oil futures for December 2006 were trading at \$50.38 in the week ending April 22, above the \$48.69 level at the time of the last FOMC.

Second District

Our Indexes of Coincident Economic Indicators for March indicate a pause in growth in both New York State and New Jersey, but ongoing robust growth in New York City [Exhibit E-1]. Looking ahead to the next 9 months, our leading indexes predict growth of about 3% in both New Jersey and New York and slightly over 4% in New York City [Exhibit E-2]. Consumer price inflation in metropolitan New York City accelerated in March: the overall CPI rose 4.4% from a year earlier and the core CPI was up 4.1%—both were more than 1 point above the corresponding US rates. All of this difference can be attributed to shelter (mainly its notoriously volatile out-of town lodging component); excluding shelter, NYC-area prices were up by a modest 2.8%, versus 3.2% nationally.

Labor Markets. Regional payroll employment expanded modestly again in March, while unemployment fell. Private-sector payroll employment rose at about a 1% annual rate in New York—closely matching the US—and was virtually unchanged in New Jersey. Compared with a year earlier, private-sector employment was up 1.0% in both the New York-New Jersey region and New York City [Exhibit E-3]. At the same time, though, unemployment fell ½ point in New York to 4.6%, the lowest level since late-2001, led by a particularly steep decline in New York City. New Jersey's jobless rate edged down from 4.4% to 4.3%. [Exhibit E-4].

Real Estate. Construction activity and real estate markets across the district have shown continued strength in early 2005. Housing permits rebounded in March following a modest dip in February, and were steady and strong for the quarter as a whole, led by the multi-family segment: single-family permits slipped in the first quarter and were down 9% from comparable 2004 levels, but multi-family permits soared more than 40% from a year earlier. Various measures of home prices continue to show double-digit percentage increases in and around New York City as well as Albany but somewhat more modest

gains in Western New York. Office markets in metropolitan New York mostly strengthened in the first quarter, though there were slight signs of softening in Westchester and Fairfield Counties, as well as Lower Manhattan.

Surveys and Other Business Activity. Recent surveys of both businesses and consumers suggest some weakening in activity. Our April Empire State Manufacturing Survey signals noticeable slowing: the general diffusion index fell to a 2-year low, though it remains marginally above zero. The prices-paid index retreated somewhat in April, but it remains relatively high; the prices received index was little changed. The Conference Board's index of consumer confidence for the Middle Atlantic states (NY, NJ, PA) fell for the second month in a row in April, slipping to its lowest level since last November.

Special Topic

Information Content of Regional
Manufacturing Surveys

April 29, 2005

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A recent Goldman-Sachs (GS) Market Comment (4/25) highlighted the divergent April readings of the Empire State Survey (EMS) and Philly Fed's Business Outlook Survey (BOS): the EMS index fell 18 points to near zero, indicative of a leveling off of manufacturing activity, while the BOS index rose 14 points to 25.3, suggesting acceleration. April's divergence was both unprecedented and striking, given the similarities in timing and methodology of the two surveys. The GS study analyzed the relationship between several regional surveys and the ISM in an interesting way.

GS found that divergent movements between the EMS and BOS were not all that uncommon. For the period in which the two surveys overlap (July 2001 to present) they move in the same direction about 60% of the time—or 77% of the time when there is a “big move” [defined as a change of 1.5 SD or more] in one. The study shows a statistically significant relationship between the monthly change in the ISM and the monthly change in both the EMS and BOS. “Big moves” in the BOS correspond to moves in the ISM in the same direction 83% of the time compared to 86% in EMS.

Whereas GS focused on single-month changes, we expanded on their analysis to see how well 3-month changes in the two regional indexes lined up with 3-month changes in the ISM. When smoothed in this way, the two regional indexes moved in the same direction 79% of the time, and the ISM series moved in the same direction as the BOS and EMS indexes roughly 75% of the time; for “big moves”, the two regional indexes and the ISM all moved in the same direction 100% of the time. The latest 3-

month moves in the EMS and BOS indexes fall short of qualifying as “big moves”.

The GS study notes one key source of divergent readings may involve industry composition differences.¹ The Third District is concentrated in chemicals, primary metals, and pharmaceuticals, while the Second District is concentrated in high-tech (electronics), machinery, and textiles.

At FRBNY, we have focused on linking survey results to activity variables, particularly manufacturing output. Deitz and Steindel (2005) examined the predictive abilities of the EMS relative to the BOS and ISM with respect to manufacturing output.² The study found that the EMS provides comparable predictive power to the ISM and Philly Fed surveys over its short history (7/2001 – present).

The most plausible causes for April's sharp divergence in the EMS and BOS indexes are differences in regional industry mix and statistical noise. Combining the information from both surveys with the recent history of industrial production suggests some deceleration in manufacturing activity. However, the divergence increases uncertainty about the outlook.

A coordinated manufacturing survey across districts might provide a signal that would eliminate the uncertainty surrounding survey differences such as those seen in April. This idea was recently floated at the system regional economists meeting, and could be pursued further as part of the Beige Book task force or on a separate track.

¹The Goldman-Sachs report notes other potential sources of survey differences – including timing and methodology of constructing the indexes. These, however, are differences between the ISM and Fed surveys only. The only major differences between the EMS and the BOS are in their method of seasonal adjustment and the mix of the firms in the sample.

² Deitz, Richard and Charles Steindel, 2004. “The Predictive Abilities of the New York Fed's Empire State Manufacturing Survey,” Federal Reserve Bank of New York *Current Issues in Economics and Finance, Second District Highlights*, v11 n1.

3. Outlook

FRBNY's Central Forecast

Real Activity. [See Exhibits A-1 through A-5 for details on the forecast.] Even though real GDP growth was below expectations, it still was reasonably solid. Lower than expected real government spending was a culprit, but that component of final demand is notoriously volatile. In addition, it now looks as though business investment in non-IT equipment may have been pulled forward by the partial expensing or bonus depreciation tax provision that expired at the end of 2004, resulting in some payback in 2005Q1. We thus expect equipment spending to show more solid growth in the coming quarters. The strong growth of inventory investment in 2005Q1 has led us to mark down expected growth in 2005Q2 to around 3½% as the rate of growth of production slows. However, some of the slowing in production will occur overseas and result in slower growth of imports. The net effect of these near-term changes is to lower the projected Q4/Q4 growth rate for real GDP in 2005 to around 3½% from 4% as of the March Blackbook. However, we have not materially changed our projection for growth around potential (3½%) over the remainder of the forecast horizon. Despite the gradual withdrawal of monetary and fiscal stimulus and the recent increases in energy prices, we continue to believe that the economy is transitioning to investment-led growth and retains significant forward momentum. Credit from the banking system and from credit markets appears to be in ample supply and is still relatively inexpensive. Furthermore, business caution that had restrained growth appears to be ebbing: note that real business investment in information processing equipment increased at 24% (annual rate) in 2005Q1, rivaling the growth rates seen in the late 1990s.

Inflation. A number of factors could be behind the higher inflation in 2005Q1: slack in the economy could have been less than previously anticipated, the past fall of the dollar could still be having an influence, and higher energy prices appear to have passed through to core inflation. No matter the source, an implication of this within our model

of inflation is that the higher 2005Q1 inflation, in combination with our forecast of real growth remaining near its potential rate, will lead to inflation remaining higher than our forecast as of the March Blackbook. Thus unlike the situation of last spring, we expect core PCE inflation to remain near the upper end of the FOMC's implicit acceptable range. With productivity growth expected to be near or below its trend, it may be more difficult for firms to accommodate increases in compensation growth without reducing margins and/or faster price growth; thus wage pressures have the potential to be a more important factor in the inflation outlook, although they remain subdued for now.

Comparison with Greenbook Forecasts

GDP and Inflation Forecast. The slower pace of the economy which emerges from the advance data for the first quarter of 2005 prompted a mark-down of ¼ percentage point in the Federal Funds rate path assumed in the Greenbook forecast. The Federal Funds rate is now expected to reach only 3.25% by the end of 2005, and 3.75% by the end of 2006, somewhat below our assumed path.

The Greenbook outlook for real GDP growth over the two-year forecasting horizon is marked down in a way similar to our staff central forecast. In the Greenbook forecast, GDP is now projected to grow at an annual rate of about 3.5% for both 2005 and 2006, versus a slightly more optimistic 3.6% that we have for the year 2006. While this is a significant markdown for 2005, compared to what was anticipated in March, it is a minor revision for 2006, when GDP growth was anticipated to be 3.6%. Much like the FRBNY forecast, the slowdown in 2005 takes effect in the first half of the year, with GDP growth anticipated to be about 3.4%, compared to 3.7% in the second half. The revision in the near term outlook for real growth is attributed to a combination of factors. Higher energy prices and the continued tightening of monetary policy are cited as taking a toll on personal consumption expenditures and residential investment. The increase in equipment and software spending is also marked down significantly compared to the March forecast.

As in our Blackbook projections, the Greenbook anticipates higher inflationary pressure than in the March forecast. All indexes of inflation have been moved up between 0.1 and

0.3 percentage points, but the contour of the projections remains that of the March forecast. Since this is true for the Blackbook forecast as well, ours remains more aggressive for the profile of both PCE and core PCE inflation over the whole forecast horizon.

Similarly, as in the March forecast, we remain more optimistic than the Board about the evolution of labor costs. This is essentially due to the fact that we have not changed our March forecast of hourly compensation, while the Greenbook anticipates a feeding of the higher projected inflation into labor compensation.

The Greenbook employment forecast, significantly revised down, is now essentially the same as our staff projection. No change, compared to March, is projected for structural labor productivity, still about 3% for the forecast horizon, nor for potential. The unemployment rate, projected steady at 5.3% for the forecast horizon, is just 0.1 percentage point above our forecast.

Alternative Board Scenarios. The Greenbook discusses five risks to the current forecast, three from the demand side, and two from the supply. On the demand side, both the risk of a more pronounced slump in the economy due to declining consumer confidence, and the risk of a stronger rebound after the first quarter are considered. On the supply side, in addition to the scenario typically analyzed of a faster than expected productivity growth, the Greenbook considers the case of a higher than anticipated pass-through of energy costs and other import prices into core prices.

In the “sentiment slump” scenario the sentiment slowdown of recent weeks, expected to rebound in the baseline forecast, is assumed instead to persist and slow spending further. This brings the predicted GDP growth to go down to 3% in 2005 and 2006, unemployment to raise to 5.75%, which contributes to moderation in prices. In this scenario the personal savings rate increases 1%.

In the “sentiment slump with financial spillovers” scenario, the slack in the economy deepens because investors are assumed to demand higher compensation to hold long-term

financial assets. This causes equity prices to remain flat (instead of increasing at 6-1/2 % as in the baseline forecast) and corporate bond yields to increase 70 basis points over the baseline forecast. In this scenario, GDP growth slows to 2-1/4%, unemployment rises to 6-1/4%, and core PCE inflation moves below 1.5 by the end of 2006.

The “stronger underlying demand” case envisions a return of high-tech demand, and reversal of consumer spending to the levels of 2004. In this case GDP growth is above 4%, and the unemployment rate declines to 4.75%. There is not, however, much effect on inflation, because high-tech investment is assumed to boost structural productivity.

In the scenario with a “higher pass-through” of energy costs, prices increase, and inflation expectations are projected to climb. The real effects of this surge are modest, though, because, absent any offsetting monetary policy action, lower real interest rates provide offsetting stimulus.

Finally, “faster productivity growth” fosters a higher growth in GDP, about 4.3% and 4.5% respectively in 2005 and 2006. The contained increase in unit labor costs in this scenario allow core PCE inflation to be well below 1.5%.

Foreign Outlook. The Board is somewhat more optimistic about the foreign outlook in the near term than we are. The key differences concern China and Japan. For China, 2005Q1 GDP growth was significantly stronger than expected and the Board responded by raising the outlook for the rest of the year. We are less convinced since much of the growth was due to unusually soft import demand, which may be a sign of some underlying weakness. As a consequence, we toned down growth in Q2 and Q3, keeping the growth projection for the year unchanged. The Board continues to have a more favorable outlook for Japan, projecting only a very modest deceleration in Q2 and Q3 to near their estimate of potential growth. We assume a more pronounced slowdown, which is supported by the recent weakness of various indicators. The two forecasts for the euro area are essentially the same, although we have weaker growth in Q2, based on various indicators such as the ongoing decline in industrial confidence.

U.S. Trade. Our forecast has 0.1 percentage point more drag from net exports on GDP growth in 2005 (Q4/Q4). The small difference is due to the Board's forecast of a bigger payback from the unsustainably large increases in import volumes in 2005Q1 and 2004Q4. The Board has net exports adding 0.6 percent point to growth while we have a more modest growth contribution of 0.2 percent point in 2005Q2. The forecasts for import prices and exports, going forward, are essentially the same.

Comparison with Other Forecasts

Other Internal Forecasts. In addition to the baseline forecast, the NY Fed staff is now routinely producing two alternative inflation forecasts, one labeled UIG (Underlying Inflation Gauge), and one based on the TIPS. The UIG is a measure of inflation obtained by a dynamic factor model that combines information from a large number of nominal and real variables (a non-technical description of its construction is in Appendix to Exhibit A-7). The TIPS inflation forecast are estimates of the inflation expectations derived from TIPS and nominal Treasury securities, not accounting for risk premia or other technical factors (a non-technical description of its construction is in Appendix to Exhibit B-1).

A chart comparing these two measures of underlying inflation is in Exhibit A-7. The chart shows that medium term inflation expectations – the average over 2-3, and over 3-5 years appear well contained. Implied inflation from the TIPS has moved towards the UIG measure over these horizon, but there still remains a wide gap between the two measures at the 2-year horizon. This suggests the possibility that risk premia in TIPS are particularly high at this horizon. Whether this is related to the volatility of oil prices, or to other underlying phenomena, remains to be investigated.

Private Sector Forecasts. Real GDP forecast of other private sector forecasters are in rough agreement with the staff forecast. All forecasters have revised down the path of GDP growth, except for the Median SFP, which was released in February, before the

more recent data which showed slowness in the economy. The Macro Advisors' forecast appears to hold the most conservative view of the second quarter growth, but ends up higher by the end of the year.

CPI inflation forecast of the private sector are slightly more contained than the staff forecast.

Alternative Scenarios and Risks

Alternative 1: Extinguishing a Low Burning Candle This scenario still requires large downward revisions in data on real activity to remain viable. There is some slim evidence from revisions to retail sales and employment data in 2004 that this is not impossible. If this scenario was true then one explanation for the current apparent slowdown would be the increase in short rates.

Alternative 2: Productivity. In the post-war United States has experienced three productivity epochs (pre-1973, High I; 1973 to mid-1990s, Low I; and mid 1990s on, High II). Our current central projection for productivity in the medium term assumes a growth rate similar to the pre-1973 epoch. There are two alternatives to this projection.

2a. Continued Surge

The recent developments in the labor market and continued strength of labor productivity suggest that firms have become more efficient in using labor. As such, strong productivity growth could persist. This would imply that the potential growth rate is higher than our current estimates. In addition, strong productivity growth would limit labor cost pressures, and inflation thus would remain subdued. Incoming data that would support this scenario would be continued upside surprises in labor productivity growth bringing four-quarter average back above 3%, continued strength in consumption and continued falls in the price of investment goods. Since the last FOMC consumption particularly of services has remained strong. Information from the tech sector has been mixed.

2b. Slower Productivity Growth

There is now some evidence of a slowdown in productivity growth in 2004Q4 and 2005Q1. Our central projection assumes this is only temporary cyclical moderation in productivity growth, there is downside risk to this assessment. Incoming data supporting increasing this risk would be a drop in the four quarter productivity average below 2%, a slowdown in consumption growth and firming in the price of investment goods. There has been some evidence of a firming of investment good prices in 2005Q1 but this seems to be mainly concentrated in the old economy.

The increase in the level and volatility of commodity prices could represent a permanent shift in demand outside the US. Higher commodity prices represent a cost shock to commodity-intensive firms that are reminiscent of an adverse productivity shock. A sustained increase in the level and variability of commodity prices is not expected to affect total factor productivity, but could translate into lower labor productivity.. This scenario of a "mild stagflation" is consistent with the lower-than-expected GDP and higher-than-expected inflation readings and has presumably contributed to the heightened volatility in equities over the intermeeting period.

Alternative 3: Overheating. A continuation of the extremely accommodative policy of the past two years going forward has built up inflationary momentum independent of the level of economic activity. There are two potential connected channels at work here. The first is an underestimate of the equilibrium real rate (i.e., an overestimate of slack in the economy) and the second is higher energy prices. As we have argued before, sustaining the real policy rate below the equilibrium rate for a long time will tend to switch the impact of monetary policy from increasing real output to raising inflation as inflation expectations increase. There is evidence from commodity prices, breakeven inflation rates from TIPS, and core goods prices that this excess demand has begun to produce higher inflation. Also, to this point, with the trade deficit and Asian dollar support absorbing excess demand, strong household spending has been maintained and the housing market has remained robust. In an environment where the excess demand continues, core inflation and inflation expectation measures move steadily upward, while the current account deficit continues to deteriorate. Eventually, the conditions would come into place for a bust in both the housing and foreign exchange markets. It is worth

noting that the TIPS and CPI futures show inflation peaking over a horizon of the next year, then coming down. This is consistent with an expectation of policy tightening sufficiently to reverse this inflationary buildup, which implies higher real rates and/or more sluggish real activity. The lower-than-expected numbers on real activity that have emerged since the last FOMC may reflect expectations of this tightening. Also consistent with this scenario is the increased volatility in equity markets. Here the story would be that because of higher inflation, the market expects the Fed to continue to tighten and be less accommodative of negative supply or demand shocks. Somewhat inconsistent with this scenario is the market implied forward curve for the FFR.

Exhibits C1 and C2 show the path of Core PCE inflation and GDP growth under the two productivity scenarios and the overheating scenario compared to the FRBNY central projection.

Additional Uncertainties

Foreign Outlook. The key risk for the global outlook is the high level of oil prices assumed over the forecast horizon. The impact is difficult to quantify and will vary across countries based on oil intensities of output, reliance on oil imports, the extent of government subsidies, and exchange rate movements against the dollar.

The *euro area* forecast already assumes fairly modest growth this year, but the strong euro and high oil prices remain downside risks for the economy. The recent strength of import demand relative to domestic demand growth suggest a loss of competitiveness that may cause net exports to become a significant drag on output, rather than the neutral factor assumed in the forecast. On the upside, real rates near zero, low rates of unit labor costs inflation, accelerating credit growth and relatively strong employment at the end of 2004 suggest the possibility of faster-than-potential growth.

For *Japan*, the forecast assumes the recent stagnation of exports, particularly to China, is a temporary development. An export boom lifted Japan out of the 2001 recession, and any prolonged weakness in foreign sales may end the current recovery.

China's continued rapid growth, driven by heavy investment spending, raises the risk of an eventual hard landing. The steep deceleration in import demand growth in Q1 may be an early sign that government measures to moderate growth are having a greater-than expected impact on the economy.

For *Emerging Asia*, the wild card is China's foreign exchange policy. If China revalues its currency, then speculative capital inflows might pick up in anticipation of a follow-up move, putting appreciation pressures on other currencies in Emerging Asia.

In *Latin America*, a key watch point is the progress in containing inflation, which will determine the degree that monetary policy restrains growth in Mexico and Brazil. Another risk is impact on regional currencies and the monetary policy outlook from developments in U.S. fixed income markets. Brazil remains one of the countries most sensitive to higher global interest rates, notwithstanding ongoing progress in reducing its vulnerability.

Quantifying the Risks. The incoming data have been less consistent with our central scenario. We are lowering the current probability assessment of the central scenario to 59% (it was 61% for the March FOMC). **Further, we are changing the balance of this risk.** In March we had upside risk to the central projection of both inflation and output. We are keeping the upside risk to the inflation forecast but have introduced some downside risk to the output forecast.

Financial market developments reviewed above support our view of a change in the balance of risks. The decline in equities and increase in corporate yield spreads to Treasuries are consistent with greater weight being placed on slower real activity going forward. The change in the breakeven inflation term structure from the TIPS market is consistent with continued upside risk to inflation over the next two years. We assume that the most likely alternative scenario is now overheating at 14% (8% in March), next is a productivity slowdown at 10% (9% in March), continued productivity

surge at 8% (10% in March), and extinguishing a slow burning candle remaining at 1%. The remaining 9% covering the additional uncertainties is split 2% to the upside and 1% to the downside risk. The first time the volatility of the forecast distribution was calibrated so that it produced a volatility of implied interest rates using a Taylor rule (see Exhibit D text) that was below the option market implied volatility. In order to achieve the calibration we switched to considering the forecast distribution of core PCE from total PCE. The additional variance of total PCE made it very difficult to calibrate below the market implied volatility curve.

The forecast distributions for core PCE inflation and GDP growth produced by these risk assessments are shown in Exhibits C-3 and C-4. The upside inflation risks produce a 55% (45%) chance that core PCE inflation will exceed 2.5% in the next 12 quarters (this probability is produced by considering the share of inflation paths that exceed 2.5% and can not be obtained directly from the forecast distribution presented in Exhibit C-3). The probability that the expansion continues through the end of 2007 is 92% (95% in March after correcting for small programming error). The FRBNY ``confidence intervals'' are similar to those in the Greenbook. The main difference is that we are slightly more confident in the output forecast and slightly less confident in the inflation forecast than the Greenbook.

4. Policy Alternatives

Our baseline forecast and risk assessment are consistent with a 25 basis point increase in the target rate at present and a maintained signal of further future increases. Exhibit D-1 shows that the expected end point of the tightening phase is little affected by changes in the central projection, the risks or the alternative policy rules. In this Blackbook we consider a standard ``gradual'' policy rule, a policy rule that is ``measured'' through the June FOMC and an ``inflation hawk'' policy rule (FFR increases of 50 basis points are driven by quarterly core PCE inflation above 2.4%).

In our central scenario we see more inflationary pressures than the Greenbook; hence the implied forward path for the FFR is higher than the Board staff assumption and is above

the market implied path in 2006. This can be seen in Exhibit D-2 where our central projection implies a FFR above 4% in 2007. This projected path for the FFR and endpoint of the tightening phase is very similar to that obtained from the most recent primary dealer survey.

It is also seen in Exhibit D-2 that the projected path of the FFR under the overheating scenario in 2006 is much higher than either our central projection or the market implied path. If this scenario gains more credence then a faster rate of FFR increases will be required. Exhibit D-2 shows the projected path under measured ending in June policy rule, the inflation hawk policy rule produces a faster rate of increase in 2005H2.

The real rate implications are shown in Exhibit D-3 and show a larger divergence between the two main alternative productivity scenarios than in the nominal rates as the inflation paths diverge under the two alternatives (see Exhibit C-1). Under the Bank central projection the real FFR at the end of the tightening phase is very close to the long run historical average of 2.75%.

Finally Exhibit D-4 compares expected volatility of the FFR implied by our forecast distribution with the market implied volatility (using a 90% confidence interval) for different policy rules. For individual policy rules there is some evidence that the market is underestimating the volatility of future FFR particularly in 2006. Averaging across these policy rules (using weights of 0.4 on Gradual, 0.4 on measured ends in June and 0.2 on Inflation Hawk) produces an implied volatility that is uniformly **below** the market curve but still retaining the feature of an increase in uncertainty in 2006. This does not seem to be a feature of the market forward curve.

A. Forecast Details

Exhibit A-1. Actual and Projected Percentage Changes in GDP, Prices, and the Unemployment Rate

Summary of the FRBNY forecast for the current FOMC cycle as well as the previous two cycles. Provides the forecasts of real GDP growth, change in the GDP deflator, change in the PCE deflator, the change in core PCE deflator, and the level of the unemployment rate. Data frequencies are both quarterly and yearly over the forecast horizon.

Source: FRBNY Business Conditions Function

Exhibit A-2. Detailed Comparison of FRBNY and Greenbook Forecasts

Summary of the baseline FRBNY and Board forecasts for the current FOMC cycle as well as the previous cycle. Besides variables included in Exhibit A-1, there are forecasts for some broad components of GDP, some measures of productivity and wages, labor force participation, payroll employment growth, and some financial market variables.

Source: FRBNY Business Conditions Function; Board staff

Exhibit A-3. Judgement Table

History and forecasts of the primary variables in the FRBNY forecast. This includes the detailed judgements, such as those for interest rates, profit growth, productivity, and real activity, that are behind our forecasts for aggregates such as real GDP and inflation.

Source: FRBNY Business Conditions Function

Exhibit A-4. Real GDP and components (growth contributions)

History and forecasts of the contributions to real GDP growth of the broad components of expenditures. Growth contributions are in percentage points.

Source: FRBNY Business Conditions Function

Exhibit A-5. Alternative GDP and Inflation Forecasts

Real GDP growth and CPI inflation forecasts from a variety of sources. Besides the FRBNY forecast, the table includes the medians from two surveys of forecasters (Blue Chip and Survey of Professional Forecasters [SPF]), the forecasts from Macroeconomic

Advisors, and the forecast from a small model (PSI model) that uses business activity and sentiment as the primary independent variables.

Source: FRBNY Business Conditions and Domestic Research Functions; Blue Chip Economic Indicators; FRB Philadelphia Survey of Professional Forecasters; Macroeconomic Advisors

Exhibit A-6 (1, 2, & 3). Recent Behavior of Inflation

The three tables in this exhibit are included as reference: they show the actual changes in inflation over 3, 6, 12, and 24 months.

Source: Bureau of Economic Analysis, Bureau of Labor Statistics

Exhibit A-7. Underlying Inflation Gauge (UIG) and Implied Inflation from the TIPS

The chart displays measures of inflation expectations from the UIG, and compares them to the TIPS measure over the same horizon (a non –technical description of the construction of this measure is in Appendix to Exhibit A-7 below. A non –technical description of the construction of inflation expectations from the TIPS is in Appendix to Exhibit B-1).

Source: Business Conditions and Swiss National Bank.

Appendix to Exhibit A-7. Construction of UIG (Underlying Inflation Gauge)

The Underlying Inflation Gauge is a measure of underlying inflation that incorporates information from a very broad set of nominal and real variables. It is constructed using a dynamic factor model to extract a common component from the chosen set of variables, and then removes the high frequency movements (fluctuations whose frequency is up to one year) from this component. This filtering reflects our view that monetary policy is primarily interested in shocks with a medium-term impact on inflation. In terms of units, the UIG maps into a measure of consumer price index.

We use this factor model to determine the oscillations of the UIG about its long-term level. Assuming that long-term expectations are well anchored, we set the long-term level of the UIG to 2.25%, the average inflation rate since 1994, which can be interpreted as an implicit inflation target.

A. Forecast Details

Exhibit A-1: Actual and Projected Percentage Changes of GDP, Prices, and the Unemployment Rate

	Chain Type															
	Real GDP			GDP Price Index			PCE Deflator			Core PCE			Unemployment Rate			
	Jan05	Mar05	Apr05	Jan05	Mar05	Apr05	Jan05	Mar05	Apr05	Jan05	Mar05	Apr05	Jan05	Mar05	Apr05	
2004 Q1	4.5	4.5	4.5	2.8	2.8	2.8	3.3	3.3	3.3	2.1	2.1	2.1	5.7	5.7	5.7	
2004 Q2	3.3	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.1	1.7	1.7	1.7	5.6	5.6	5.6	
2004 Q3	4.0	4.0	4.0	1.4	1.4	1.4	1.3	1.3	1.3	0.9	0.9	0.9	5.4	5.4	5.4	
2004 Q4	3.1	3.8	3.8	2.0	2.1	2.3	2.5	2.5	2.7	1.6	1.6	1.7	5.4	5.4	5.4	
2005 Q1	3.3	4.5	3.1	2.0	2.5	3.3	1.6	1.8	2.1	1.5	1.7	2.2	5.3	5.3	5.3	
2005 Q2	3.9	4.4	3.6	2.0	3.2	1.2	1.8	3.0	3.0	1.4	1.5	1.8	5.2	5.2	5.2	
2005 Q3	3.8	3.9	3.9	2.0	2.3	2.0	1.9	2.0	1.9	1.5	1.5	1.8	5.2	5.1	5.2	
2005 Q4	3.7	3.4	3.5	2.0	2.2	2.3	1.9	2.0	2.1	1.5	1.6	1.8	5.2	5.0	5.2	
2006 Q1	3.7	3.4	3.6	2.5	2.6	2.6	1.9	2.0	2.1	1.5	1.7	1.8	5.2	5.0	5.2	
2006 Q2	3.5	3.5	3.6	2.0	2.1	2.1	1.9	2.0	2.1	1.5	1.7	1.8	5.2	5.0	5.2	
2006 Q3	3.6	3.6	3.6	2.1	2.2	2.2	2.0	2.1	2.2	1.5	1.8	1.9	5.2	5.0	5.2	
2006 Q4	3.7	3.7	3.7	2.2	2.3	2.3	2.0	2.1	2.2	1.5	1.8	1.9	5.2	5.0	5.2	
2002 Q4 to 2003 Q4	4.4	4.4	4.4	1.7	1.7	1.7	1.7	1.7	1.7	1.2	1.2	1.2	0.0	0.0	0.0	*
2003 Q4 to 2004 Q4	3.7	3.9	3.9	2.4	2.4	2.4	2.5	2.5	2.6	1.6	1.6	1.6	-0.4	-0.4	-0.4	*
2004 Q4 to 2005 Q4	3.7	4.0	3.5	2.0	2.5	2.2	1.8	2.2	2.3	1.5	1.6	1.9	-0.2	-0.4	-0.2	*
2005 Q4 to 2006 Q4	3.6	3.5	3.6	2.2	2.3	2.3	1.9	2.0	2.1	1.5	1.7	1.8	0.0	0.0	0.0	*

* Q4 to Q4 absolute change

Notes: Columns reflect the date of a forecast. Italics indicate a data release prior to date of a forecast

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A. Forecast Details

Exhibit A-2: Detailed Comparison of FRBNY and Greenbook Forecasts

	FRBNY				Board			
	2005		2006		2005		2006	
	MAR	APR	MAR	APR	MAR	APR	MAR	APR
REAL GDP (Q4/Q4)	4.0	3.5	3.5	3.6	4.0	3.6	3.6	3.5
GROWTH CONTRIBUTIONS (Q4/Q4)								
FINAL SALES TO DOMESTIC PURCHASERS	4.3	3.9	3.9	3.9	4.2	3.6	3.6	3.5
CONSUMPTION	2.4	2.4	2.3	2.3	2.7	2.4	2.5	2.4
BFI	1.2	0.9	1.2	1.2	1.0	0.9	1.0	0.9
STRUCTURES	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.1
EQUIPMENT & SOFTWARE	1.1	0.8	1.0	1.0	0.8	0.8	0.9	0.8
RESIDENTIAL INVESTMENT	0.2	0.2	(0.1)	(0.1)	0.2	0.2	0.0	0.0
GOVERNMENT	0.6	0.5	0.6	0.6	0.5	0.4	0.4	0.4
FEDERAL	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.1
STATE & LOCAL	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.3
INVENTORY INVESTMENT	0.0	(0.0)	(0.1)	(0.0)	(0.2)	(0.1)	0.0	0.0
NET EXPORTS	(0.3)	(0.4)	(0.3)	(0.2)	(0.1)	(0.3)	(0.3)	(0.3)
INFLATION/PRODUCTIVITY/WAGES (Q4/Q4)								
GDP DEFLATOR	2.5	2.2	2.3	2.3	1.8	2.1	1.7	1.8
PCE	2.2	2.3	2.0	2.1	1.9	2.1	1.4	1.6
CORE PCE	1.6	1.9	1.7	1.8	1.8	1.9	1.6	1.7
COMPENSATION PER HOUR	3.9	3.9	3.8	3.6	4.3	4.4	4.6	4.7
OUTPUT PER HOUR	2.7	2.3	2.5	2.5	2.3	2.2	2.5	2.7
UNIT LABOR COSTS	1.2	1.6	1.3	1.1	1.9	2.1	2.0	1.9
UNEMPLOYMENT RATE (Q4 LEVEL)	5.0	5.2	5.0	5.2	5.3	5.3	5.1	5.3
PARTICIPATION RATE (Q4 LEVEL)	66.0	65.9	66.1	65.9	66.0	65.9	66.1	65.9
NONFARM PAYROLL EMPLOYMENT (Q4/Q4 CHANGE)								
TOTAL, IN THOUSANDS	2299	2015	1753	1809	2600	2000	2100	1800
AVERAGE PER MONTH, IN THOUSANDS	192	168	146	151	217	167	175	150
FINANCIAL MARKET VARIABLES								
FED FUNDS RATE (PERCENT)	3.50	3.50	4.00	4.00	3.50	3.25	4.00	3.75
Baa BOND YIELD (PERCENT)	6.20	6.30	6.30	6.80	6.00	6.00	6.00	6.00
EFFECTIVE EXCHANGE RATE (Q4/Q4 % CHANGE)	(1.20)	(1.20)	0.20	(1.60)	(1.40)	(0.70)	(1.40)	(1.30)

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A. Forecast Details

Exhibit A-3: Judgment Table

	2004:01	2004:02	2004:03	2004:04	2005:01	2005:02	2005:03	2005:04	2006:01	2006:02	2006:03	2006:04	Q4/Q4 % CHANGE/Q4 LEVEL		
													2004	2005	2006
REAL GDP AND COMPONENTS (% Change, AR)															
GDP.....	4.5	3.3	4.0	3.8	3.1	3.6	3.9	3.5	3.6	3.6	3.6	3.7	3.9	3.5	3.6
CHANGE IN INVENTORIES (Growth Contribution) 1\.....	1.2	0.8	-1.0	0.5	1.2	-1.1	-0.2	0.0	-0.1	0.0	-0.1	0.0	0.4	0.0	0.0
DOMESTIC PURCHASES.....	5.0	4.2	3.9	5.0	4.4	3.2	3.7	3.6	3.6	3.7	3.7	3.7	4.5	3.7	3.7
CONSUMPTION EXPENDITURES.....	4.1	1.6	5.1	4.2	3.5	3.5	3.2	3.4	3.1	3.3	3.4	3.3	3.8	3.4	3.3
BUSINESS FIXED INVESTMENT.....	4.2	12.4	13.0	14.5	4.6	8.1	9.7	10.2	10.2	10.6	10.6	10.6	11.0	8.1	10.5
RESIDENTIAL INVESTMENT.....	5.0	16.5	1.6	3.4	5.7	9.0	2.5	-5.2	-2.0	-2.0	-2.0	-2.0	6.5	2.9	-2.0
NET EXPORTS (Growth Contribution) 1\.....	-0.8	-1.1	-0.1	-1.4	-1.5	0.2	-0.1	-0.3	-0.3	-0.3	-0.3	-0.2	-0.8	-0.4	-0.2
EXPORTS	7.3	7.3	6.0	3.2	7.0	7.5	8.4	7.3	7.5	5.2	6.0	6.7	5.9	7.5	6.3
IMPORTS	10.6	12.6	4.6	11.4	14.7	3.3	5.5	6.1	6.2	4.9	5.4	5.3	9.8	7.3	5.4
FEDERAL GOVERNMENT.....	7.1	2.7	4.8	1.2	0.5	6.0	5.0	5.0	5.3	3.0	2.8	2.7	3.9	4.1	3.5
STATE & LOCAL GOVERNMENTS.....	0.0	1.9	-1.7	0.6	0.6	2.3	2.5	2.5	3.0	3.0	3.0	3.0	0.2	1.9	3.0
INTEREST RATE ASSUMPTIONS (%) 1\															
FEDERAL FUNDS RATE.....	1.00	1.00	1.42	1.94	2.44	2.92	3.25	3.50	3.63	3.75	3.88	4.00	1.34	3.03	3.81
YIELD ON 10-YR GOVERNMENT.....	4.0	4.6	4.3	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	4.3	4.4	4.9
BAA BOND YIELD.....	6.3	6.7	6.5	6.2	6.0	6.0	6.1	6.3	6.4	6.6	6.7	6.8	6.4	6.1	6.6
INCOME (% Change, AR)															
PERSONAL INCOME.....	5.0	6.4	4.6	10.9	2.4	4.9	6.0	6.1	7.2	6.2	6.5	6.6	6.7	4.8	6.6
REAL PERSONAL DISPOSABLE INCOME.....	2.4	2.8	2.9	8.3	-0.3	2.0	3.9	3.9	5.0	4.1	4.2	4.4	4.1	2.4	4.4
PERSONAL SAVING RATE (%) 2\.....	1.0	1.3	0.7	1.6	0.6	0.2	0.2	0.2	0.5	0.7	0.7	0.8	1.2	0.3	0.7
CORPORATE PROFITS BEFORE TAXES.....	13.6	2.9	-17.7	65.9	13.1	1.1	2.1	1.4	-2.2	1.8	1.8	2.0	12.4	4.3	0.8
PRICES & PRODUCTIVITY (% Change, AR)															
GDP IMPLICIT DEFATOR.....	2.8	3.2	1.4	2.3	3.3	1.2	2.0	2.3	2.6	2.1	2.2	2.3	2.4	2.2	2.3
PERSONAL CONSUMPTION EXPENDITURES.....	3.3	3.1	1.3	2.7	2.1	3.0	1.9	2.1	2.1	2.1	2.2	2.2	2.6	2.3	2.1
CORE PERSONAL CONSUMPTION EXPENDITURES.....	2.1	1.7	0.9	1.7	2.2	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.6	1.9	1.8
CONSUMER PRICE INDEX.....	3.9	4.4	1.6	3.6	2.4	3.5	2.4	2.5	2.4	2.5	2.5	2.5	3.4	2.7	2.4
CORE CONSUMER PRICE INDEX.....	1.9	2.6	1.7	2.3	2.6	2.6	2.2	2.3	2.3	2.3	2.4	2.4	2.1	2.4	2.3
COMPENSATION PER HOUR (Nonfarm Business).....	3.8	3.7	3.5	4.1	4.0	3.7	3.9	3.9	3.9	3.7	3.5	3.4	4.2	3.9	3.6
OUTPUT PER HOUR (Nonfarm Business).....	3.7	4.0	1.2	2.1	2.0	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.7	2.3	2.5
UNIT LABOR COST (Nonfarm Business).....	0.1	-0.3	2.3	2.0	2.0	1.5	1.4	1.4	1.4	1.2	1.0	0.9	1.5	1.6	1.1
REAL ACTIVITY															
CAPACITY UTILIZATION (Manufacturing, %).....	75.6	76.5	77.0	77.6	78.1	78.3	78.9	79.4	79.9	80.2	80.5	80.8	76.7	78.7	80.4
CIVILIAN UNEMP RATE (%).....	5.7	5.6	5.4	5.4	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.4	5.2	5.2
PRIVATE HOUSING STARTS (Thous, AR).....	1943	1920	1969	1975	2085	2065	1995	1930	1910	1880	1870	1870	1952	2019	1883
LIGHT VEHICLE SALES (Mil\$, AR) 3\.....	16.5	16.5	17.1	17.2	16.4	16.9	17.0	17.0	17.0	17.1	17.1	17.1	16.8	16.8	17.1
FEDERAL SURPLUS/DEFICIT (Unified Basis, Bil\$, NSA) 4\.....	-164.4	581.9	-239.6	-129.6	-234.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	-412.1	-377.1	-301.5

NOTE: All series other than interest rates and the federal deficit are seasonally adjusted. Italics indicates a reported value. 1\ Growth contribution to real GDP 2\ Percentage of Personal Disposable Income 3\ Includes domestic and foreign auto and light truck sales 4\ Yearly numbers are based on the fiscal year

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A. Forecast Details

Exhibit A-4: Real GDP and Components (Growth Contributions)

	2004				2005				2006				Q4/Q4 % CHANGE/Q4 LEVEL			
	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
REAL GDP (Growth, Annual Rate).....	4.5	3.3	4.0	3.8	3.1	3.6	3.9	3.5	3.6	3.6	3.6	3.7	4.4	3.9	3.5	3.6
<u>Contributions to GDP growth:</u>																
FINAL SALES TO DOMESTIC PURCHASERS...	4.1	3.6	5.1	4.7	3.4	4.5	4.1	3.8	3.9	3.9	3.9	3.9	4.6	4.4	3.9	3.9
CONSUMPTION EXPENDITURES.....	2.9	1.1	3.6	2.9	2.5	2.4	2.3	2.4	2.2	2.3	2.3	2.3	2.7	2.6	2.4	2.3
BUSINESS FIXED INVESTMENT.....	0.4	1.2	1.3	1.5	0.5	0.9	1.0	1.1	1.1	1.2	1.2	1.2	0.9	1.1	0.9	1.2
RESIDENTIAL INVESTMENT.....	0.3	0.9	0.1	0.2	0.3	0.5	0.1	-0.3	-0.1	-0.1	-0.1	-0.1	0.6	0.4	0.2	-0.1
FEDERAL GOVERNMENT.....	0.5	0.2	0.3	0.1	0.0	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.4	0.3	0.3	0.2
STATE & LOCAL GOVERNMENTS.....	0.0	0.2	-0.2	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.2	0.4
NET EXPORTS.....	-0.8	-1.1	-0.1	-1.4	-1.5	0.2	-0.1	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	-0.8	-0.4	-0.2
EXPORTS.....	0.7	0.7	0.6	0.3	0.7	0.7	0.8	0.7	0.8	0.5	0.6	0.7	0.6	0.6	0.8	0.7
IMPORTS.....	-1.5	-1.8	-0.7	-1.7	-2.2	-0.5	-0.9	-1.0	-1.0	-0.8	-0.9	-0.9	-0.7	-1.4	-1.2	-0.9
CHANGE IN INVENTORIES.....	1.2	0.8	-1.0	0.5	1.2	-1.1	-0.2	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.4	0.0	0.0

Note: Contributions may not add up to GDP growth due to rounding.

FRBNY - cleared for release

A. Forecast Details

Exhibit A-5: Alternative GDP and Inflation Forecasts

GDP

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>
FRBNY	4/29/2005	4.4	3.6	3.9	3.9	3.4	3.5
PSI Model	4/28/2005	4.0	3.8	--	3.8	--	--
Blue Chip	4/10/2005	3.6	3.6	3.6	3.5	3.4	3.3
Median SPF	2/14/2005	3.4	3.7	3.4	3.3	3.4	3.4
Macro Advisers	4/27/2005**	4.2	2.6	4.0	3.7	3.8	3.6

CPI

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>
FRBNY	4/29/2005	2.4	3.5	2.2	2.4	2.4	2.5
Blue Chip	4/10/2005	2.3	2.7	2.2	2.2	2.3	2.3
Median SPF	2/14/2005	2.2	2.2	2.2	2.2	2.3	2.3
Macro Advisers	4/22/2005	2.3	2.9	1.8	2.1	1.7	2.0

Core CPI

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>	<u>Prev*</u>	<u>Apr</u>
FRBNY	4/29/2005	2.1	2.3	2.1	2.4	2.1	2.4
Macro Advisers	4/22/2005	2.2	2.4	2.3	2.4	2.3	2.4

*Previous release date of all forecasts except for the SPF is March. The previous release of the SPF was in November.

**Macro Advisers Forecasts for Q3 and Q4 GDP are as of 4/22/05

FRBNY - cleared for release

A. Forecast Details

Exhibit A-6: Reference Table 1 - CONSUMER PRICE INDEX DATA AS OF March 2005

	Annualized Percent Change Over Indicated Interval					Weights (December 2003)	
	24 MONTH	12 MONTH	6 MONTH	3 MONTH	1 MONTH	TOTAL	CORE
CONSUMER PRICE INDEX	2.4	3.2	3.8	4.3	7.8	100.00	
ENERGY	6.3	12.3	18.2	21.1	60.9	7.08	
ALL ITEMS EX ENERGY	2.1	2.4	2.6	2.9	4.3		
FOOD	2.9	2.6	2.4	1.3	1.9	14.38	
FOOD AWAY FROM HOME	2.9	3.2	3.0	3.8	1.9	6.13	
ALL ITEMS EX FOOD & ENERGY	2.0	2.4	2.7	3.3	4.3	78.54	100.00
CORE CHAIN-WEIGHT CPI (NSA)	1.7	1.9	3.0	5.3	6.8		
CORE GOODS	-0.5	0.6	1.3	1.1	0.0	22.25	28.34
APPAREL.....	0.0	0.0	1.3	3.4	9.4	3.98	5.06
MEDICAL CARE COMMODITIES....	4.4	4.3	4.9	6.0	5.8	1.50	1.91
DURABLE GOODS.....	-1.6	0.6	1.6	0.7	-3.1	11.28	14.36
NEW VEHICLES.....	-0.1	0.9	3.6	2.0	-4.2	4.82	6.13
USED VEHICLES	-3.7	5.0	1.8	1.2	0.9	2.01	2.56
CORE SERVICES	2.9	3.0	3.1	4.0	5.8	56.28	71.66
RENT OF PRIMARY RESIDENCE...	2.7	3.0	2.7	3.0	2.8	6.16	7.84
OWNERS' EQUIVALENT RENT.....	2.2	2.4	2.3	3.0	3.2	23.38	29.77
LODGING AWAY FROM HOME.....	7.5	8.0	9.7	18.6	59.1	2.95	3.76
MEDICAL CARE SERVICES.....	5.1	5.0	5.8	6.9	7.9	4.58	5.83
TRANSPORTATION SERVICES.....	2.1	1.7	2.0	1.6	4.4	6.32	8.05

A. Forecast Details

Exhibit A-6: Reference Table 2 - PCE DEFLATOR AS OF March 2005

	Annualized Percent Change Over Indicated Interval				
	24 MONTH	12 MONTH	6 MONTH	3 MONTH	1 MONTH
PCE DEFLATOR	2.0	2.4	3.0	3.6	5.7
MARKET-BASED (PCE Deflator)	2.1	2.6	3.1	3.6	5.9
DURABLE GOODS	-1.8	-0.7	0.6	0.8	-0.2
MOTOR VEHICLES AND PARTS	-0.4	1.7	4.0	4.0	-0.8
NONDURABLE GOODS	2.6	3.4	4.4	5.3	12.4
CLOTHING AND SHOES	-0.1	0.0	1.5	4.5	10.7
SERVICES	2.6	2.5	2.9	3.3	3.7
HOUSING	2.5	2.8	2.7	3.6	4.6
TRANSPORTATION	2.0	1.4	3.9	3.9	10.2
MEDICAL CARE	3.1	2.7	3.0	4.2	4.2
PCE DEFLATOR EX FOOD AND ENERGY	1.6	1.7	2.3	2.9	3.2
MARKET-BASED (Core PCE Deflator)	1.6	1.7	2.2	2.7	2.9
PERSONAL BUSINESS SERVICES-MB	3.3	2.8	4.0	3.7	3.4
PERSONAL BUSINESS SERVICES-NMB	1.0	-0.3	0.2	1.1	1.6

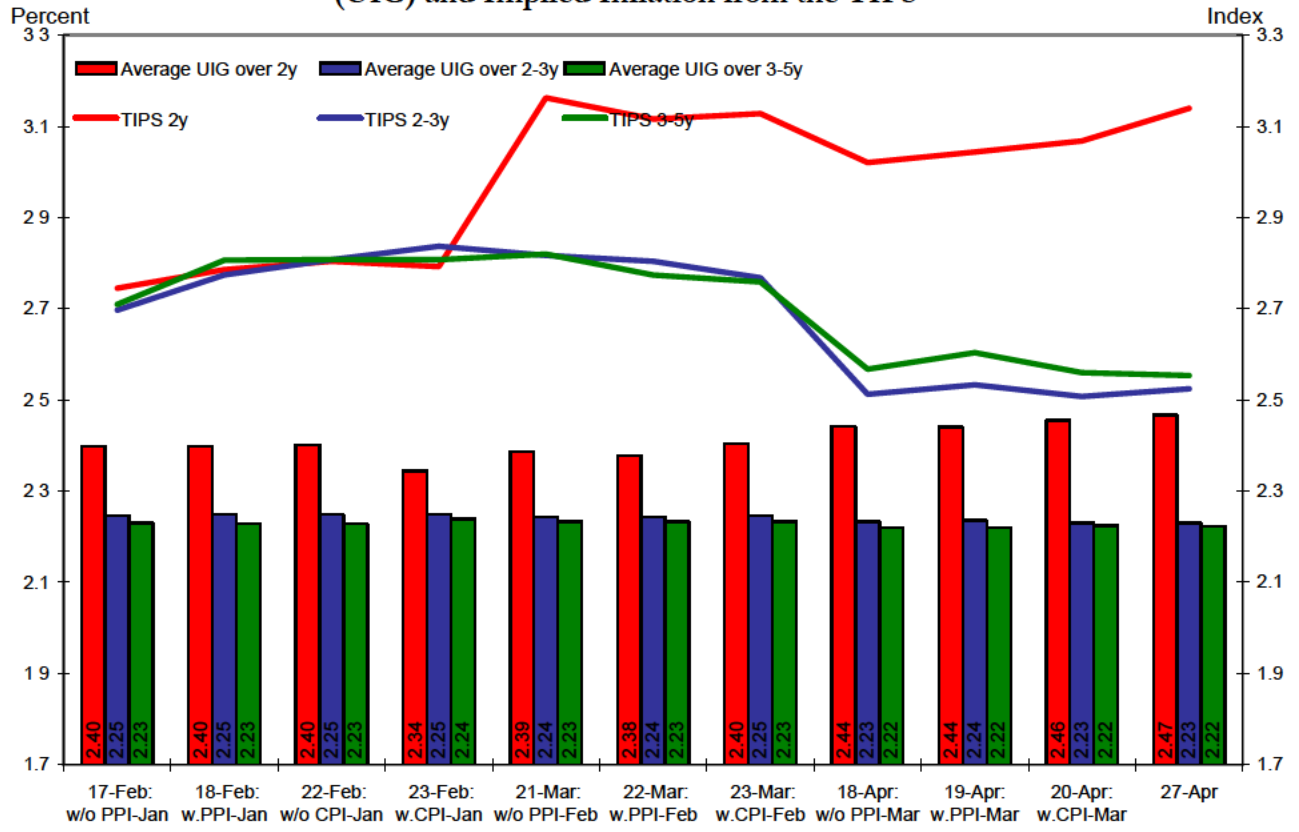
A. Forecast Details

Exhibit A-6: Reference Table 3 - PRODUCER PRICE DATA AS OF March 2005

	Annualized Percent Change Over Indicated Interval				
	24 MONTH	12 MONTH	6 MONTH	3 MONTH	1 MONTH
FINISHED GOODS	3.2	4.9	6.4	5.7	9.0
FINISHED CONSUMER GOODS	3.7	5.8	7.9	7.1	11.3
FINISHED CONSUMER GOODS EX FOOD.....	3.4	6.5	8.9	8.3	14.7
NONDURABLES EX FOOD.....	4.4	8.6	11.8	11.3	20.9
DURABLES.....	1.0	1.6	1.8	0.3	-0.9
CAPITAL EQUIPMENT.....	1.6	2.7	3.0	2.8	3.4
ELECTRONIC COMPUTERS (NSA).....	-14.8	-18.3	-23.3	-31.3	-34.2
COMMUNICATION & RELATED EQUIP. (NSA).....	-1.9	-1.0	-1.4	-1.5	-3.4
FINISHED GOODS EX FOOD & ENERGY	1.6	2.6	3.2	3.7	0.8
FINISHED CONS GOODS EX FOOD & ENERGY	1.7	2.6	3.5	4.5	0.7
INTERMEDIATE MATERIALS	5.1	8.8	7.7	8.7	12.8
INTERMEDIATE MATERIALS EX FOOD & ENERGY..	5.3	7.6	5.7	6.8	4.0
CRUDE MATERIALS	5.5	10.8	20.5	2.4	66.0
CRUDE MATERIALS EX FOOD & ENERGY.....	16.6	3.4	1.9	-17.0	12.9

A. Forecast Details

Exhibit A-7: Underlying Inflation Gauge (UIG) and Implied Inflation from the TIPS



SOURCE: Business Condition (FRBNY) and Swiss National Bank

B. Financial Markets

Exhibit B-1. TIIS Implied Inflation at Various Horizons

The first chart in this exhibit gives the time series of implied expected CPI inflation from the TIIS market. (a non –technical description of the construction of this measure is in Appendix to Exhibit B-1 below). The second chart shows the computed change in the various measures from March 22 to April 29, 2005

Source: Capital Markets Function FRBNY

Exhibit B-2: Breakeven Inflation Table

The breakeven inflation table reports yields on the most recently issued five- and ten-year nominal Treasury securities and Treasury inflation indexed securities as well as the spreads between comparable maturities.

Source: Capital Markets Function FRBNY

Exhibit B-3. Treasury Yield and S&P 500 Index Levels and Volatility

The first chart in this exhibit plots estimates of daily Treasury and equity volatility. Treasury volatility is estimated from daily changes of the 10-year constant maturity Treasury yield. Equity volatility is estimated from daily S&P 500 index returns. The figure also plots the long-run average of the Treasury and equity volatilities, computed since 1/1/1988. All volatilities are annualized. Treasury volatility is on the left axis in basis points, equity volatility is on the right axis in percent.

The second chart in the exhibit plots the level of the 10-year Treasury constant maturity yield (left axis) and the S&P 500 total return index (right axis).

Source: Capital Markets Function FRBNY and Bloomberg.

Exhibit B-4. Smoothed Treasury Yield Curve and Implied Forward Rate Curve

The charts in this exhibit show the change in the smoothed (off the run) Treasury yield curve since the day before the last FOMC meeting and the implied forward rate curve.

Source: Monetary Affairs BofG

Exhibit B-5. Expected Path of Fed Funds Target Rate Derived from Futures

The chart in this exhibit shows the changes in expected path of the Fed Funds target rate since the last FOMC meeting, derived from Fed Funds and Eurodollar futures. Market participants were very sensitive to the data during the period. The chart shows the high point of expectations for the funds rate (March 28), when inflation concerns following the March FOMC meeting were greatest; and the low point of expectations (April 19), when inflation concerns subsided and worries about a growth slowdown had arisen.

A constant term premium risk adjustment is made in these calculations but there is no allowance for time-varying risk.

Source: Business Conditions Function, FRBNY chart from Monetary Affairs BofG data

Exhibit B-6. Implied Skewness

The chart in this exhibit shows the recent behavior of a measure of implied skewness derived from Eurodollar options. Positive (negative) implied skewness means that tightening (easing) surprise around expected rate is expected to be larger than easing (tightening) surprise. No risk adjustment is made.

Source: Capital Markets, FRBNY

Exhibit B-7. Implied Volatility on Fed Funds Options

The charts in this exhibit show the current and historical behavior of the 90% confidence interval (i.e., financial markets expect 90% of the time the actual FFR at the specified date will be in this interval) for the Fed Funds Target implied from financial markets options. The first two set of charts show how the 90% confidence interval has changed since the last FOMC meeting. The next chart shows the current confidence interval around the expected path. The final two charts show a long history of the behavior of the confidence interval at the 6 and 12 month horizon. No risk adjustment is made.

Source: Monetary Affairs, BofG

Exhibit B-8. Dollar Exchange rates

This exhibit contains 4 charts showing the behavior of the dollar in the last 10 years. All series are defined so that a decline in the index represents a weakening of the dollar.

Effective rates are computed by the Board of Governors using a “narrow” set of weights, for 16 major exchange rates.

Source: BofG, BIS, International Research Function FRBNY

Exhibit B-9. Implied volatility on Yen/Dollar and Euro/Dollar Exchange Rates

The first set of charts in this exhibit contains the one month ahead implied volatility on Yen/Dollar and Euro/Dollar exchange rates normalized to the width of a 90 percent confidence interval. The second set of charts show the change in the expected implied volatility over the next six months.

Source: Markets Group FRBNY, Reuters

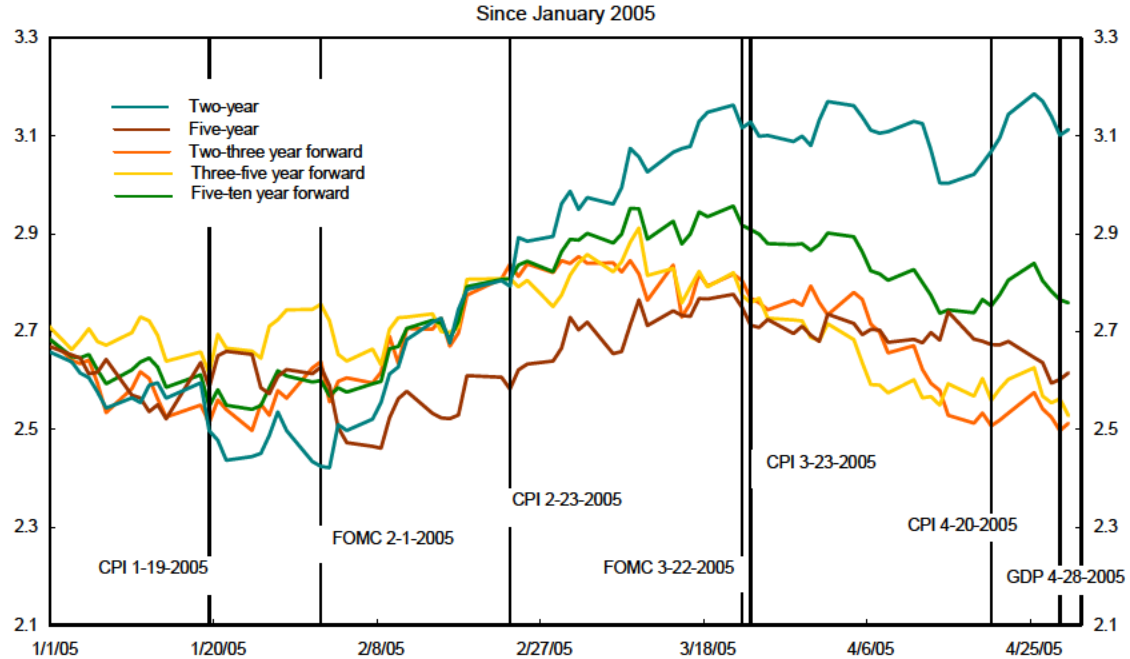
Appendix to Exhibit B-1. Construction of Implied Inflation from TIPS

The implied inflation series are estimates of the inflation expectations derived from TIPS and nominal Treasury securities, not accounting for risk premia or other technical factors. For each individual TIPS, we solve for the inflation rate that equates the discounted payments of the TIPS to its price, where the discount rates are derived from off-the-run nominal Treasury securities. We then calculate two-, three-, and five-year inflation rates as the inflation rate corresponding to a TIPS with duration of two, three or five years respectively. Finally, we compute approximate forward rates from the rates at the shorter and longer dated durations. For example, the two-to-three year forward rate is computed from the two-year and three-year implied inflation values. The five-to-ten year forward rate uses the five-year implied inflation value and the implied inflation rate on the most recently issued ten-year TIPS.

B. Financial Markets

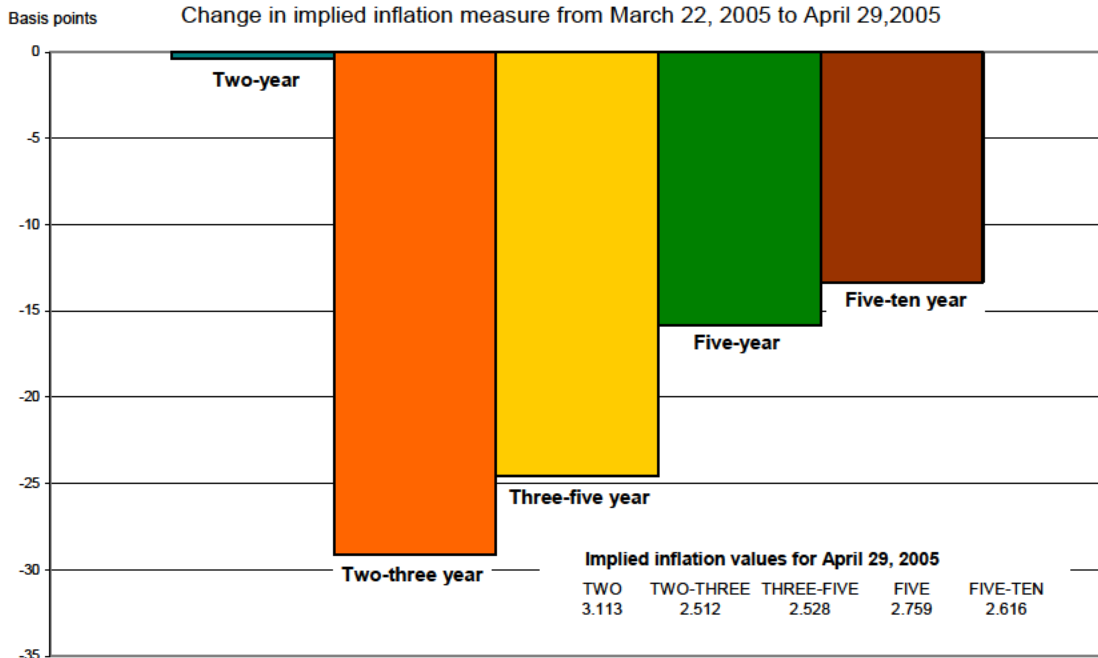
Exhibit B-1:

TIPS Implied Inflation at Various Horizons



Data based on FRBNY calculations using 8:40am quotes. Tony Rodrigues and Anna Milanez

TIPS Implied Inflation



Source: FRBNY

B. Financial Markets

**Exhibit B-2:
Breakeven Inflation Table**

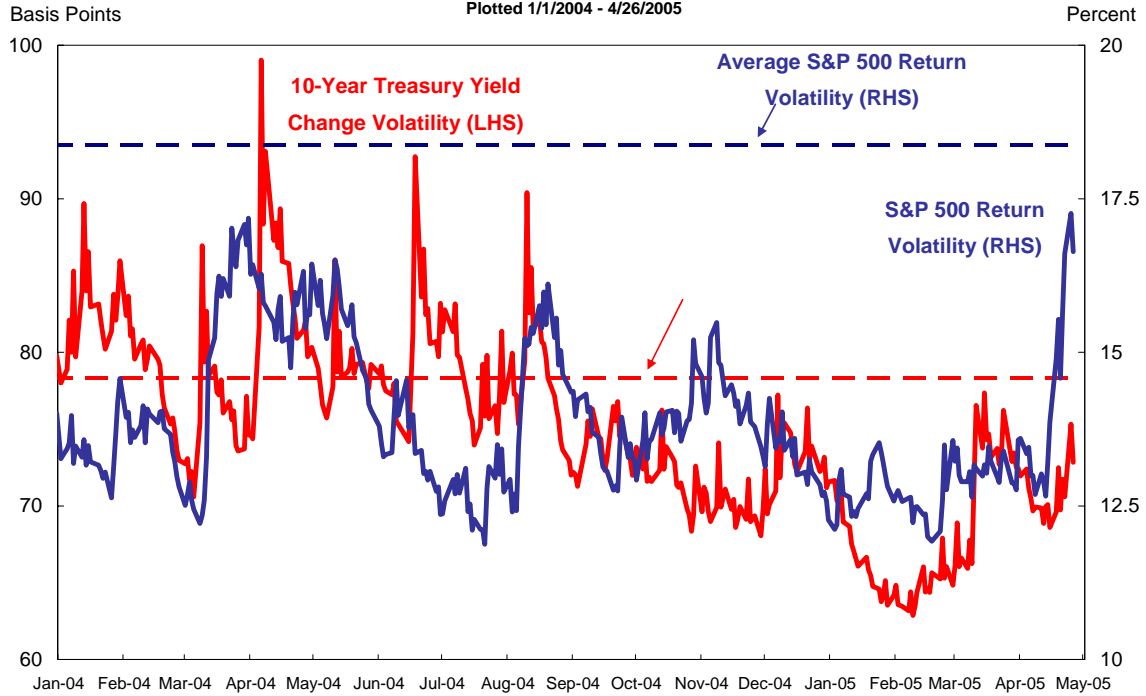
Real and Nominal Yield Spreads	20-Oct-04	23-Nov-04	30-Dec-04	31-Jan-05	18-Feb-05	21-Mar-05	15-Apr-05	29-Apr-05
Five-year Spread (%)	2.523	2.593	2.593	2.540	2.710	2.903	2.684	2.765
Ten-year Spread	2.343	2.589	2.620	2.487	2.579	2.756	2.604	2.618
Five-year Real Yield (%)	0.727	0.993	1.088	1.172	1.113	1.289	1.189	1.113
Ten-year Real Yield	1.640	1.607	1.693	1.661	1.659	1.771	1.639	1.568
Five-year Nominal Yield	3.250	3.586	3.681	3.712	3.823	4.192	3.873	3.878
Ten-year Nominal Yield	3.983	4.196	4.313	4.148	4.238	4.527	4.243	4.186
Source: Bloomberg. 8:40am quotes.								

B. Financial Markets

Exhibit B-3:

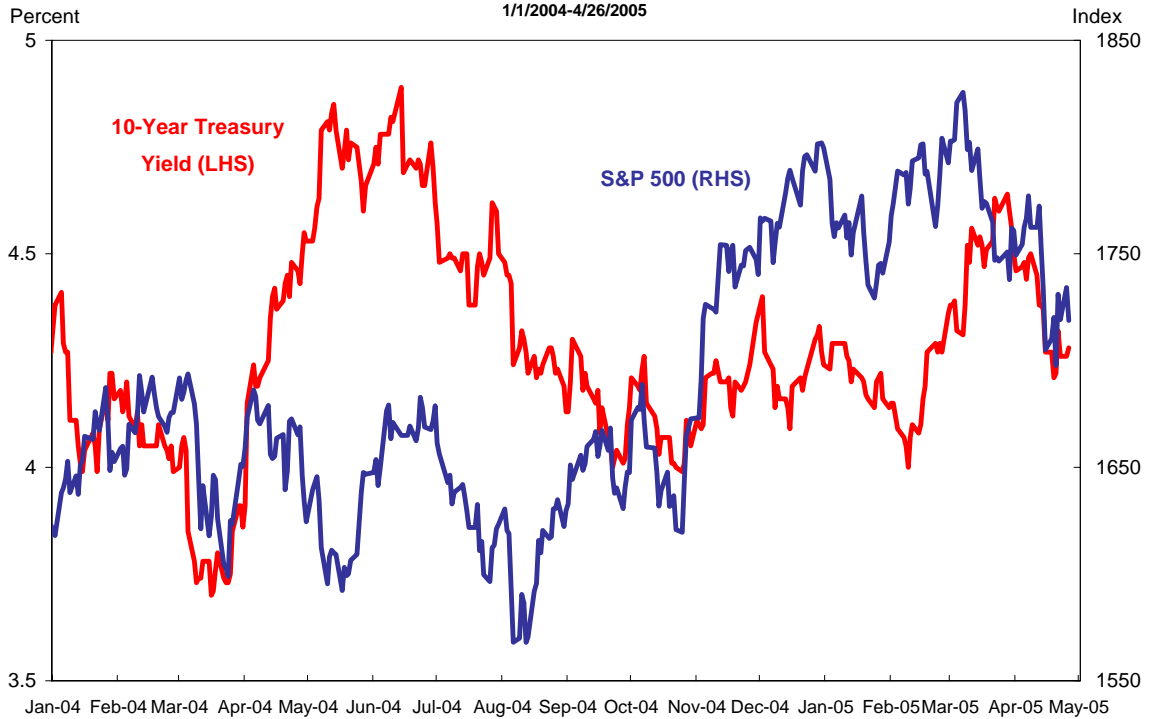
Treasury and Equity Volatility

Daily, estimated 1/1/1988 - 4/26/2005
Plotted 1/1/2004 - 4/26/2005



Treasury Yield and S&P 500 Index

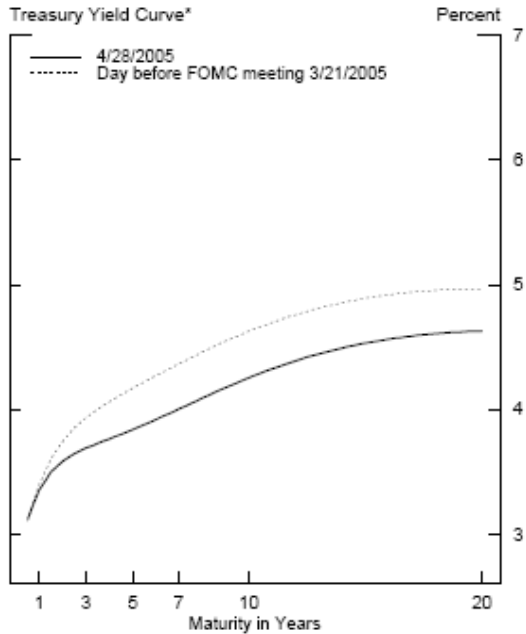
1/1/2004-4/26/2005



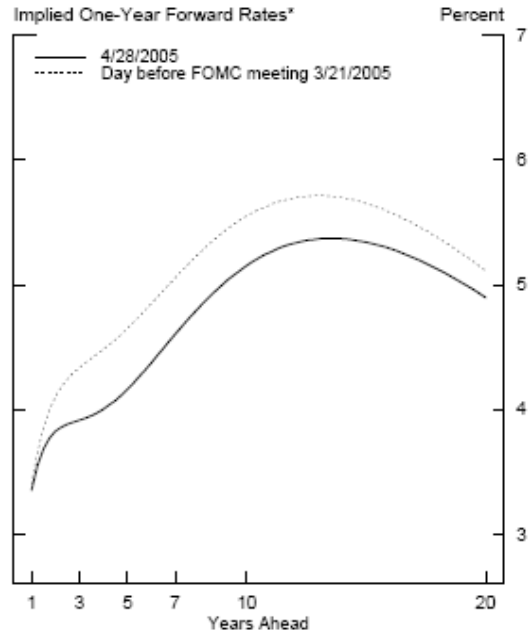
B. Financial Markets

Exhibit B-4:

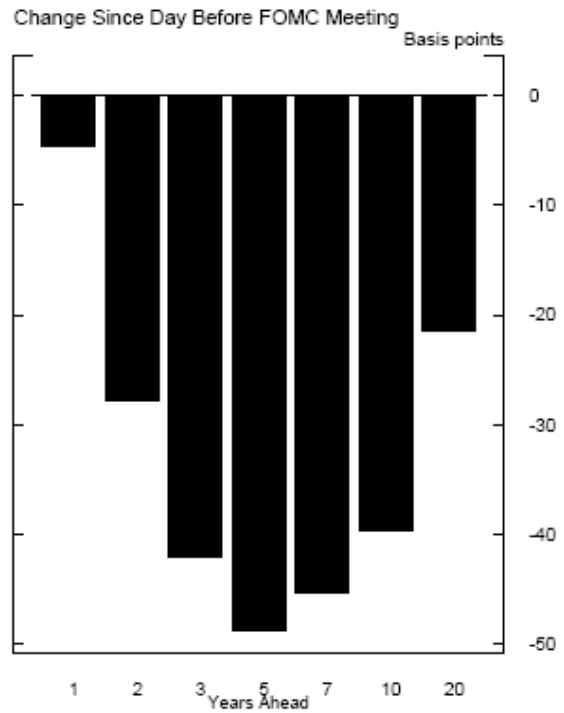
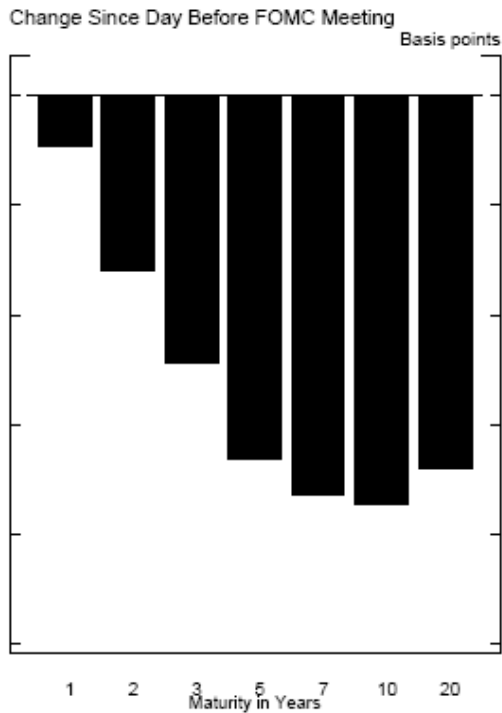
Treasury Yield Curve



*Smoothed yield curve estimated from off-the-run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semi-annual coupons.

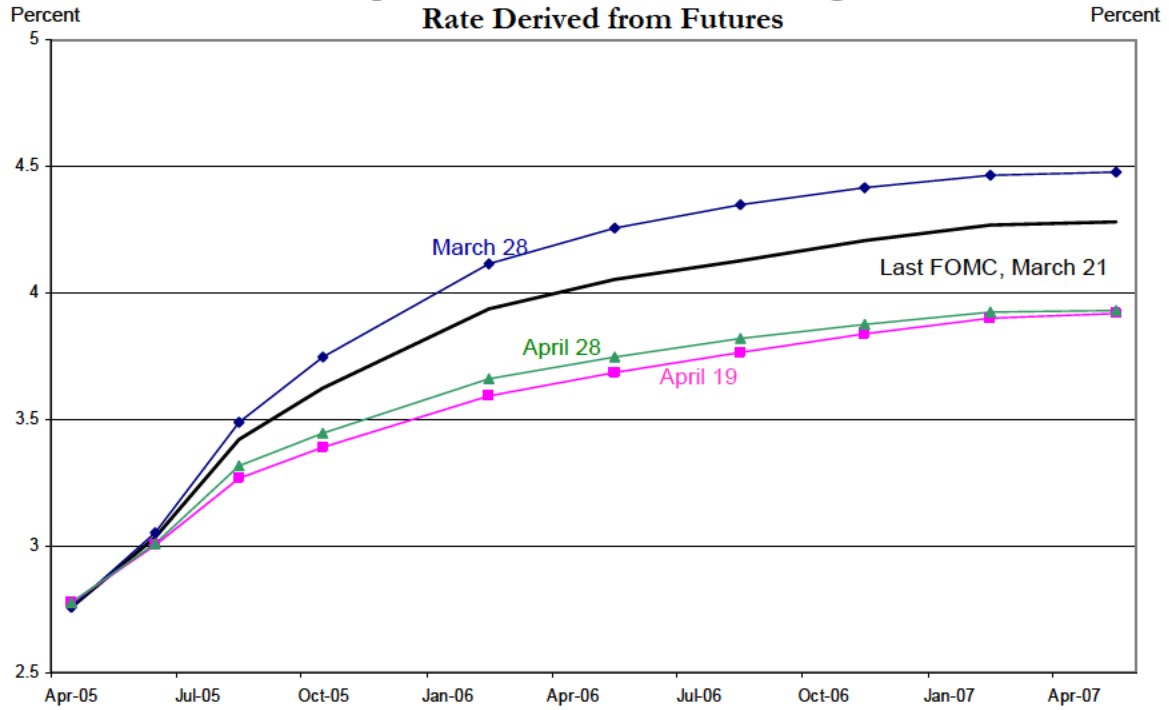


*Forward rates are the one-year rates maturing at the end of the year shown on the horizontal axis that are implied by the smoothed Treasury yield curve.



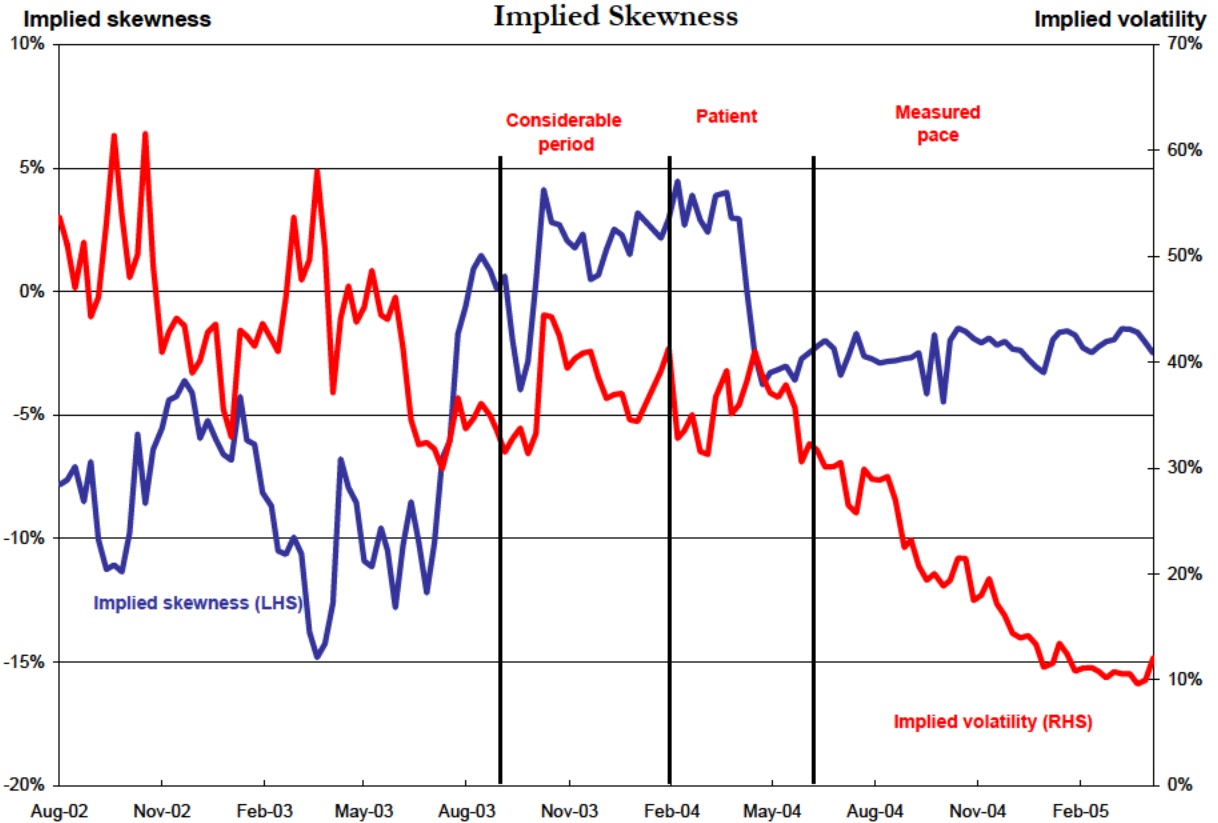
B. Financial Markets

Exhibit B-5:
Expected Path of the Fed Funds Target
Rate Derived from Futures



Source: Board of Governors of Federal Reserve System

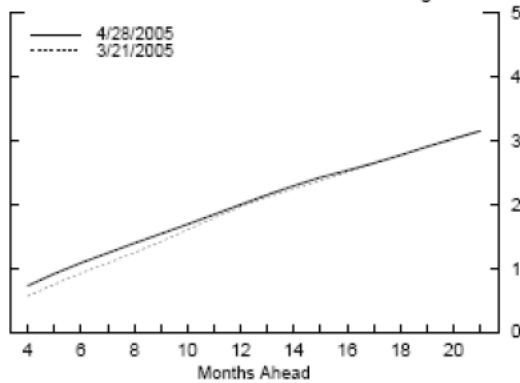
Exhibit B-6:
Implied Skewness



B. Financial Markets

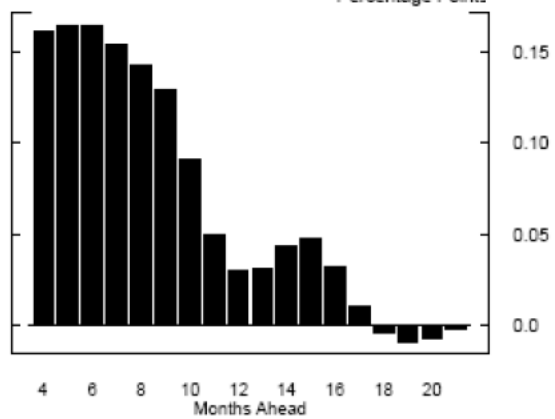
Exhibit B-7: Implied Volatility on Fed Funds Options

Eurodollar Implied Volatility Term Structure*
Percentage Points

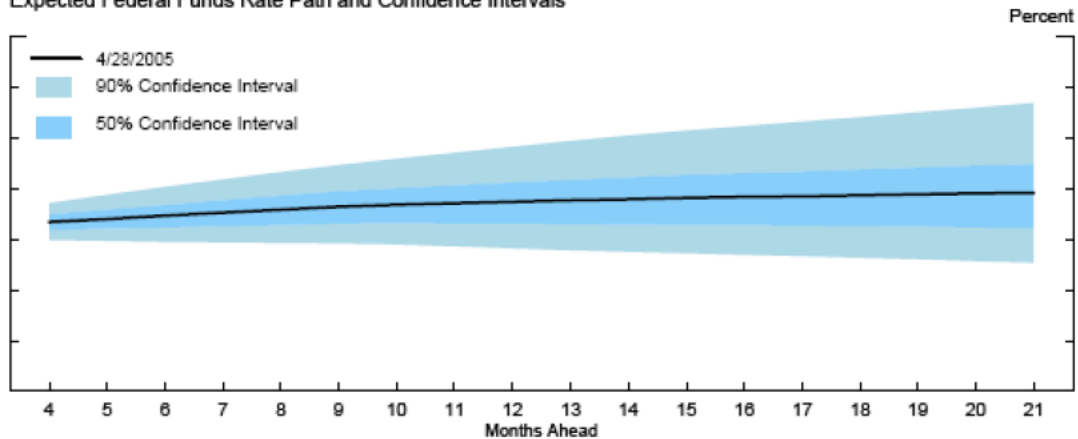


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

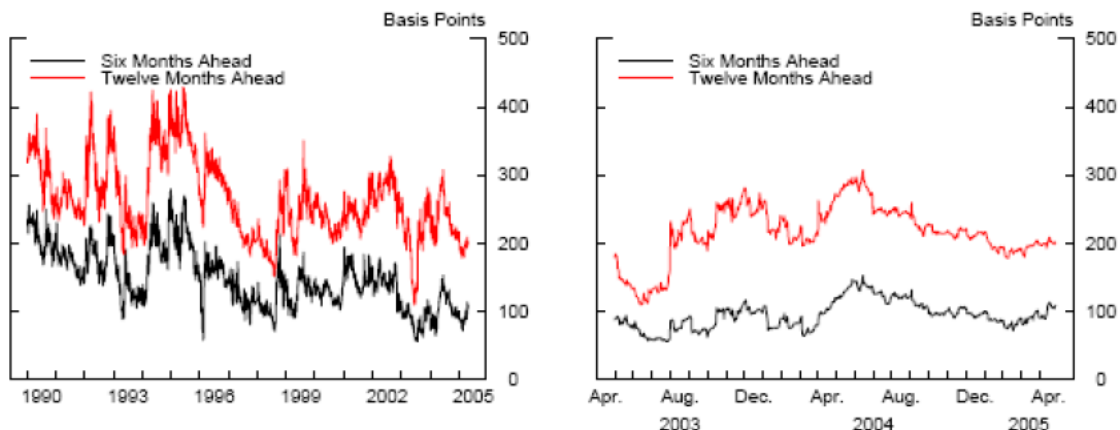
Change Since Day Before FOMC Meeting
Percentage Points



Expected Federal Funds Rate Path and Confidence Intervals



Eurodollar Implied Volatility at Selected Maturities*

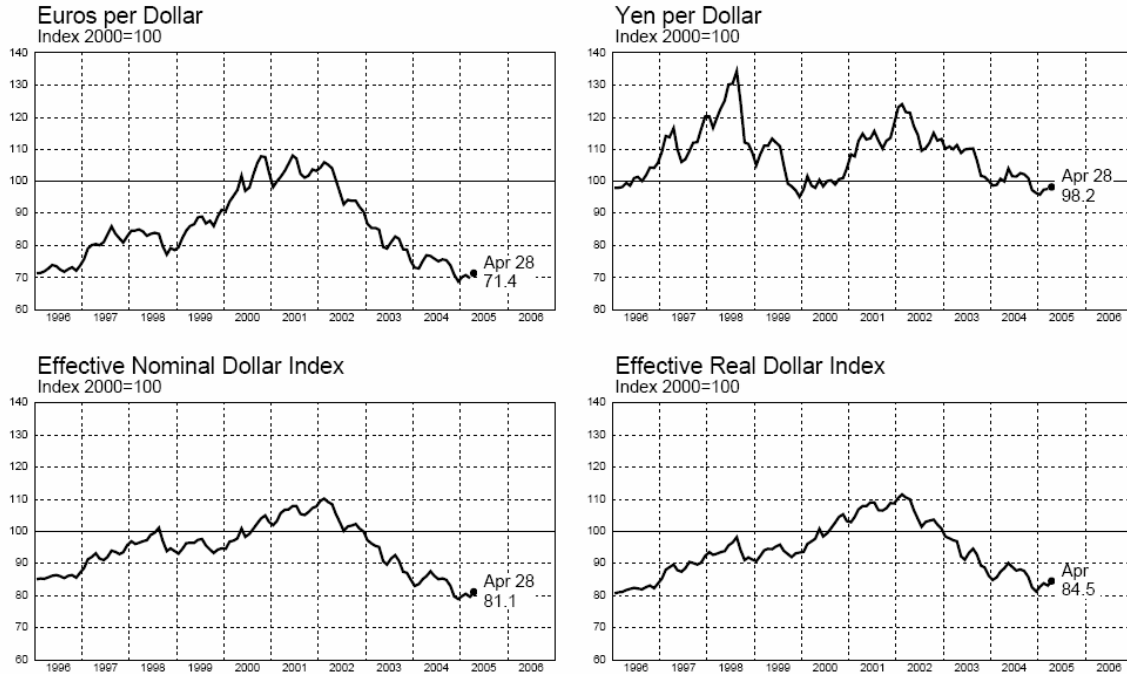


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

B. Financial Markets

Exhibit B-8:

Dollar Exchange Rates Monthly Averages



Source: Board of Governors; National Sources

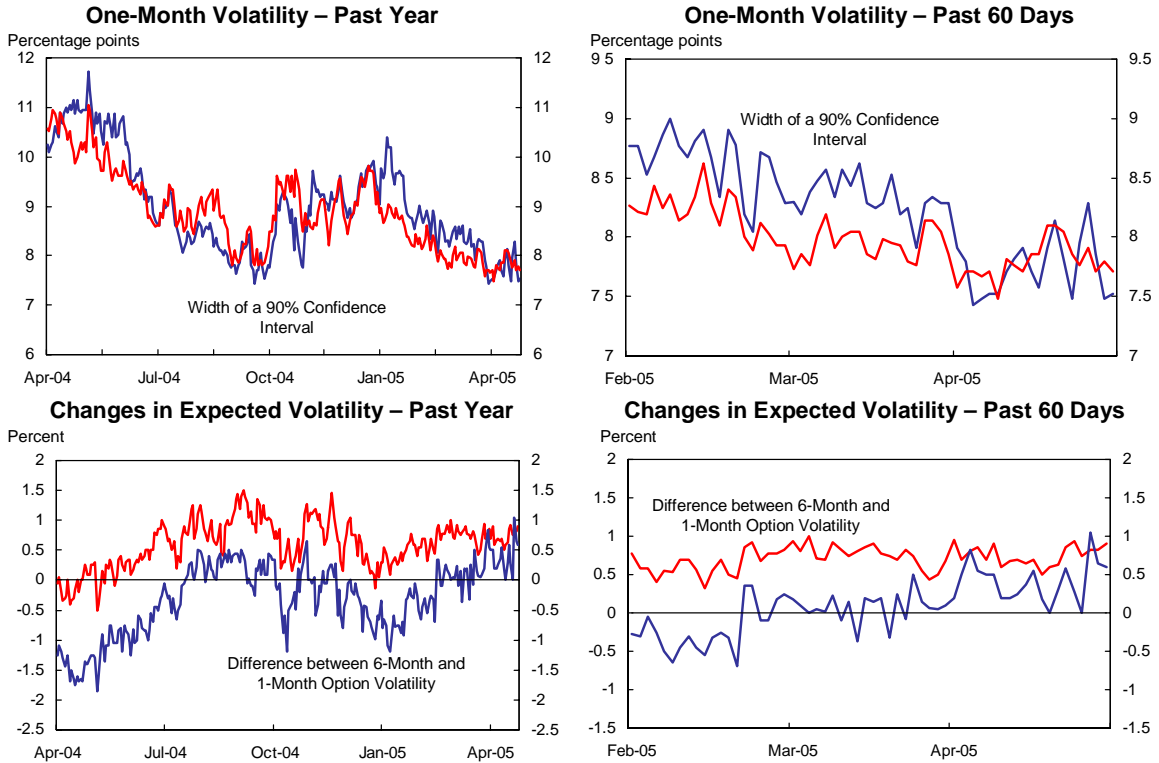
April 28, 2005

B. Financial Markets

Exhibit B-9:

Euro and Yen Implied Option Volatility

Euro options are in red and Yen options are in blue.



Source: Reuters

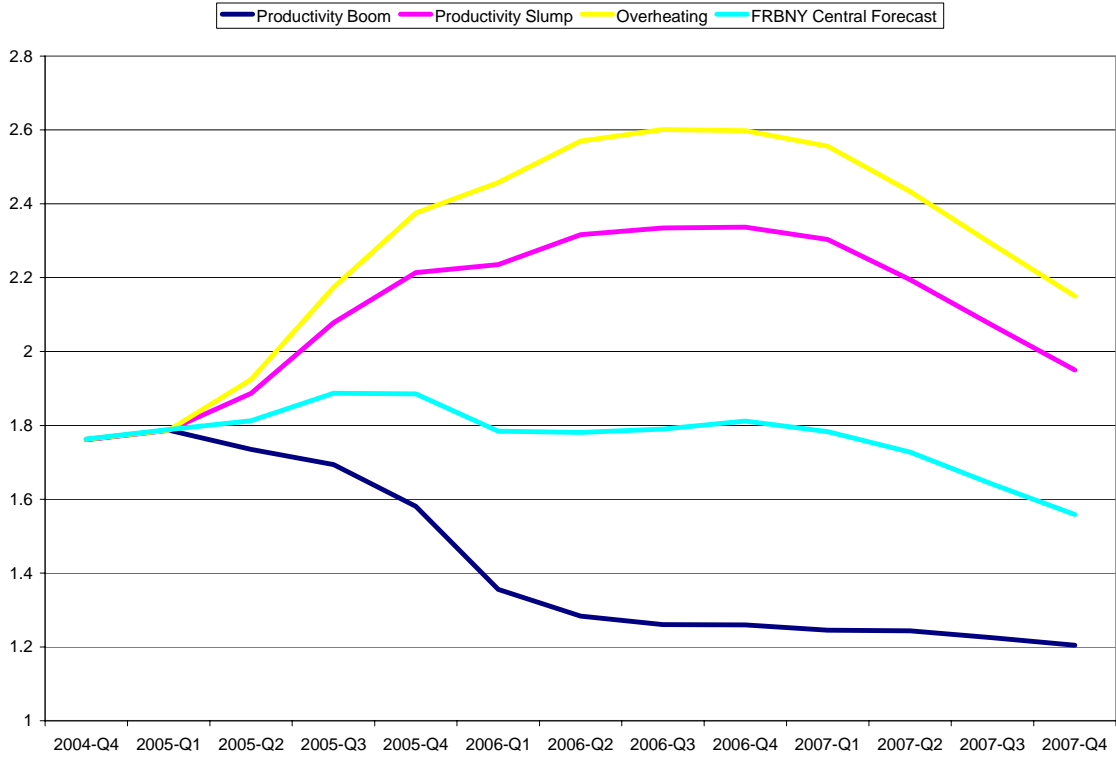
C. FRBNY Forecast Distributions

Exhibits C-1 and C-2 show the expected path of 4-quarter changes in the core PCE deflator and real GDP under various alternative scenarios.

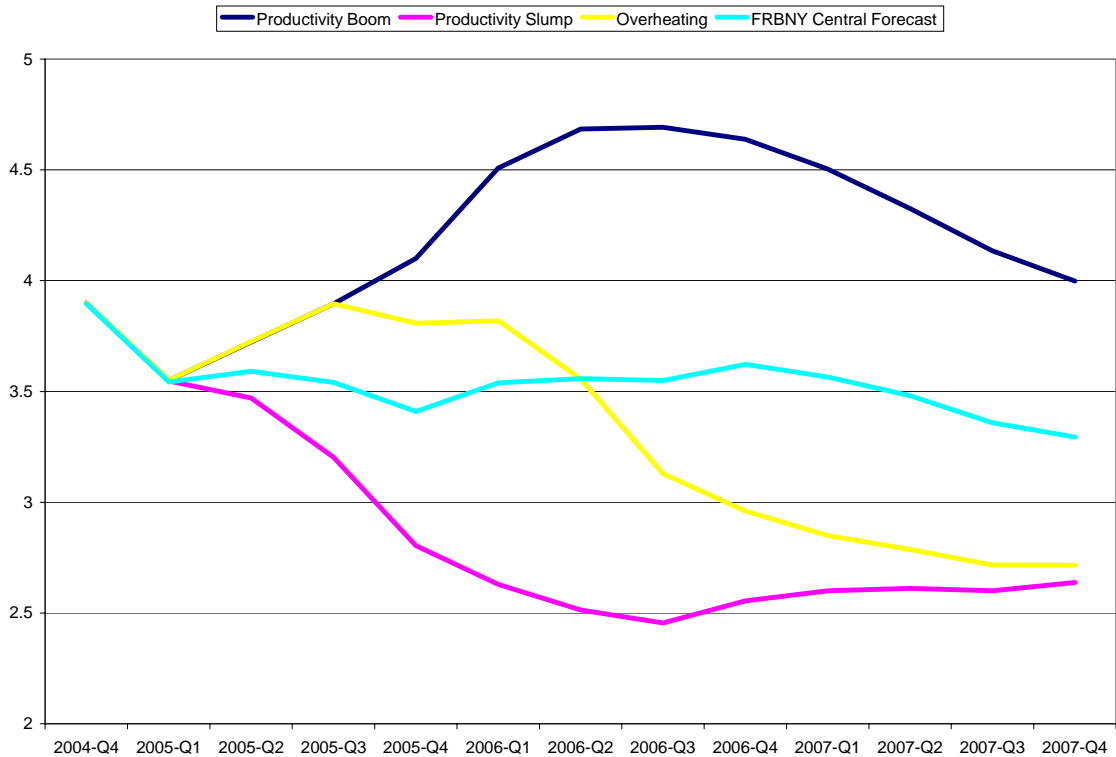
Two fan charts are shown for the 4-quarter changes in the core PCE deflator (Exhibit C-3) and real GDP (Exhibit C-4). These charts are constructed to represent the uncertainty contained in our main scenario and our alternative scenarios. The amount of uncertainty in the forecast distributions is now calibrated to imply fundamental interest rate volatility lower than given in the implied Eurodollar forward volatility curve averaged across possible policy rules from a market perspective (see the text for Exhibit D.4). The forecast distributions are now constructed to allow explicit incorporation of the patterns of deviations from the central projection.

C. FRBNY Forecast Distributions

**Exhibit C-1:
Alternative Scenarios of U.S. PCE Inflation Change through 2007**

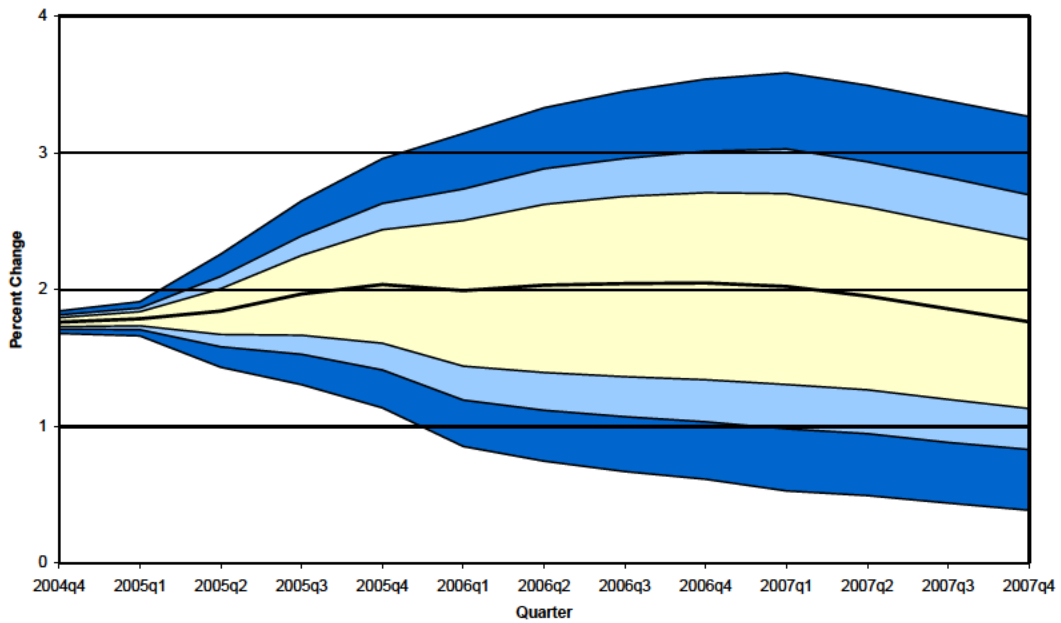


**Exhibit C-2:
Alternative Scenarios of U.S. GDP Change through 2007**



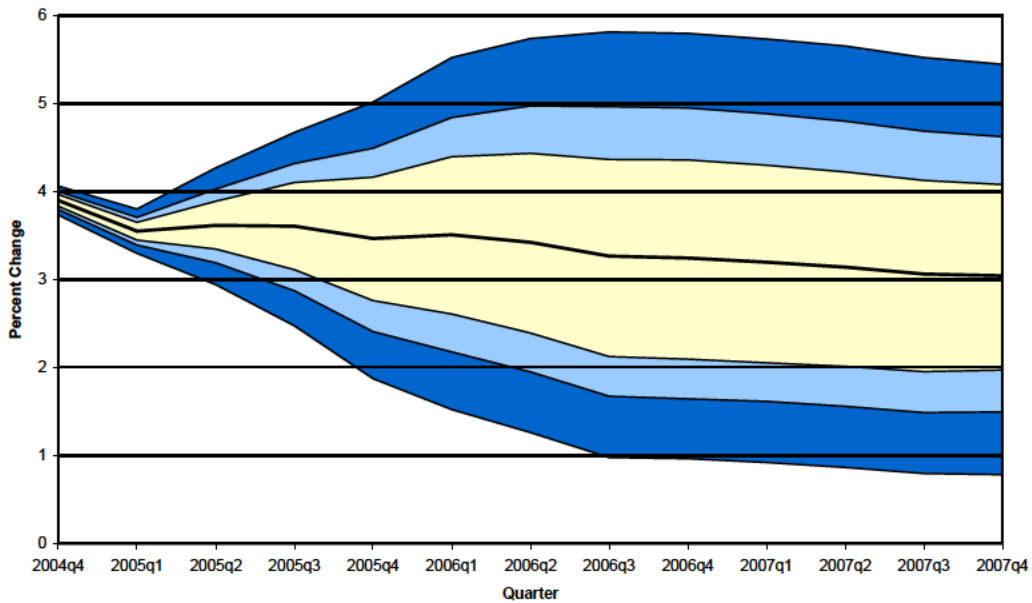
FRBNY Forecast Distributions

Exhibit C-3:
Four Quarter U.S. Core PCE Inflation Change Forecast through 2007



The probability interval shows the 50, 75, and 90 percent chance that the four quarter change in PCE will be within the respective range. The thick black line represents the bank's forecast.

Exhibit C-4:
Four Quarter U.S. GDP Change Forecast through 2007



The probability interval shows the 50, 75, and 90 percent chance that quarterly GDP change will be within the respective range. The blue line represents the bank's forecast.

D. FRBNY Fed Funds Rate Projections

The exhibits are constructed using the policy rule given below, the Bank forecast distribution and information from Fed Funds futures and Eurodollar futures markets (see Exhibits B-3 and B-4). In this cycle we have introduced mild uncertainty over both gradualism and the neutral rate. Neither source of uncertainty has a large effect on derived average paths or the volatility around the paths.

Exhibit D-1. Implications of Different Policy Rules

This exhibit uses our baseline policy rule in combination with two possible market views of different current policy rules: measured ending in June and inflation hawk. Measured is assumed to mean a high probability of a 25 point basis increase at each FOMC meeting while in the previous statement. After the end of the measured period, the FFR target is determined by the policy rule. Inflation hawk is a rule that imposes a 50 basis point increase if the core PCE deflator increases faster than 2.4% in the previous quarter. The policy rules are evaluated by averaging over the forecast distribution. The results are compared to the implied market path.

Exhibit D-2. Alternative Scenarios: Nominal Federal Funds Rate

In this exhibit it is assumed that measured ends in June and the policy rule is averaged over the outcomes from our three main alternative scenarios: productivity boom, productivity slump and overheating. Also included is the policy rule averaged over the FRBNY central projection and the implied market rate.

Exhibit D-3. Alternative Scenarios: Real Federal Funds Rate

In this exhibit it is assumed that measured ends in June and the real rate (policy rule less 4 quarter lagged average inflation) is averaged over the outcomes from our three main alternative scenarios. Also included is the real rate averaged over the FRBNY central projection.

Exhibit D-4. Implied Volatilities from the Forecast Distribution and the Market

In this exhibit the volatility of FFR under the three different policy rules is shown along with the market implied forward volatility curve. These forward volatility curves lie

above the market path at some horizons but when we average across the policy rules with weights 0.40 on gradual, 0.40 on measured ends in June, 0.2 on inflation hawk the forecast distribution implied volatility is below the market.

Policy Rule: Baseline Specification

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

$$p = 0.8$$

$$i_{2004Q4} = 1.75$$

$$\pi = 1.5 \text{ (Core PCE y/y)}$$

$$\varphi_\pi = 1.5$$

$$\varphi_x = 0.5$$

$$\pi_t : \text{Core PCE y/y}$$

$$x_t : \text{Output Gap}$$

Source: Domestic Research Function, FRBNY

D. FRBNY Fed Funds Rate Projections

Exhibit D-1: Implications of Measured and Policy Rule

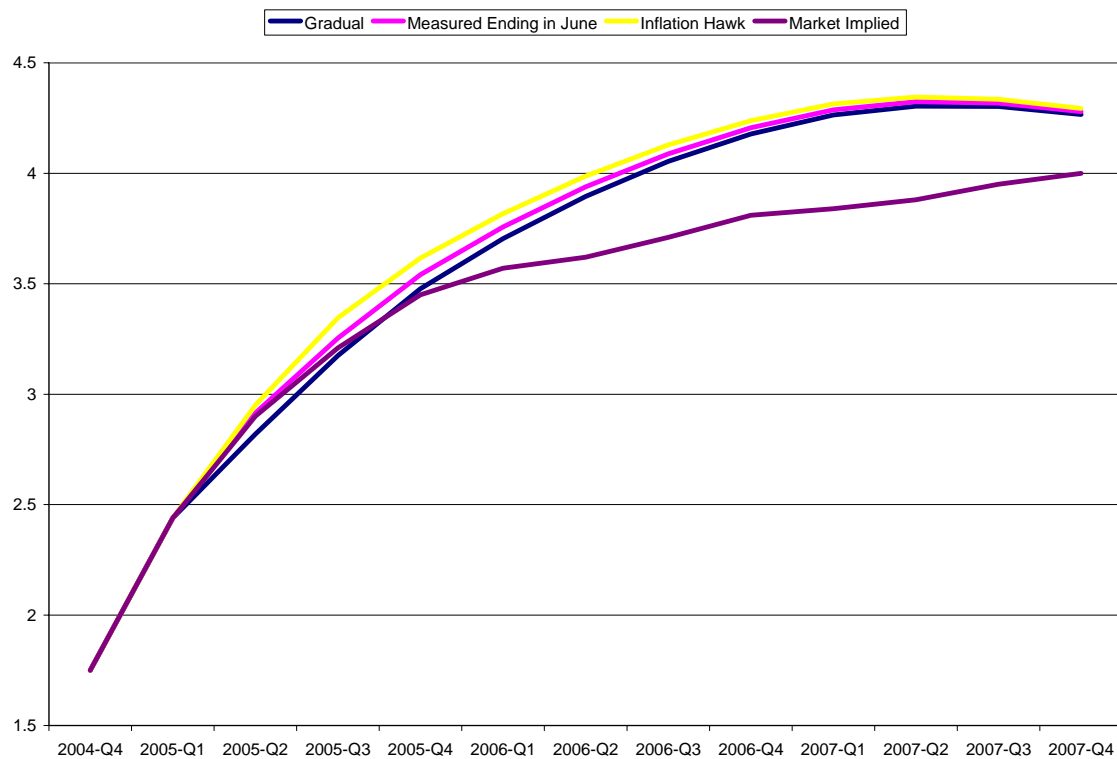
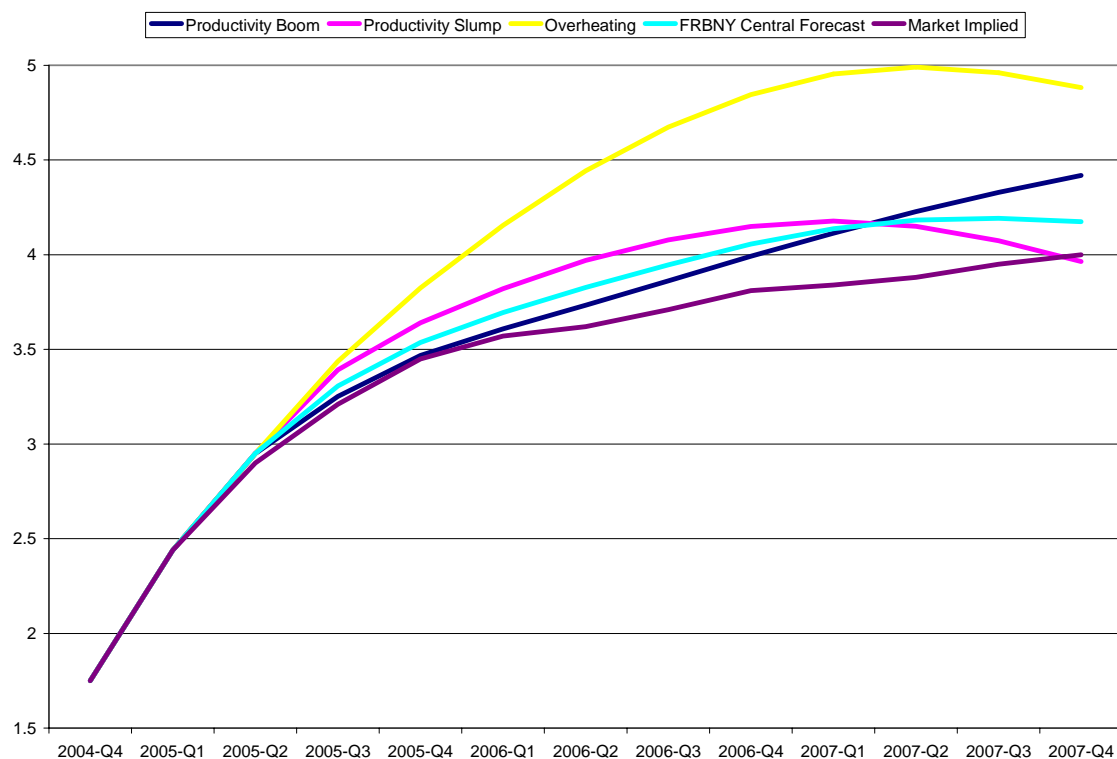


Exhibit D-2: Alternative Scenarios: Nominal FFR



D. FRBNY Fed Funds Rate Projections

Exhibit D-3: Alternative Scenarios: Real Federal Funds Rate

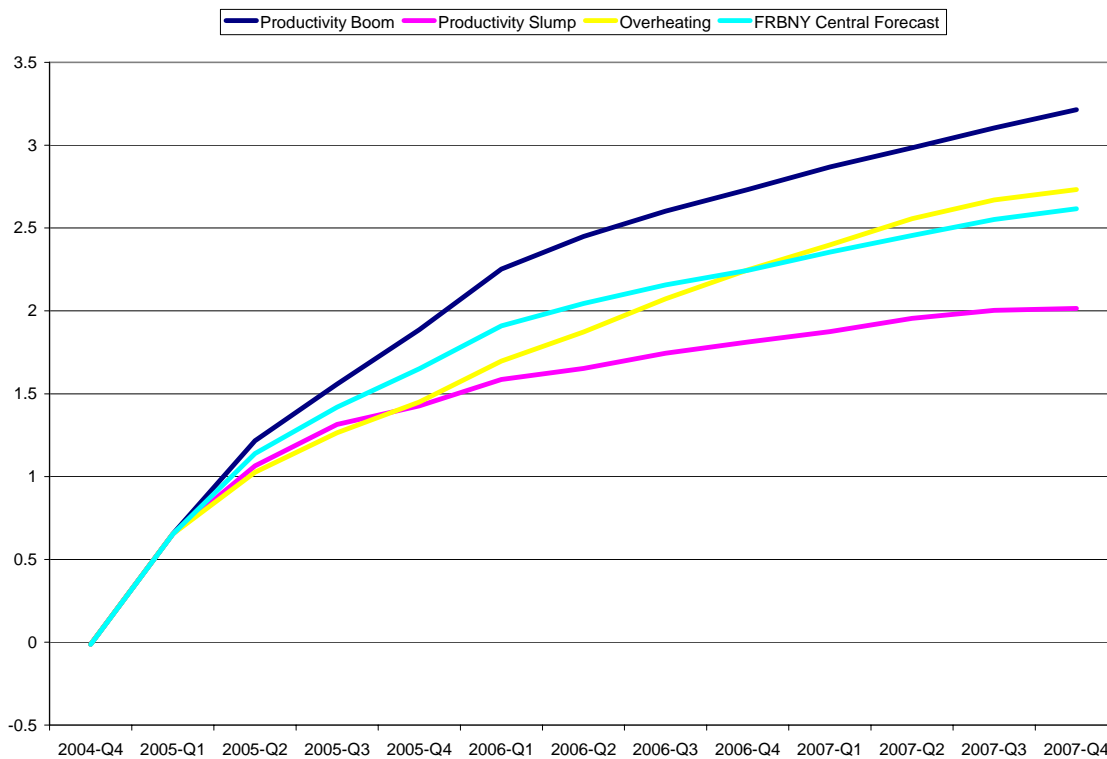
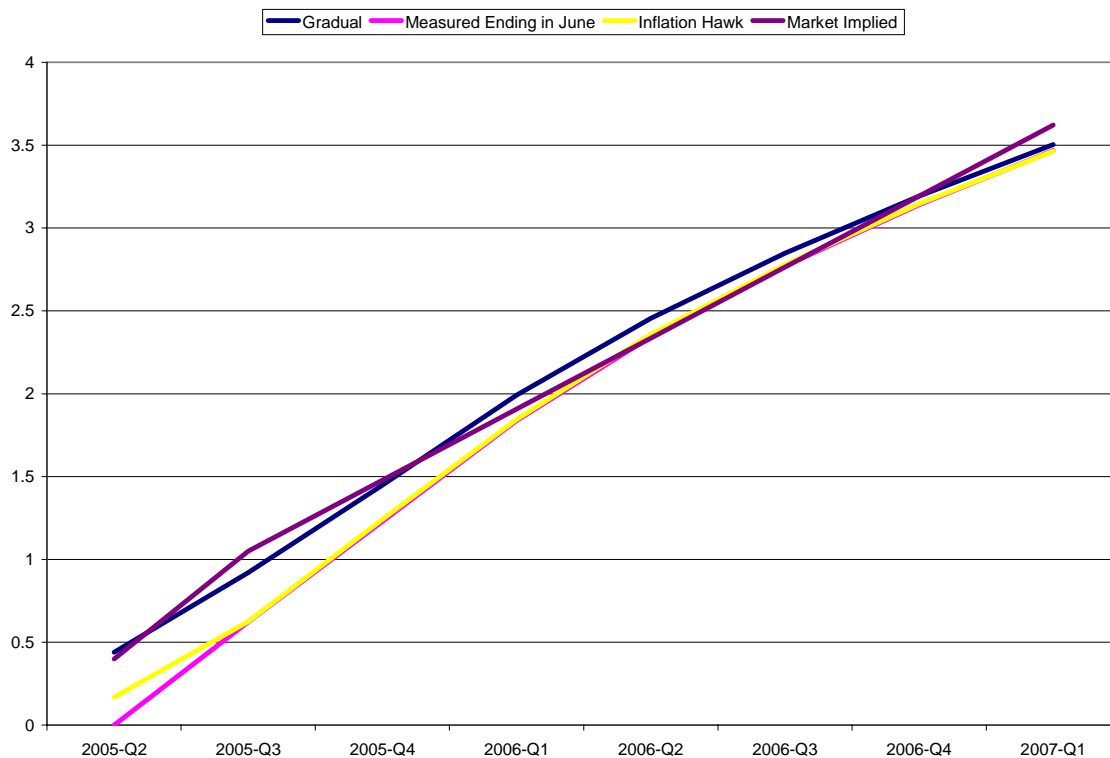


Exhibit D-4: Implied Volatilities from the Forecast Distribution and the Market



E. Regional Charts

Exhibit E-1. Federal Reserve Bank of New York's Indexes of Coincident Economic Indicators

The chart in this exhibit shows our monthly coincident indexes for New York, New Jersey and New York City up through March 2005. The indexes are a composite of 4 economic indicators: payroll employment, unemployment rate, average weekly hours in manufacturing, and real wage & salary earnings.

More details on the methodology and construction of these indexes can be found at http://www.ny.frb.org/research/regional_economy/coincident_summary.html

Source: FRBNY

Exhibit E-2. Federal Reserve Bank of New York's Indexes of Leading Economic Indicators

This chart shows the growth in our monthly leading indexes for New York, New Jersey and New York City up through February 2005. The growth in the index for a given month represents a forecast of the growth in the coincident index 9 months ahead. The components used in these three indexes differ slightly, but include: housing permits, stock prices, the national leading index, the lagged coincident index.

[NOTE: This index is not released publicly.]

More details on the methodology and construction of these indexes can be found at: http://www.ny.frb.org/research/regional_economy/coincident_summary.html

Source: FRBNY

Exhibit E-3. Private-Sector Job Growth in the U.S. and the Region

This chart shows the 12-month growth rate of private-sector employment for New York-New Jersey (combined), New York City, and the U.S. (bars). Underlying data can be found at:

<http://stats.bls.gov/news.release/laus.t06.htm> and
<http://stats.bls.gov/news.release/metro.t02.htm>

Source: U.S. Bureau of Labor Statistics

Exhibit E-4. Unemployment Rates

This chart shows the monthly unemployment rate for New York State, New Jersey, New York City, and the U.S. from 1992 to present.

Source: U.S. Bureau of Labor Statistics, New York State Dept. of Labor and the New Jersey Department of Labor.

Data can be found at:

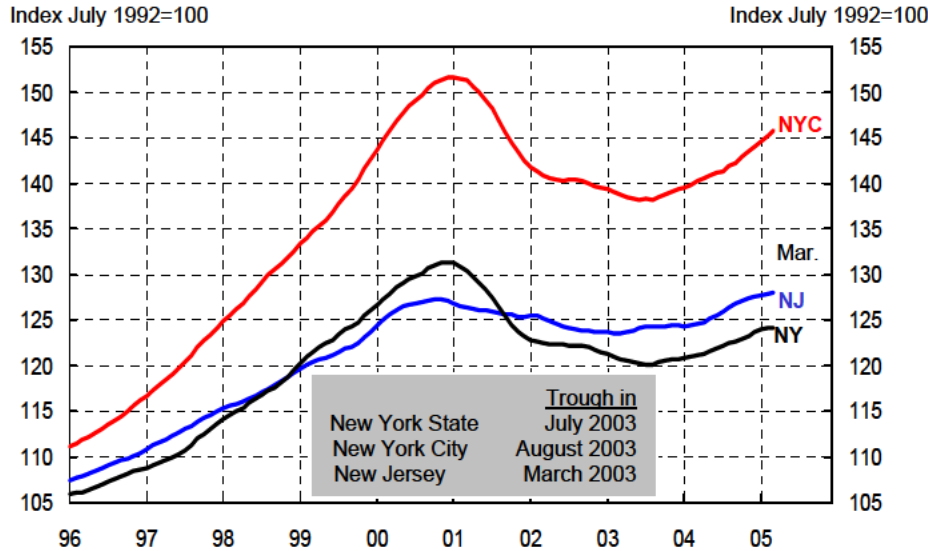
<http://www.labor.state.ny.us/agency/pressrel/pruistat.htm>

<http://www.wnjp.in.net/OneStopCareerCenter/LaborMarketInformation/lmi16/release1.htm>

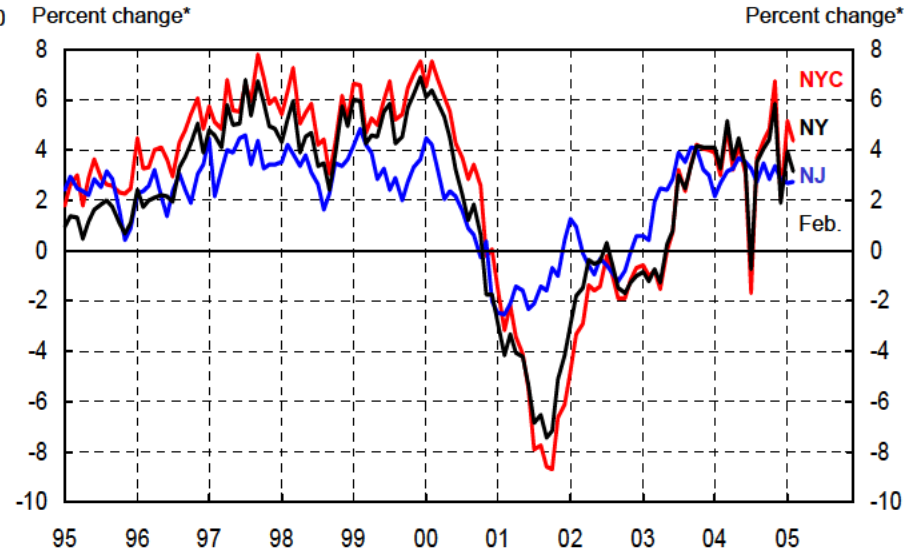
Sources: U.S. Bureau of the Census, NYC Rent Guidelines Board, Federal Reserve Bank of New York calculations.

E. Regional Charts

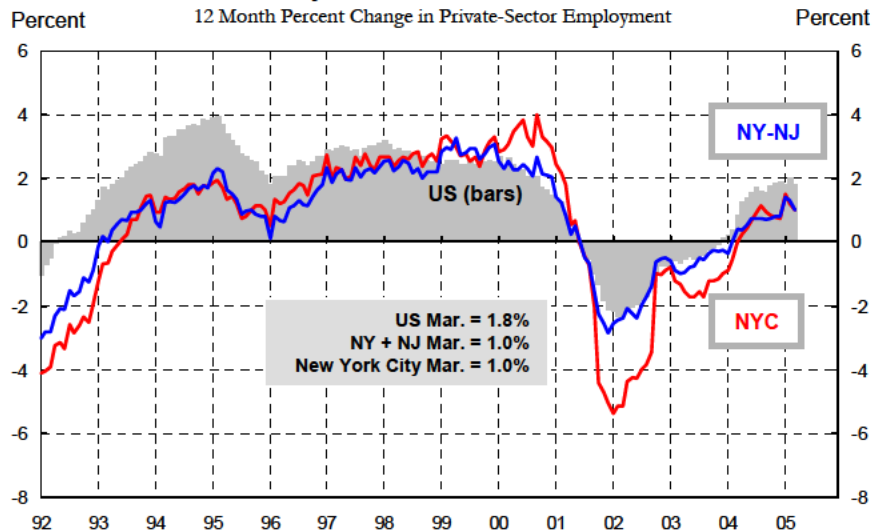
E1: INDEX OF COINCIDENT ECONOMIC INDICATORS



E2: INDEX OF LEADING ECONOMIC INDICATORS



E3: PRIVATE-SECTOR JOB GROWTH: U.S. AND THE REGION



E4: UNEMPLOYMENT RATES

