

FRBNY Blackbook

RESEARCH AND STATISTICS GROUP

FOMC Background Material

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FRBNY BLACKBOOK

August 2005

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1. Overview

Although the June inflation numbers were lower than expected, the increased strength of final demand and revisions to PCE inflation measures in 2004 have kept our forecast of inflation basically unchanged from June. Our forecast of 2% core PCE inflation in 2006 is very close to the Greenbook forecast. In addition we assess a similar level of uncertainty around this forecast; hence in the short run there is still considerable risk of inflation exceeding implicit targets by 1 percentage point.

The weakness in manufacturing of the late winter to early spring is now confirmed as having been an inventory cycle rather than a harbinger of longer-term weaker growth. Thus, our real activity forecast is little changed in the near term. However, we have reduced slightly our estimate of potential based on recent labor market data and revisions to the NIPA. Short-run potential also has been reduced in the Greenbook but their adjustment was considerably larger, leading to a relatively large drop in their output forecast for 2006. The Greenbook sees faster growth in 2005H2 than our forecast does, hence the difference in projected total growth over the next 6 quarters is small.

As in June we do not believe that remaining margins of slack will put any meaningful downward pressure on inflation over the next year. The Greenbook is now much closer to this viewpoint as its output gap is now projected to be effectively closed by the end of 2005.

Therefore, our central projection remains consistent with a continued removal of policy accommodation with a terminal value of the FFR between 4 and 4.5%. Unless inflation comes down closer to implicit targets, it might make sense for the FFR to go to the higher part of this range. This would be slightly above the path currently priced into markets but only a small surprise given the market's level of uncertainty about the FFR in 2006.

Consumer survey measures of inflation expectations have been stable. Implied CPI inflation rates in the TIPS market fell initially in the inter-meeting period but more

recently have increased and now are approximately unchanged since the last FOMC. If these forward-looking measures stay near recent levels in the wake of the recent record high of oil prices it would be a further sign of very well-contained expectations of underlying inflation. Other financial market indicators are consistent with long-run inflation remaining well-contained and an increase in confidence about real growth prospects.

The overall uncertainty assessed around our inflation and output forecast remains very low compared to historical experience. Similarly, market measures of future uncertainty remain at historically low levels. There is little indication of much additional uncertainty being priced in early 2006 despite the fact that the measured language probably will be removed from the FOMC statement and that a new Chair of the Federal Reserve has yet to be announced. In our simulations we examine a policy rule that assumes that the measured pace language is followed by a period of inertia in FFR (unless economic conditions change dramatically) in an attempt to match the market data. However, this simulation produces a large increase in uncertainty about the FFR in the second half of 2006 that is not present in market prices. One possibility is that fundamental volatility is permanently lower. Another possibility is that the markets expect the FOMC to continue to provide forward looking information on the path of the FFR even after the end of measured pace period.

2. Recent Developments

U.S.

Summary. The data released since the last FOMC meeting indicate continued upside risk of inflation exceeding the 1½% implicit target and some short-term upside risk to real activity. Price inflation data recently have shown some moderation--though the path of core PCE inflation was raised significantly as part of the "annual" GDP revision. Spending, output, and employment continued to grow on an astonishingly smooth path. As anticipated, business took major steps to pare inventory buildups in Q2, but a large positive net exports GDP growth contribution offset this negative to output growth. The monthly data suggest that industrial activity is regaining momentum, led by the auto

industry. Consumer spending was strong—in large part reflecting the impact of the “employee pricing” discounts on 2005 domestic car and light truck models—and the labor market displayed steady growth in payroll employment.

Inflation. Major measures of U.S. price inflation recently have been lower than they were earlier in the year [see Exhibit A-6]. The CPI ex-food and energy rose at a 2% annual rate in Q2, below Q1’s rate of 2.6% and Q4’s rate of 2.3%. The 12-month growth in this series was 2.1% through June, the smallest such gain since last October. The PPI indexes for June were generally little changed or down from May, and 12-month gains in these indexes at all levels (final, intermediate, or crude goods, total, and excluding food and energy) were also at levels not seen since at least early 2004. Growth in the PCE price indexes has also slowed, although the recent path of total core PCE inflation was revised upward as part of the GDP “annual” revision. Both the total and market-based core indexes were unchanged from May to June. The year-to-year gain in the core PCE index fell back below 2% in June for the first time since last August, while the core market-based index edged closer to 1½%. Our underlying inflation gauge was stable over the inter-meeting period, indicating little change in the overall assessment of inflationary pressures from the data [see Exhibit A-7].

The upward revision in the core PCE index added an average of about 0.6 percentage points to the annual rate of growth of this measure in the period 2004Q1-2005Q1. Three roughly equal factors accounted for the bulk of the revision: 1. A correction in the computation of medical insurance prices that resulted in higher growth in 2004; 2. A change in the methodology used to price the imputed service depositors receive from commercial banks. This had little effect on longer run growth of price aggregates, but it was a net positive influence in the year ending late 2004; 3. A reduction in the assumed trend in the growth of imputed real services received from non-bank, non-insurance, financial entities. The reduction in real growth, combined with little change in the current-dollar measure, meant faster growth in the implicit price of these services. The revisions largely occurred in sectors wholly or mostly outside the market-based sectors, hence there was little change in the market-based price series. Of these three

factors, only the third could have a possible ongoing influence on the inflation trend. In fact, there were no substantive positive revisions in the monthly growth of the core PCE index after February and the net revision in the three months ending in May was down, though the currently reported annual rate of 2% still may be uncomfortably high.

Real activity. According to the advance estimate, real GDP growth in 2005Q2 was 3.4% (annual rate), near our 3¼% estimate of the potential growth rate. Consumption grew at nearly the same rate while fixed investment spending rose briskly. Inventory investment was a large drag on GDP growth in the quarter, but it was largely counteracted by a large positive growth contribution from net exports.

Indicators of real activity suggest continued well-maintained aggregate growth. Final demand indicators, particularly consumption, displayed additional strength. Real consumer spending was up 0.8% in June, reflecting the GM-incentive led gain in motor vehicle sales. July motor vehicle sales were above 20 million units (annual rate) for the first time since October 2001. Housing starts have been little-changed in recent months at very high levels, but sales and prices at or near record levels. Orders for nondefense capital goods excluding aircraft were up a sharp 3.9% in June, their best gain since January. Spending on nonresidential construction continued to stay flat at a level around 10% above its cyclical low.

Growth has recently been held down by an abrupt slowdown in inventory accumulation (monthly gains in the value of total business inventories went from 0.9% in January to 0.0% in May). The industrial production data suggest that process may soon end. Manufacturing output was up 0.4% in both May and June after small declines in March and April. The July labor market numbers show no growth in hours worked in manufacturing, but the industrial surveys suggest continued growth. Also, the 12-month change in our Tech Pulse index indicates that the high-tech sector continued to grow robustly.

Employment. Employment gains remain at a healthy rate. Nonfarm payroll employment rose 207,000 in July and the average increase over the last 6 months was just above 200,000. The average workweek was flat in July and growth in aggregate hours was only 0.2%; however, the July level is still consistent with expected strong Q3 GDP growth. The household numbers were consistent with the payroll ones. There was a strong increase in aggregate employment and the labor force in July, and as a result, the unemployment rate was stable at 5%. The labor force participation rate remained near 66%, but the employment-population ratio moved up to its highest level since 2002.

Compensation numbers were mixed. The four-quarter change in the Employment Cost Index was 3.2% in Q2, the lowest such gain in nearly 6 years. A slowdown in the growth of benefits held back the overall index. In contrast, average hourly earnings rose 0.4% in July, rather high by recent standards, but the 12-month gain was unchanged at 2.7%.

Surveys. Surveys of business activity were strong in July. The ISM manufacturing index set a new high for the year and the ISM service index remained at a level consistent with strong growth in the sector. In addition, the Chicago purchasing managers index, our Empire State index and the Philadelphia Fed index all rose strongly. The prices paid segments of these surveys were mixed, with a sharp falloff in the Empire State measure offset by a sharp increase in Chicago's. Initial responses suggest that August's Empire State index will be comparable to July's, but there will be a rebound in the prices paid index. The Conference Board's Index of Consumer Confidence retreated modestly while the Michigan Index of Consumer Sentiment rose fractionally in July; both are at levels consistent with maintained consumption growth. Short-term projections of price growth in the Michigan survey fell from 3.2% in June to 3.0% in July, and long-term projections edged up from 2.8% in June (its recent low) to 2.9%. Finally, June's 0.9% increase in the Index of Leading Indicators was the largest in over a year, and revisions in this index attenuated the slippage seen in the first months of 2005.

Global

Foreign GDP is projected to increase 2.4 percent (Q4/Q4) in 2005, matching last year's growth rate. The forecast is essentially unchanged since the last FOMC meeting. The expectation has been that global growth would accelerate in Q3 and the data so far have been consistent with this outlook.

Industrial Countries. Euro area data suggest the region grew slowly in Q2. Industrial production was weak in May, with no growth over the past year while orders were flat relative to recent months. Exports turned around a bit, but were still only up 4.4 percent in May over year-ago levels. The labor market, though, is showing some improvement with the number of unemployed down 1.7 percent over the 12 months through June. The key encouraging development has been the increase in industrial confidence in May and June. Japan likely had a significant slowdown in Q2 following unsustainably strong GDP growth in Q1. Still, employment and confidence data suggest that growth should remain solidly on track in the second half of the year. Employment rose 1.9 percent in Q2, its best performance in the last eight years. In June, the headline diffusion index of the Tankan survey for large manufacturers increased 4 points to +18 after two quarters of declines. The UK economy was sluggish for the first half of 2005, with GDP growth of only 1.5 percent. Consumer spending was notably soft. The Canadian growth forecast has been revised down slightly, as indicators suggest that a deterioration of net exports will offset strong domestic demand.

Emerging Economies. Chinese GDP growth remained robust in Q2. Domestic demand appears to have picked up after an apparent slowdown in Q1. Recent monthly data almost uniformly point to an upturn in domestic momentum. The demand for imported goods in Q2 was up 22 percent (saar), while industrial production picked up in May and June. Loan growth, previously an exception to the strengthening trend, has also turned up to 18 percent (saar) in June from 12 percent in May. The forecast continues to assume that growth will slow toward an 8 percent annualized pace in the second half of 2005 and in 2006, which is about the country's potential pace. China's exchange rate revaluation has not materially affected the forecast because of its small size. Data remain mixed

elsewhere in Emerging Asia, but on balance point to some improvement in economic activity. Exports in the region have remained strong and there are now signs that industrial production has bottomed out after struggling thus far this year.

Latin America's growth picked up in Q2 after a weak performance in Q1. Mexico's global activity index and industrial production were particularly strong in May. Industrial production looks to have increased 4 to 5 percent (saar) in Q2. However, an ongoing political scandal has dampened the outlook for investment in the second half of the year. Price pressures have eased more rapidly than expected, with the June growth rate of the CPI slipping into negative territory. In Argentina, data indicate that output growth picked up in Q2 after a surprise slowdown in Q1. Inflation accelerated in June with prices increasing 0.9 percent over the month.

Trade

The trade deficit fell slightly from \$56.9 billion in April to \$55.3 billion in May. The April-May average deficit was 2 percent below the 2005Q1 average. Still, the May deficit was roughly consistent with the monthly trade deficits since mid-2004. Over this period, import growth moderated after a dramatic surge at the end of 2003 and the first half of 2004 while exports managed to achieve relatively solid growth rates.

The initial GDP release has real net exports adding 1.6 percentage points to GDP growth in 2005Q2. (The calculation was made without June data and may be revised substantially.) The volume data improved more dramatically than the monthly nominal data would suggest as a sharp rise in oil prices masked the decline in import volumes. The outlook is for a significant payback in Q3. In particular, the positive impacts in Q2 of two of the most volatile components of net exports, agricultural exports and oil imports, are expected to be drags on GDP growth in Q3. In addition, non-oil imports should rebound in light of the expected boost to domestic demand from the end of the recent inventory correction.

The outlook is for net exports to be a 0.1 percentage point drag in 2005 on GDP growth (Q4/Q4) and a 0.3 percentage point drag in 2006. Despite the large contribution to growth in Q2, the forecast still assumes that net exports will be a drag over the course of the year with import volumes rebounding in the second half. The current account deficit is projected to drift higher over the forecast horizon, approaching 7 percent of GDP by the end of 2006.

Financial

Domestic markets

Developments in domestic financial markets during the inter-meeting period largely reflected reactions to a surprisingly strong string of economic data releases indicating stronger growth and higher PCE inflation compared to prior market expectations. Bond markets responded by sending rates higher across the yield curve. The 1-year and 10-year rates are both over 30bp higher than they were on June 29: the 1-year rose from 3.54 to 3.90 percent and the 10-year from 4.06 to 4.37 percent. This shift of the yield curve was roughly parallel with only a slight flattening: the spread between the 10-year and 1-year fell slightly from 52bp on June 29 to 47 bp.

The expected increase in rates at the 1-year horizon and beyond also was reflected in the expected future path of Federal funds rates. The “endpoint” for the current path of expected increases increased and moved out further into the future – from 3.72 percent previously expected for the December 2005 FOMC meeting to 4.10 percent now expected for the February 2006 meeting.

TIPS contracts suggest that most of the upward shift in the yield curve reflects increases in expected future real interest rates rather than inflation rates. At the 2-, 5-, and 10-year horizons, the changes in implied forward inflation compensation rates were just 9, -3, and 13 basis points, respectively. The corresponding nominal forwards, by contrast, rose by 45, 34, and 20 basis points. These changes are consistent with higher expectations of future GDP growth as well as the upward revisions to the expected path of Fed actions over the next 6 months.

Beyond the surprising economic data, the major news events in markets were the London attacks on July 7 and China's policy announcement on the RMB on July 21. In response to the terrorist attacks, Treasury yields appeared unfazed and implied volatilities responded with a one-day blip, leading some to remark on financial markets' ability to digest the macro significance of such attacks. China's new currency policy created more waves. Bond market concerns that the new policy would reduce demand prompted a sell-off which pushed yields on 10-year Treasuries up by 10bp to 4.35 percent. The market subsequently rallied on indications that the policy shift signaled more gradualism than was initially suspected.

Despite data surprises and developments abroad, implied volatilities in most financial markets remained at relatively low levels. Consistent with this, spreads on investment grade and speculative corporate bonds fell, buoyed in part by the good economic news and corporate earnings. The sanguine risk attitude reflected in these measures is consistent with the inter-meeting rally in equity markets. Since the June 29 FOMC meeting the Dow is up 2.27 percent and the Nasdaq is up 5.92 percent.

Global Equity and Bond Markets.

Equity markets strengthened broadly during the inter-meeting period, with European indices rising four-to-five percent to their highest level since May 2002, and Japanese indices rising three percent. Strengthening corporate balance sheets in Europe, and continued foreign purchases in Asia and Latin America were the main drivers of the gains, outweighing the impact of rising interest rates.

Breaking their recent trend, global interest rates rose somewhat over the inter-meeting period, reflecting weaker prospects for interest rate cuts in Europe and mostly favorable macroeconomic news outside Europe. Notably, the yield on the 10-year German bund rose to 3.30 percent after reaching an historic low of 3.12 percent just prior to the June 30 FOMC meeting, with other euro area sovereign debt yields showing similar movements.

Persistently low dollar interest rates continue to benefit emerging market debt: the spread on the EMBI+ index over Treasuries fell by 18 basis points to 288 points.

Monetary Policy. Asynchrony in business cycles lies behind a tendency towards looser monetary conditions in Europe than in the Americas. Given higher-than-expected inflation and M3 growth, ECB officials continue to characterize the current policy stance as appropriate, despite signs of continued weakness that have been prevalent in recent months. Still, recent improvement in confidence measures, along with firmness by ECB officials have so far supported expectations of stable policy rates, with increasing likelihood of a rate hike next year. (During the inter-meeting period, the implied rate on the December euribor futures contract rose from 1.99 percent, just below the ECB's current policy rate, to 2.18 percent.) Sluggish macroeconomic conditions led the Bank of England to cut its policy rate by 25 basis points on August 4, with another rate cut likely before end-2005. For the time being, the Bank of Japan is expected to keep quantitative easing in place. However, hawkish comments by some Bank of Japan board members, and the recent internal debate on a "technical" reduction of the target for Japanese banks' reserve balances, has strengthened perceptions that the Bank of Japan Board would like to escape quantitative easing as soon as warranted. The Bank of Canada is hinting at a rate hike in the near future. Brazil and Mexico have just emerged from a tightening cycle. In contrast, Argentina continues with an easy policy stance, leading to rising inflationary pressures.

Exchange Rates and Capital Flows. Global focus in the inter-meeting period was dominated by China's reform of its exchange rate regime on July 21. The reform entailed a shift away from the previous virtual peg to the dollar, and the adoption of a commitment to keep the yuan's rate against an undisclosed basket of currencies within a +/- 0.3 percent band. On July 21, the reform effectively translated into an appreciation of 2.1 percent of the yuan/US dollar parity – from 8.28 to 8.11. Since July 21, however, the People's Bank of China has made no use of the flexibility offered by the new regime, and kept the yuan/dollar rate very close to its post-reform level of 8.11. This stance has dampened expectations of further RMB appreciation, and kept the prices of near-dated

Chinese NDF contracts, which project expected rates of RMB appreciation, similar to those prevailing before July 21.

Immediately following the PBOC's announcement, other Asian currencies appreciated against the dollar. Most such movements were reversed, however, when China's reform proved less momentous than first perceived, thus allowing country-specific factors to dominate inter-meeting exchange rates movements. In the event, the Korean won and Singapore dollar have remained stronger against the dollar, reflecting favorable country-specific data released after July 21. After appreciating following China's revaluation, the yen ended up almost unchanged against the dollar, also reflecting concern over incoming challenges to PM Koizumi, in particular difficulties with the postal reform bill.

Weakening expectations of falling euro area policy rates and diminished focus on political discord within the European Union left the euro marginally stronger. Most Latin American currencies appreciated, reflecting continuing appetite for emerging market risk, although domestic concerns and the end of a policy-tightening cycle weighed on Brazil's real, which depreciated about 2 percent against the dollar. After a short-lived burst on July 21, (option-implied) expected future volatility of the major exchange rates has retrenched to its low levels of end-Summer 2004, well below its early-2005 peaks.

Behind the cloud of country-specific events, however, lies the picture of a U.S. dollar whose appreciating trend since January 2005 has broken in the inter-meeting period, despite the release of favorable U.S. macroeconomic news. From June 30 to August 2, the dollar's changes with respect to the yen and euro, as well as in nominal effective terms, have all been contained within half of a percent. Rising interest rates abroad may be the proximate driver of such a break. More structurally, however, the dollar's recent performance may signal the re-emergence of longer-term downward pressure, linked to the country's external imbalance, which seemed to have moved temporarily backstage in recent months.

Capital flows to the United States continue at a smooth pace, despite a decline in net changes in both external assets and liabilities in 2005Q1, driven by usually-volatile inter-

bank flows. Foreign purchases of U.S. bonds remain strong, with purchases of U.S. equities and direct investment also holding up well. These steady flows largely reflect the fact that the United States, as the main destination of global capital flows, is expected to borrow \$805 billion in 2005. This projected deficit matches a projected surplus saving in Japan and in the ten major developing Asian economies (expected at about \$400 billion in 2005 as a whole), in the fifteen major Western European countries and Canada (\$100 billion), and in Russia and other oil-producing countries (\$270 billion). Flows from emerging Asia continue taking mostly in "official" form, with the region's central banks increasing foreign currency reserves by \$160 billion in the first half of 2005. (China alone increased its holdings by \$110 billion.) Most of these purchases were likely of U.S. official assets.

Oil Markets

Rigid oil supply conditions and uncertainty spurred by the death of Saudi Arabia's King Fahd, pushed oil prices to record highs in early August, reaching \$61.38/barrel on August 4 from \$56.50/barrel on June 30 (all prices refer to WTI). Global oil demand growth appears to have moderated in the first half of 2005, and is expected to fall to nearly half of its 2004 pace for the year as a whole. Yet, limited spare capacity in OPEC countries has sustained oil prices since the beginning of the year, and is expected to continue doing so over the medium term. Indeed, oil price futures have increased on par with spot prices, with WTI December 2006 futures rising from \$58.80/barrel on June 30 to \$63.80/barrel on August 4th. (FRBNY assumptions, based on the average of oil futures for the week ending July 29th, are that oil prices in 2005Q4 and 2006Q4 will be \$61.00 and \$61.50 respectively.)

Second District

Our Indexes of Coincident Economic Indicators for June signal further slowing of growth in New Jersey, but a bit of a pickup in New York as well as steady and strong growth in New York City [Exhibit E-1]. Looking ahead to the next 9 months, our leading indexes predict that all three economies will grow at a roughly 2½% annual rate [Exhibit E-2]. Consumer price inflation in metropolitan New York City continued to recede in June

from its March/April spike. The overall CPI rose 2.3% from a year earlier and the core CPI rose 1.8%—in both cases, roughly a full point lower than in May. This marks the first time since 2001 that inflation has been lower locally than nationally. A modest rollback in New York State's sales tax rate in June likely contributed only slightly to this deceleration. Instead, much of June's decline represents a further pullback in shelter costs from the unusually sharp spike in March/April.

Labor Markets. In June, private-sector employment in the region rose at a 1.2% annual pace, the same pace as in May. Growth was slightly faster in New York and slightly slower in New Jersey. Year-over-year, private-sector employment increased about 1.2% in the New York-New Jersey region and 1.3% in New York City, somewhat less than the 1.8% national increase [Exhibit E-3]. In June, New Jersey's jobless rate edged up 0.1 percentage point to 4.0% and New York's rate edged down 0.1 point to 4.9%. New York City's rate fell nearly half a point to 5.5%, which is close to the cyclical low (5.2%) of the late 1990s boom [Exhibit E-4]. Although district job growth has been about ½ percentage point below the national rate, population and labor force growth have been a full point below. Thus, regional unemployment has fallen markedly over the past year and is below the U.S. average for the first time since the late 1980s.

Real Estate. Construction activity across the district remained robust in the second quarter. While the volume of single-family housing permits softened modestly in the first half of 2005, multi-family permits were more than 30% above 2004 levels (which were, in turn, up about 30% from 2003). Much of the surge in new apartment construction has been in the New York City metro area. Home price appreciation over the past year remained well over 10% across most of the region, though the number of transactions has slipped moderately from a year earlier. Office markets in metropolitan New York City showed signs of strengthening in June and July.

Surveys and Other Business Activity. Recent surveys of businesses and consumers suggest renewed signs of strength in the regional economy. Our July Empire State Manufacturing Survey indicated a brisk rebound in general business conditions as well as

in new orders and shipments. Survey results also indicated further deceleration in prices paid and a flattening in prices received. Consumer confidence improved in July according to two separate surveys. The Conference Board's index, covering New York, New Jersey and Pennsylvania, rebounded briskly in July after sinking to a 6-month low in June. Siena College's latest survey of New York State residents showed confidence climbing for the third consecutive month to its highest level since January.

3. Outlook

FRBNY's Central Forecast

Real Activity. Real GDP growth has averaged 3.7% (annual rate) over the last seven quarters with a standard deviation of less than 0.4 percentage point. In the very near term growth is expected to be on the high side of this range, reflecting the reversal of the recent slowdown in inventory accumulation. After this adjustment, most of the same slowly evolving forces that have influenced activity in this period still seem to be at work: Household demand should continue to be well-maintained, sustained by robust income growth, and capital spending is expected to grow steadily as nonresidential construction emerges from the doldrums. Homebuilding is expected to fade as a source of growth but stay at a high level. Federal spending growth is expected to remain near recent modest levels; however, state and local spending growth will stay firm with improved finances. Also, the long-term drag from real net exports should fade as growth firms elsewhere and the dollar's depreciation of recent years has some impact. Thus, the central tendency for growth will likely remain about 3½% through 2006. We see this as a sufficient pace to continue the downward drift in the unemployment rate to roughly 4¾% at the end of 2006. By 2007, we anticipate that the effect of the cumulative tightening of monetary policy will become evident and growth will edge down a touch to around 3¼% (near our estimate of the potential growth rate) with a stable unemployment rate.

Inflation. The fundamental driving force in our inflation outlook is our belief that there is little if any slack left in the economy. Therefore, with growth expected to be around potential, there would be no strong reason for the underlying inflation trend to change

greatly in the near future. However, the recent lower monthly numbers have confirmed our earlier analysis that temporary factors were major contributors to higher core inflation in the early part of the year. The upshot is that we still anticipate that the growth of the core PCE index over the near term will remain under the fairly brisk pace of Q1.

Nonetheless, the upward revisions to the PCE index have boosted the recent history of inflation. Since that base was boosted we modestly increased the forecast inflation rate for all of 2005 and for 2006 to about 2%. By 2007, with monetary tightening starting to hit home and some modest degree of slack re-surfacing, we anticipate that core PCE growth will drift down to about 1¾% in the latter part of the year.

Comparison with Greenbook Forecasts

GDP and Inflation Forecast. [See Exhibit A-2] While the FRBNY and Greenbook (GB) forecasts do not paint starkly different pictures of economic conditions through the end of 2006, and in particular the inflation outlook across the two forecasts has converged (towards ours), the degree of slack imbedded in the two forecasts seems to differ somewhat. This difference between the two forecasts is suggestive of different judgments regarding the trend inflation rate.

Both forecasts have raised the assumed FF rate paths through the end of 2006, with the GB estimate rising 50 bp since June to 4.25%, and ours by 25 basis points to 4.25%. The GB has marked down its estimate of real GDP growth in 2006 to 3.1% (equal to the GB estimate of potential), while ours is above potential at 3.5%. Our forecasts for all measures of inflation in 2006 are little changed, but the GB estimates have increased so that both forecasts now paint a similar inflation picture in that year. Both forecasts also imbed similar labor productivity and unit labor costs assumptions--despite the more rapid growth in compensation per hour assumed in the GB. However, our forecast has the unemployment rate fall in 2006 to 4.7% while the GB keeps it as 5.0%. Our pace of job growth is about 10,000 per month more than in the GB, with the gap reflecting an increase in our assumed pace relative to June and a drop in theirs.

In summary, the GB seems to generate a similar inflation outcome to ours--particularly in the core PCE--but does so without “pushing” very hard (or at all) on real resources. One interpretation of this might be that inflation of 2.0% is the (implicit) judgmental trend in their model. This interpretation is consistent with the use of 2.0% core PCE as the “baseline path” in the alternative simulations below. The GB forecast does not extend through 2007.

Alternative Board Scenarios. There are four alternative scenarios considered in the GB, and each is constructed using one of two assumptions about monetary policy. The first assumption holds the FF rate on its baseline path, and the second adjusts the FF rate from its baseline path according to a Taylor rule with parameters 1.5 on deviations of core PCE from its baseline path and 1.0 of deviations of output from its baseline path.

Scenarios 1 and 2: Stronger demand

Assumptions: spending on equipment and software accelerates to 14% in 2006--a pace that is similar to last year's and about 5% stronger than is assumed in the baseline GB forecast, the saving rate rises less than in the baseline, residential investment grows at 5% in 2006 rather than leveling off as assumed in the baseline.

With no policy response: GDP growth is 1.5% higher than the baseline in 2006, unemployment is 0.8 percentage point lower, and inflation is at 2.2%.

With policy response: GDP growth is 1.1% higher than the baseline in 2006, unemployment is 0.6 percentage point lower, and inflation is at 2.1%. The FF rate would have to rise to 5.5% by the end of 2006.

Summary: There is very little inflation generated in this scenario whether or not policy responds, despite the fact that output growth is over 1.0% higher than potential.

Scenarios 3 and 4: Weak business demand

Assumptions: Desired and actual inventory to sales ratio fall more than in the baseline, spending on equipment and software is damped, and nonresidential construction is flat through the end of 2006 rather than rising modestly as in the baseline.

With no policy response: GDP growth is 0.6% lower than the baseline in 2006, unemployment is 0.5 percentage point higher, and inflation is at 2.0%.

With policy response: GDP growth is 0.3% lower than the baseline in 2006, unemployment is 0.3 percentage point higher, and inflation is at 2.1%. The FF rate would have to rise to 3.75% by the end of 2006.

Summary: Inflation is not very sensitive to this scenario, regardless of the policy response.

Scenarios 5 and 6: More room to grow

Assumptions: This scenario “takes its cue” from the recent weakness in the ECI and assumes that the NAIRU is 4.25% (roughly 0.75% below the staff estimate), implying considerable slack remains.

With no policy response: GDP growth is 0.2% higher than the baseline in 2006, unemployment is 0.1 percentage point lower, and inflation is at 1.9%.

With policy response: GDP is same as above, unemployment is same as above, and inflation is same as above. The FF rate does not really change from its baseline.

Summary: The intuition for the lack of response here is that it would take policymakers time to ascertain that the NAIRU was different from the baseline.

Scenarios 7 and 8: Less room to grow

Assumptions: This scenario assumes less slack than in the baseline, with a NAIRU of 5.75%.

With no policy response: GDP growth is 0.1% lower than the baseline in 2006, unemployment is 0.2 percentage point higher, and inflation is at 2.5%.

With policy response: GDP is same as above, unemployment is same as above, and inflation is same as above. The FF rate doesn't really change from its baseline.

Summary: Policymakers would wrongly hold onto the assumption that output is below potential, thus there is little deviation of the FF path even under the policy response.

Foreign Outlook. Our forecast is similar to the Board's forecast for industrial countries with the notable exception of Japan. We have 2005 growth of 1.7 percent (Q4/Q4) while

the Board anticipates 2.2 percent growth. The difference is that we believe that strong Q1 data overstate the economy's health and consequently have slower growth for the rest of the year, bringing the Q4/Q4 rate slightly above our 1.5 percent estimate of Japan's potential growth rate. For developing economies, the key difference is our more optimistic forecast for China, which is due, in part, to our view that potential is close to 8.0 percent while the Board has potential near 7.5 percent.

U.S. Trade. The difference between our forecast and the Board's is largely limited to projections for Q3. We have net exports being a 0.9 percentage point drag on GDP while the Board has only a 0.1 percentage point drag. The difference is almost entirely on the size of the rebound in imports following unusually weak data for Q2. The Board has non-oil imports growing at a near 7.5 percent rate in Q3, while we have a 9.5 percent increase. Our forecast is based on the assumption of relatively robust domestic demand in the quarter. In addition, the Board forecasts another decline in oil imports while we have an increase. For the year as a whole, the Board has oil imports down 1 percent, suggesting a meaningful response to higher energy prices, while we have oil imports up 3 percent, in line with recent trends and the strength of the economy.

Comparison with Other Forecasts

There is generally widespread agreement across the alternative forecasts with regard to both the real growth and inflation outlooks. The PSI model, which uses business sentiment and activity surveys, produces the weakest forecast for real GDP growth in 2005:Q3. The FRBNY outlook for real GDP is the strongest across the alternative forecasts for all quarters except 2005:Q2. There is particularly little disagreement with regard to the inflation outlook across these forecasts.

Alternative Scenarios and Risks

Alternative 1: Global Deflation. We introduced this scenario in the previous FOMC cycle as a possible explanation of the sizable declines in forward nominal interest rates at longer horizons in recent months. The scenario is related to changes in the world

economy, particularly the growth of the Chinese economy and the stagnation of the economies of Europe and Japan. The Chinese growth represents a shift in the aggregate supply curve, leading to higher growth and lower inflation in the US; while the European and Japanese stagnation represent a shift in the aggregate demand curve, leading to lower inflation and lower growth in the US. The net effect of these shifts has been unambiguous in terms of lowering inflation and lowering long-term yields. These developments have been supportive of recent growth in the US but the downside risk in this scenario comes from an abrupt slowdown in Chinese growth without a compensating increase in Europe or Japan generating a bad deflationary shock to the world economy.

Alternative 2: Productivity. 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 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 developments in the labor market and continued strength of labor productivity over the longer term—despite the recent short-term moderation—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 a upside surprises in labor productivity growth that bring the four-quarter average back above 3%, continued strength in consumption, and continued falls in the price of investment goods. Since the last FOMC, consumption has remained fairly strong; the tech sector has experienced robust growth with strong stock market appreciation; and there have been continued falls in the prices of some tech goods.

2.b Slower Productivity Growth

There is now some evidence of a slowdown in productivity growth in the last three quarters and there has been a downward revision to labor productivity growth in the last three years. Our central projection assumes this is only a temporary cyclical moderation in productivity growth, but there is downside risk to this assessment. Incoming data

supporting this scenario would be a sustained drop in the four-quarter productivity average below 2%, a slowdown in consumption growth, and a firming in the price of investment goods. If the increase in the level and volatility of commodity prices represents a shift in demand outside the US, this could also be associated with a fall in labor productivity.

Alternative 3: Overheating. The extremely accommodative policy followed in the US and other countries since the global slowdown of 2000-2003 may produce a persistent move in inflation above implicit targets with an abrupt slowdown in real output growth starting in late 2005/early 2006. There are two potential connected channels at work here. The first is a continued underestimate of the equilibrium real rate (i.e., an overestimate of slack in the economy) and the second is higher energy prices. 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. The evidence from housing, commodity prices, implied inflation rates from TIPS, exchange rates, and inflation reports since the last FOMC meeting has been mixed in this regard.

TIPS implied inflation rates had fallen significantly in the Spring but during the inter-meeting period they started to increase again, albeit to levels well below the Spring peak. While core inflation has moderated from the Spring, total core inflation continues to be relatively high compared to implicit targets and there were substantial upward revisions to PCE inflation in 2004. Oil prices are again at record highs and forecasts of core inflation in 2006 have moved up. Housing continues to be very strong with robust price increases. In addition, the increase in housing prices is likely to lead to an increase in rental rates that would have a direct impact on inflation. The increase in housing prices and the expected increase in rental prices might, however, be a permanent adjustment to the lower equilibrium real rate. The change in China's currency policy could begin a process whereby dollar depreciation and higher import prices could contribute to rising inflation and inflation expectations.

Exhibits C-2 and C-3 show the path of inflation and output under the alternative scenarios compared to the Bank's central scenario forecast.

Additional Uncertainties

Foreign Outlook. The ability of foreign economies to absorb higher energy prices remains the key risk to the global outlook. Recent data generally have been reassuring about Q3 growth, but oil futures have WTI prices near \$64 per barrel at the end of 2006, 7 percent higher than the futures price at the time of the last FOMC meeting. Limited oil production capacity may mean that oil prices will continue to rise until global growth is affected.

Although the market reaction to the change in China's currency regime has been quiet thus far, the risk remains that speculation about future currency moves in China could lead to sizeable and destabilizing capital inflows to China and the rest of Emerging Asia. The opaque character of the new regime does little to ameliorate this risk.

In Latin America, the key risks concern the ability of the region to contain inflation pressures as well as political instability in Brazil and in other countries facing elections in the coming year. In Brazil, allegations of illicit payments to a congressman have caused asset price volatility in recent weeks and may continue to be a source of instability in coming months. Mid-term elections this fall in Argentina and presidential elections next year in Brazil and Mexico may also destabilize confidence. In Argentina, rising inflationary pressure is a key concern, along with the eventual need for the authorities to develop a strategy for dealing with holdout creditors and secure a new IMF program.

U.S. Trade Forecast. The forecast assumes the volume of non-agricultural exports will grow at a 10 percent rate in 2005 and 2006, an acceleration from the 7 percent rate achieved in the previous two years. The strong export growth forecast is tied to the dollar's steep decline from the beginning of 2002 through the end of 2004. The size and duration of the dollar's impact on export growth is a key uncertainty behind the forecast. A more immediate risk is that the rebound of import volumes in Q3 may be greater than

expected. Oil imports were down and non-oil imports were flat so the potential exists for an unusually large increase in import volumes in Q3.

Quantifying the Risks. The incoming data have been generally consistent with our central scenario but the revisions to core PCE and changes in China's currency policy have produced a change in the mix of the risks. We are keeping the current probability assessment of the central scenario at 67% (it was 58% for the May FOMC), but **we are changing the balance of risks** by placing more weight on the overheating scenario and less on the productivity boom scenario. The global deflation scenario continues to complicate the interpretation of the balance of risks as simply upside versus downside risk. The scenario has a very low probability but it is assumed to be very persistent as it represents a structural change in the world economy. It produces downside risk to the forecast in late 2006 and 2007. In the forecast period before late 2006, the risks to the inflation forecast are a little to the upside and those to the output forecast to the downside compared to the approximate balance in June.

We assume that the most likely alternative scenario is now overheating at 12% (10% in June), next is a productivity slowdown at 8% (8% in June), followed by continued productivity surge at 6% (8% in June), and global deflation at 3% (3% in June). The remaining 4% covering the additional uncertainties is split 3% (June 2%) to the upside and 1% (June 2%) to the downside. The implied dynamic balance of risks is shown in Exhibit C-1.

The forecast distributions for core PCE inflation and GDP growth produced by these risk assessments are shown in Exhibits C-4 and C-5. The relatively high central inflation path and revisions to previous data increase the probability to 70% (55% in June) that core PCE inflation will exceed 2.5% by the end of 2007 (this probability is produced by considering the share of inflation paths that exceed 2.5% and cannot be obtained directly from the forecast distribution presented in Exhibit C-4). The probability that the expansion continues through the end of 2007 is 95% (95% in June). The FRBNY "confidence intervals" are different to those presented in the Greenbook for 2005. The

main difference is that we are slightly less confident in the output forecast and much less confident in the inflation forecast than the Greenbook. The latter is partly caused by the uncertainty induced by the recent large revisions to core PCE which we allow for in our forecast distribution.

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 the effects of different policy rule assumptions on the path of FFR. For this cycle we consider three variations on our standard gradual policy rule: measured ends at neutral; measured ends above neutral; and inflation hawk. The exact details of these rules are discussed in the preamble to the Section D exhibits. The main change in our risk assessment this cycle is a slight increase in short-run upside risk to inflation.

All three policy rules imply a higher level for the FFR in 2006 than presently is priced into financial markets. This is similar to the situation in the last cycle but the gap is smaller because of the relatively large increase in the implied market path since the last FOMC. The market endpoint has increased 30-40 basis points whereas our policy rules combined with the changes to the forecast distribution produce an increase of 10-20 basis points since the last cycle.

The reaction of financial markets over the last year—reflected in the movements in the tightening endpoint and forward rates—strongly suggest that the “neutral rate” perceived by markets is between 3.75 to 4.25%. Our policy rule has been adjusted to this interval from the wider 3.5 to 4.5% interval used in the last cycle.

The inflation hawk rule produce considerably more volatility than is currently priced into options markets at longer horizons as can be seen in Exhibit D-2. The two other rules produce substantially less volatility through the end of 2005.

If we focus on the rule that appears to be most consistent with market expectations for the next few meetings, measured ends at neutral, then the alternative scenarios of overheating and global deflation continue to have very different implications for policy in 2006 and 2007. Exhibit D-3 contains the path of the nominal FFR and Exhibit D-4 that of the real FFR.

As seen in Exhibit D-3, the projected path of the FFR is much higher under the overheating scenario in 2006 than in either our central projection or the market implied path. The path of the FFR under the global deflation scenario is very different from the other paths as the Fed reacts quickly to signs of deflationary pressures. As seen in Exhibit D-4 this does not prevent the real rate from becoming quite high in late 2005, in contrast to the overheating scenario where the real rate remains too low.

Finally we combine the different policy rules to produce an expected path and volatility of the FFR from the forecast distribution to compare to that priced into markets. The gap in the expected path is largest at the start of 2007 at about 40 basis points. We ran the alternative simulation from the previous cycle with the inflation target in the policy rule set at 1.75% and a larger initial output gap. In June this alternative matched the market implied path. Currently this produces an expected path from the forecast distribution averaged over the policy rules that is about 10-15 basis points lower than the market expected path as can be seen in Exhibit D-5. Further, the implied volatility around this path is higher than that currently priced into markets by mid-2006. In contrast using our standard assumptions the implied volatility is below the market implied path until 2007 and then rises above it by only a small amount.

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			
	Apr05	Jun05	Aug05	Apr05	Jun05	Aug05	Apr05	Jun05	Aug05	Apr05	Jun05	Aug05	Apr05	Jun05	Aug05	
2005 Q1	3.1	3.5	3.8	3.3	3.2	3.1	2.1	2.1	2.3	2.2	2.2	2.4	5.3	5.3	5.3	
2005 Q2	3.6	3.2	3.4	1.2	1.6	2.4	3.0	3.7	3.3	1.8	2.0	1.7	5.2	5.2	5.1	
2005 Q3	3.9	4.1	4.0	2.0	1.9	1.6	1.9	2.1	2.4	1.8	1.9	1.8	5.2	5.1	5.0	
2005 Q4	3.5	3.5	3.9	2.3	2.3	1.6	2.1	2.2	2.2	1.8	1.9	1.9	5.2	5.1	5.0	
2006 Q1	3.6	3.4	3.5	2.6	2.6	2.6	2.1	2.2	2.2	1.8	1.9	2.0	5.2	5.1	4.9	
2006 Q2	3.6	3.6	3.5	2.1	2.2	2.2	2.1	2.2	2.2	1.8	1.9	2.0	5.2	5.1	4.8	
2006 Q3	3.6	3.6	3.5	2.2	2.2	2.3	2.2	2.2	2.3	1.9	1.9	2.1	5.2	5.0	4.8	
2006 Q4	3.7	3.7	3.5	2.3	2.3	2.2	2.2	2.2	2.3	1.9	1.9	2.1	5.2	5.0	4.7	
2007 Q1	N/A	N/A	3.3	N/A	N/A	2.6	N/A	N/A	2.2	N/A	N/A	2.0	N/A	N/A	4.7	
2007 Q2	N/A	N/A	3.3	N/A	N/A	2.1	N/A	N/A	2.1	N/A	N/A	2.0	N/A	N/A	4.7	
2007 Q3	N/A	N/A	3.3	N/A	N/A	2.0	N/A	N/A	2.0	N/A	N/A	1.7	N/A	N/A	4.7	
2007 Q4	N/A	N/A	3.3	N/A	N/A	1.9	N/A	N/A	1.9	N/A	N/A	1.7	N/A	N/A	4.7	
2003 Q4 to 2004 Q4	3.9	3.9	3.8	2.4	2.4	2.9	2.6	2.6	3.1	1.6	1.6	2.2	-0.4	-0.4	-0.4	*
2004 Q4 to 2005 Q4	3.5	3.6	3.8	2.2	2.2	2.2	2.3	2.5	2.5	1.9	2.0	2.0	-0.2	-0.3	-0.4	*
2005 Q4 to 2006 Q4	3.6	3.6	3.5	2.3	2.3	2.3	2.1	2.2	2.3	1.8	1.9	2.0	0.0	-0.1	-0.3	*
2006 Q4 to 2007 Q4	N/A	N/A	3.3	N/A	N/A	2.2	N/A	N/A	2.0	N/A	N/A	1.8	N/A	N/A	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

A. Forecast Details

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

	FRBNY					Board				
	2005		2006		2007	2005		2006		
	JUN	AUG	JUN	AUG	AUG	JUN	AUG	JUN	AUG	
REAL GDP (Q4/Q4)	3.6	3.8	3.6	3.5	3.3	3.6	3.9	3.4	3.1	
GROWTH CONTRIBUTIONS(Q4/Q4)										
FINAL SALES TO DOMESTIC PURCHASERS	3.7	3.9	3.9	3.9	3.4	3.8	3.8	3.8	3.5	
CONSUMPTION	2.4	2.4	2.3	2.3	2.1	2.4	2.4	2.5	2.3	
BFI	0.8	1.0	1.1	1.1	1.0	0.9	0.6	0.9	0.8	
STRUCTURES	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
EQUIPMENT & SOFTWARE	0.8	1.0	1.0	1.0	0.9	0.8	0.6	0.8	0.7	
RESIDENTIAL INVESTMENT	0.1	0.1	-0.1	-0.1	-0.1	0.3	0.3	0.0	0.0	
GOVERNMENT	0.4	0.5	0.6	0.6	0.4	0.4	0.5	0.4	0.4	
FEDERAL	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	
STATE & LOCAL	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.3	
INVENTORY INVESTMENT	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	0.0	-0.1	
NET EXPORTS	-0.1	-0.1	-0.2	-0.3	0.0	-0.1	0.1	-0.4	-0.4	
INFLATION/PRODUCTIVITY/WAGES (Q4/Q4)										
GDP DEFLATOR	2.2	2.2	2.3	2.3	2.2	2.3	2.3	1.9	2.1	
PCE	2.5	2.5	2.2	2.3	2.0	2.5	2.6	1.7	2.1	
CORE PCE	2.0	2.0	1.9	2.0	1.8	2.1	2.0	1.9	2.1	
COMPENSATION PER HOUR	5.1	5.2	4.1	4.4	4.1	4.0	4.6	5.0	5.2	
OUTPUT PER HOUR	2.1	2.4	2.5	2.2	2.2	2.5	2.9	2.6	2.1	
UNIT LABOR COSTS	3.0	2.8	1.6	2.2	1.9	1.5	1.6	2.3	2.1	
EMPLOYMENT VARIABLES										
UNEMPLOYMENT RATE (Q4 LEVEL)	5.1	5.0	5.0	4.7	4.7	5.1	5.0	5.1	5.0	
PARTICIPATION RATE (Q4 LEVEL)	66.1	66.1	66.1	66.1	66.1	66.0	66.0	66.0	66.0	
NONFARM PAYROLL EMPLOYMENT (Q4/Q4 CHANGE)										
TOTAL, IN THOUSANDS	1962	2038	1779	2018	1788	2100	2200	1900	1800	
AVERAGE PER MONTH, IN THOUSANDS	164	170	148	168	149	175	183	158	150	
FINANCIAL MARKET VARIABLES										
FED FUNDS RATE (PERCENT)	3.50	3.92	4.00	4.25	4.25	3.50	4.00	3.75	4.25	
BAA BOND YIELD (PERCENT)	6.2	6.2	6.6	6.5	6.5	6.0	6.0	6.0	6.0	
EFFECTIVE EXCHANGE RATE (Q4/Q4 % CHANGE)	-1.2	-1.2	-3.0	-3.0	N/A	-1.0	0.8	-1.2	-1.3	

A. Forecast Details

Exhibit A-3: Judgment Table

													Q4/Q4 % CHANGE/Q4 LEVEL			
	2005:01	2005:02	2005:03	2005:04	2006:01	2006:02	2006:03	2006:04	2007:01	2007:02	2007:03	2007:04	2004	2005	2006	2007
REAL GDP AND COMPONENTS (% Change, AR)																
GDP.....	3.8	3.4	4.0	3.9	3.5	3.5	3.5	3.5	3.3	3.3	3.3	3.3	3.8	3.8	3.5	3.3
CHANGE IN INVENTORIES (GROWTH CONTRIBUTION) 1\.....	0.3	-2.3	0.9	1.0	-0.1	0.1	-0.1	0.0	-0.4	-0.1	0.0	0.0	0.2	0.0	0.0	-0.1
DOMESTIC PRIVATE PURCHASES.....	4.0	1.7	4.7	4.3	3.6	3.6	3.6	3.6	3.2	3.1	3.0	3.0	4.5	3.7	3.6	3.1
CONSUMPTION EXPENDITURES.....	3.5	3.3	3.5	3.3	3.1	3.3	3.4	3.3	3.1	3.0	2.9	2.8	3.8	3.4	3.3	3.0
BUSINESS FIXED INVESTMENT.....	5.7	9.0	12.4	11.5	10.0	10.5	10.5	10.5	8.8	8.8	8.6	8.6	10.9	9.6	10.4	8.7
RESIDENTIAL INVESTMENT.....	9.5	9.8	-5.5	-8.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	6.6	1.1	-2.0	-2.0
NET EXPORTS (GROWTH CONTRIBUTION) 1\.....	-0.4	1.6	-0.9	-0.7	-0.3	-0.3	-0.3	-0.3	-0.1	0.0	0.1	0.1	-0.9	-0.1	-0.3	0.0
EXPORTS	7.5	12.6	6.1	6.9	7.3	7.0	6.9	6.9	7.3	8.0	8.6	9.2	6.1	8.2	7.0	8.3
IMPORTS	7.4	-2.0	9.9	8.5	6.7	6.5	6.5	6.5	5.2	5.2	5.1	5.1	10.6	5.8	6.5	5.2
FEDERAL GOVERNMENT.....	2.3	1.3	5.3	3.3	6.0	1.0	2.2	1.8	5.5	1.0	0.8	0.8	4.2	3.1	2.7	2.0
STATE & LOCAL GOVERNMENTS.....	1.6	2.4	2.5	2.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	0.9	2.2	3.0	2.5
INTEREST RATE ASSUMPTIONS (%)																
FEDERAL FUNDS RATE (TARGET) 2\.....	2.44	2.92	3.42	3.92	4.00	4.00	4.25	4.25	4.25	4.25	4.50	4.50	1.94	3.92	4.25	4.5
YIELD ON 10-YR GOVERNMENT.....	4.3	4.2	4.3	4.4	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.2	4.4	4.5	4.6
BAA BOND YIELD.....	6.0	6.0	6.1	6.2	6.3	6.4	6.5	6.5	6.5	6.6	6.6	6.6	6.2	6.2	6.5	6.6
INCOME (% Change, AR)																
PERSONAL INCOME.....	2.6	5.8	6.4	5.6	6.8	6.5	6.8	6.0	7.1	6.4	6.7	5.8	7.5	5.1	6.5	6.5
REAL PERSONAL DISPOSABLE INCOME.....	-2.9	1.4	3.9	3.3	4.5	4.3	4.5	3.6	5.0	4.3	4.7	3.8	4.1	1.4	4.2	4.5
PERSONAL SAVING RATE (% OF DPI).....	0.7	0.2	0.2	0.2	0.4	0.6	0.7	0.7	1.0	1.2	1.4	1.5	1.7	0.3	0.6	1.2
CORPORATE PROFITS BEFORE TAXES.....	24.5	22.1	2.3	1.7	-1.7	1.2	1.2	1.1	-2.2	2.1	2.0	1.9	9.6	12.1	0.4	0.9
PRICES & PRODUCTIVITY (% Change, AR)																
GDP IMPLICIT DEFLATOR.....	3.1	2.4	1.6	1.6	2.6	2.2	2.3	2.2	2.6	2.1	2.0	1.9	2.9	2.2	2.3	2.2
PERSONAL CONSUMPTION EXPENDITURES.....	2.3	3.3	2.4	2.2	2.2	2.2	2.3	2.3	2.2	2.1	2.0	1.9	3.1	2.5	2.3	2.0
CORE PERSONAL CONSUMPTION EXPENDITURES.....	2.4	1.7	1.8	1.9	2.0	2.0	2.1	2.1	2.0	2.0	1.7	1.7	2.2	2.0	2.0	1.8
CONSUMER PRICE INDEX.....	2.4	4.2	2.4	2.5	2.5	2.6	2.6	2.6	2.4	2.3	2.3	2.2	3.4	2.8	2.6	2.3
CORE CONSUMER PRICE INDEX.....	2.6	2.0	1.8	2.3	2.3	2.3	2.4	2.4	2.2	2.1	2.0	1.9	2.1	2.2	2.3	2.0
COMPENSATION PER HOUR (NONFARM BUSINESS).....	6.3	5.0	4.7	4.7	4.6	4.4	4.2	4.2	4.3	4.1	4.2	4.0	5.8	5.2	4.4	4.1
OUTPUT PER HOUR (NONFARM BUSINESS).....	2.9	1.9	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.8	2.4	2.2	2.2
UNIT LABOR COST (NONFARM BUSINESS).....	3.4	3.1	1.7	2.5	2.4	2.2	2.0	2.0	2.1	1.9	2.0	1.8	3.0	2.8	2.2	1.9
REAL ACTIVITY																
CAPACITY UTILIZATION (MANUFACTURING, %).....	78.2	78.2	78.8	79.4	79.6	79.8	80.1	80.4	80.8	80.9	81.0	81.1	76.7	78.6	80.0	81.0
CIVILIAN UNEMP RATE (%).....	5.3	5.1	5.0	5.0	4.9	4.8	4.8	4.7	4.7	4.7	4.7	4.7	5.4	5.0	4.7	4.7
PRIVATE HOUSING STARTS (THOUS, AR).....	2083	2012	2005	1980	1950	1900	1880	1870	1855	1840	1825	1810	1950	2020	1900	1833
LIGHT VEHICLE SALES (MIL\$, AR) 3 \.....	16.5	17.2	18.3	16.4	17.0	17.1	17.2	17.2	17.3	17.3	17.4	17.4	16.9	17.1	17.1	17.3
FEDERAL SURPLUS/DEFICIT (Unified Basis, Bil\$, NSA) 4\.....	-234.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	-412.1	-377.1	-301.5	#N/A

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

A. Forecast Details

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

	2005				2006				2007				Q4/Q4 % CHANGE/Q4 LEVEL			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2004	2005	2006	2007
REAL GDP (Growth, Annual Rate)	3.8	3.4	4.0	3.9	3.5	3.5	3.5	3.5	3.3	3.3	3.3	3.3	3.8	3.8	3.5	3.3
<u>Contributions to GDP growth:</u>																
FINAL SALES TO DOMESTIC PURCHASERS	3.9	4.2	4.0	3.5	3.9	3.7	3.9	3.8	3.7	3.3	3.2	3.2	4.5	3.9	3.9	3.4
CONSUMPTION EXPENDITURES.....	2.4	2.3	2.5	2.3	2.2	2.3	2.3	2.3	2.2	2.1	2.0	1.9	2.7	2.4	2.3	2.1
BUSINESS FIXED INVESTMENT.....	0.6	0.9	1.3	1.2	1.1	1.1	1.1	1.2	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0
RESIDENTIAL INVESTMENT.....	0.5	0.6	-0.3	-0.5	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.4	0.1	-0.1	-0.1
FEDERAL GOVERNMENT.....	0.2	0.1	0.4	0.2	0.4	0.1	0.2	0.1	0.4	0.1	0.1	0.1	0.3	0.2	0.2	0.1
STATE & LOCAL GOVERNMENTS.....	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.1	0.3	0.4	0.3
NET EXPORTS	-0.4	1.6	-0.9	-0.7	-0.3	-0.3	-0.3	-0.3	-0.1	0.0	0.1	0.1	-0.9	-0.1	-0.3	0.0
EXPORTS.....	0.7	1.3	0.6	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.9	1.0	0.6	0.8	0.7	0.9
IMPORTS.....	-1.1	0.3	-1.5	-1.4	-1.1	-1.1	-1.1	-1.1	-0.9	-0.8	-0.8	-0.8	-1.5	-0.9	-1.1	-0.9
CHANGE IN INVENTORIES	0.3	-2.3	0.9	1.0	-0.1	0.1	-0.1	0.0	-0.4	-0.1	0.0	0.0	0.2	0.0	0.0	-0.1

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

A. Forecast Details

Exhibit A-5: Alternative GDP and Inflation Forecasts

GDP

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		Prev*	Aug	Prev*	Aug	Prev*	Aug
FRBNY	8/5/2005	3.2	3.4	4.1	4.0	3.5	3.9
PSI Model	8/4/2005	3.3	3.4	3.3	3.2	--	--
Blue Chip	7/10/2005	3.2	3.2	3.3	3.3	3.3	3.3
Median SPF	5/16/2005	3.7	3.0	3.3	3.5	3.4	3.4
Macro Advisers	7/20/2005	3.6	3.5	3.7	3.7	3.7	3.7

CPI

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		Prev*	Aug	Prev*	Aug	Prev*	Aug
FRBNY	8/5/2005	4.6	4.2	2.4	2.4	2.5	2.5
Blue Chip	7/10/2005	3.9	4.2	2.1	2.4	2.4	2.4
Median SPF	5/16/2005	2.2	3.3	2.2	2.3	2.3	2.4
Macro Advisers	7/20/2005	4.0	4.4	1.7	2.6	2.3	2.4

Core CPI

	Release Date	2005-Q2		2005-Q3		2005-Q4	
		Prev*	Aug	Prev*	Aug	Prev*	Aug
FRBNY	8/5/2005	2.2	2.0	2.3	1.8	2.3	2.3
Macro Advisers	7/20/2005	2.4	2.2	2.4	2.3	2.5	2.4

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

A. Forecast Details

Exhibit A-6: Reference Table 1 - CONSUMER PRICE INDEX DATA AS OF JUNE 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	2.9	2.5	3.1	1.9	0.0	100.00	
Energy	12.1	7.4	14.1	7.5	-6.2	7.08	
All Items Ex Energy	2.1	2.1	2.1	1.4	0.6		
Food	3.0	2.3	2.3	3.4	0.6	14.38	
Food Away From Home	3.1	3.3	3.5	3.2	3.8	6.13	
All Items Ex Food and Energy	2.0	2.1	2.2	1.2	1.2	78.54	100.00
Core Chain-Weight CPI (NSA)	1.7	1.8	2.4	-0.4	-2.2		
Core Goods	-0.2	0.5	0.4	-0.3	-2.5	22.25	28.34
Apparel	-0.5	-1.5	-1.0	-5.2	-8.6	3.98	5.06
Medical Care Commodities	4.4	4.2	4.6	3.3	3.0	1.50	1.91
Durable Goods	-1.1	0.8	0.2	-0.3	-2.1	11.28	14.36
New Vehicles	0.3	0.7	1.0	0.0	0.0	4.82	6.13
Used Vehicles	-2.6	7.1	3.8	6.5	9.9	2.01	2.56
Core Services	2.8	2.7	2.9	1.7	2.1	56.28	71.66
Rent of Primary Residence	2.8	2.9	3.1	3.2	3.4	6.16	7.84
Owners' Equivalent Rent	2.4	2.2	2.7	2.3	2.1	23.38	29.77
Lodging Away from Home	4.2	2.9	1.2	-13.5	0.0	2.95	3.76
Medical Care Services	5.0	4.8	5.1	3.3	2.9	4.58	5.83
Transportation Services	2.0	2.5	3.0	4.4	4.9	6.32	8.05

A. Forecast Details

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

	Annualized Percent Change Over Indicated Interval				
	24 Month	12 Month	6 Month	3 Month	1 Month
PCE Deflator	2.6	2.2	2.7	1.9	0.0
Market Based PCE Deflator	2.4	2.1	2.7	1.9	0.0
Durable Goods	-1.1	-0.5	-0.3	-0.9	-4.5
Motor Vehicles and Parts	0.6	2.6	2.1	1.1	0.1
Nondurable Goods	3.4	2.1	3.4	1.2	-2.4
Clothing and Shoes	-0.6	-1.6	-0.6	-5.5	-6.5
Services	3.1	2.9	2.9	2.8	2.1
Housing	2.6	2.4	2.7	1.8	2.2
Transportation	2.8	3.5	4.7	6.0	8.4
Medical Care	3.4	3.1	3.4	3.4	3.6
PCE Deflator Ex Food and Energy	2.0	1.9	2.0	1.4	0.5
Market Based Core PCE Deflator	1.6	1.6	2.0	1.4	0.6
Personal Business Services-Market Based	3.1	2.8	2.1	2.1	0.4
Personal Business Services-Not Market Based	3.0	1.4	0.4	0.9	-0.2

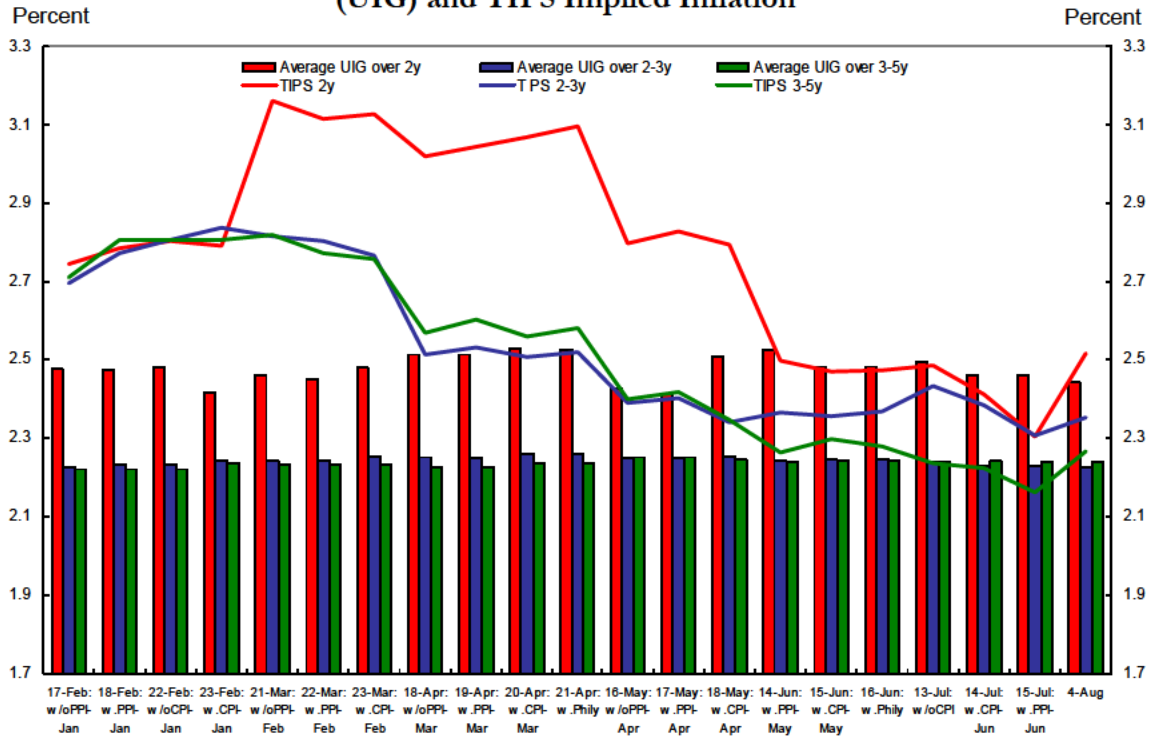
A. Forecast Details

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

	Annualized Percent Change Over Indicated Interval				
	24 Month	12 Month	6 Month	3 Month	1 Month
Finished Goods	3.8	3.6	2.4	-0.3	0.0
Finished Consumer Goods	4.5	4.2	2.9	-0.5	2.3
Finished Consumer Goods Ex Food	4.9	5.7	4.6	1.3	7.9
Nondurables Ex Food	6.4	8.0	6.4	2.4	13.1
Durables	1.5	0.5	-0.1	-0.9	-4.3
Capital Equipment	1.8	2.1	1.5	0.3	-2.5
Electronic Computers (NSA)	-16.9	-21.2	-27.2	-22.9	-9.6
Communication and Related Equipment (NSA)	-1.6	-0.8	-1.4	-0.4	-1.2
Finished Goods Ex Food and Energy	2.0	2.2	2.2	1.0	-0.8
Finished Consumer Goods Ex Food and Energy	2.1	2.4	2.6	1.2	-0.7
Intermediate Materials	6.5	6.1	4.2	0.8	1.6
Intermediate Materials Ex Food and Energy	5.2	4.9	2.5	-1.3	-2.3
Crude Materials	10.2	1.7	-3.4	-10.4	-33.5
Crude Materials Ex Food and Energy	12.7	5.2	-21.8	-25.4	-40.9

A. Forecast Details

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



Source: Bloomberg, 8:40AM quotes, MMS Function (FRBNY)

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 June 30th to August 5th, 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. A constant term premium risk adjustment is made in these calculations but there is no allowance for time-varying risk.

Source: MMS Function, FRBNY chart; Monetary Affairs, BofG data

Exhibit B-6. Implied Skewness and Implied volatility (percentages)

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. In addition implied volatility in percentages is plotted. Both measures are averages of 3, 6 and 9 month values. No risk adjustment is made.

Source: Capital Markets, FRBNY

Exhibit B-7. Implied Volatility on Eurodollar Options (Basis Points)

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.

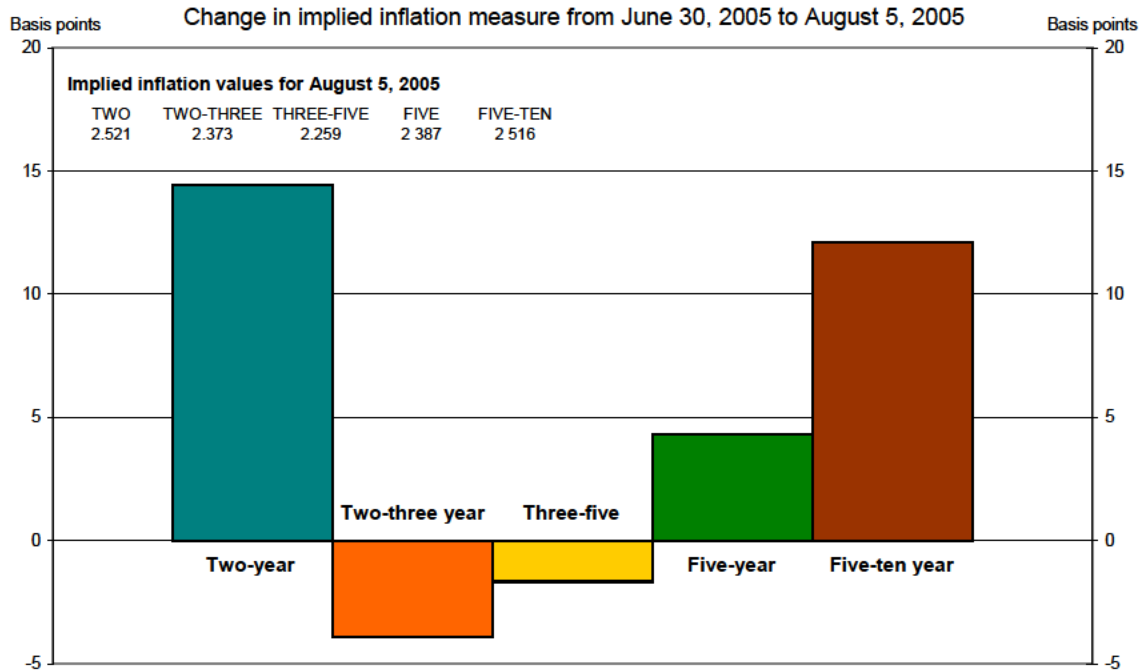
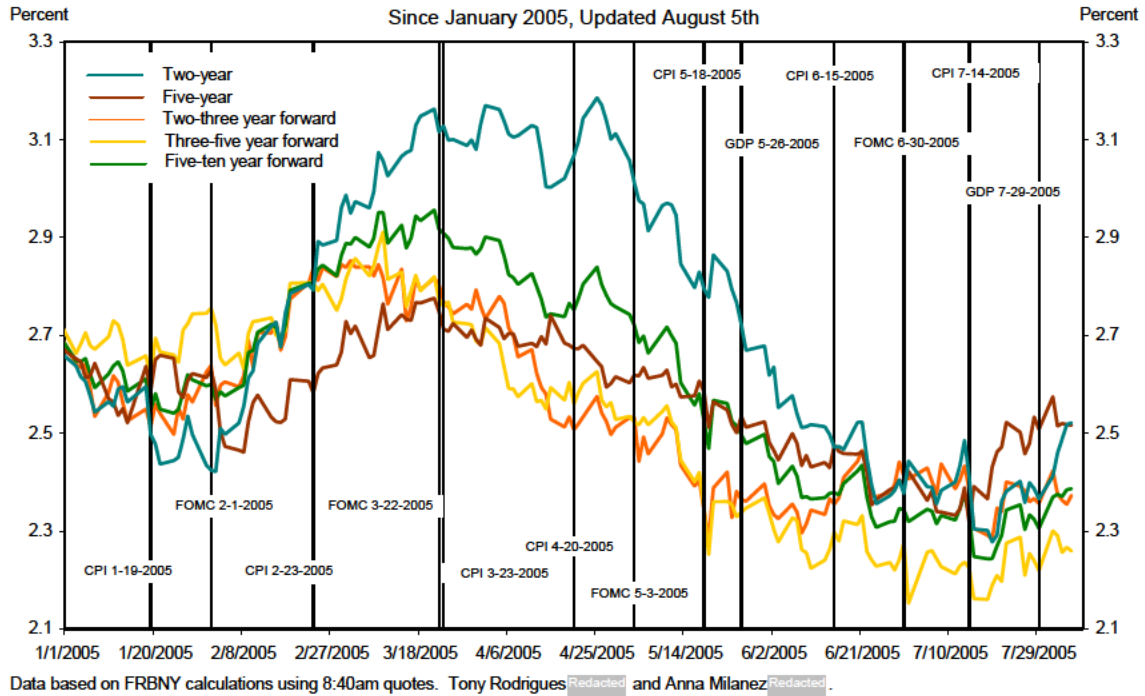
Source: Markets Group FRBNY, Reuters

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. They differ from the simpler breakeven inflation rates which just subtract the real yield on TIPS securities from the on-the-run treasury yield with the same maturity. 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**



Source: FRBNY

B. Financial Markets

Exhibit B-2: Breakeven Inflation Table

Real and Nominal Yield Spreads

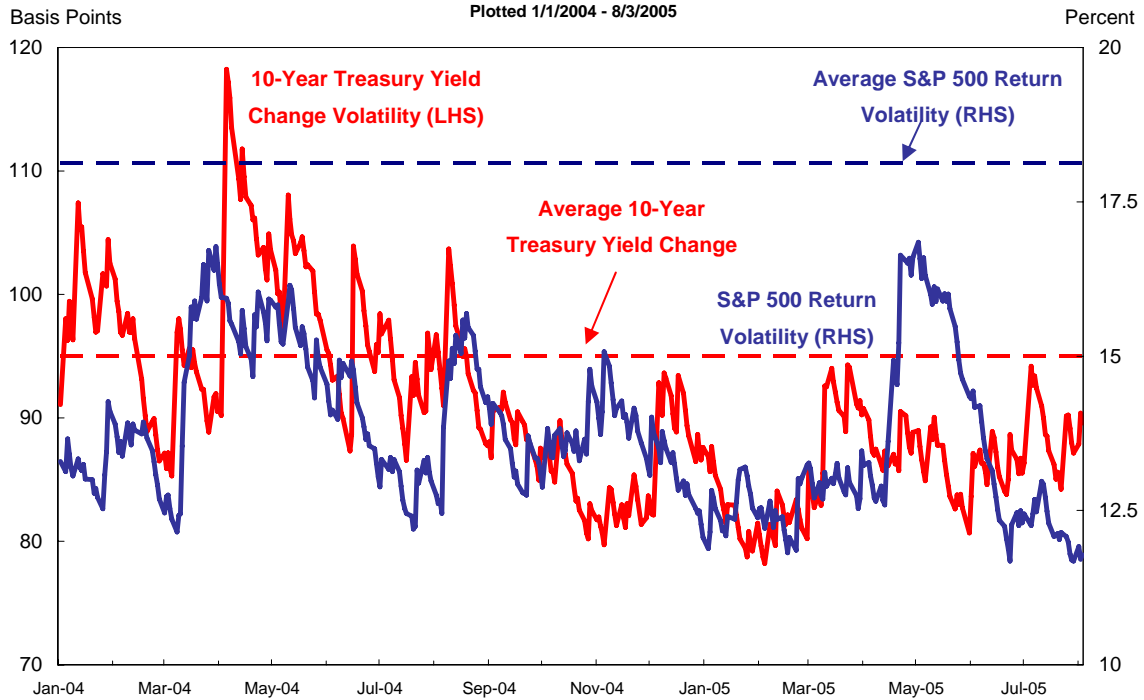
	31-Jan-05	18-Feb-05	21-Mar-05	29-Apr-05	27-May-05*	23-Jun-05	29-Jul-05*	5-Aug-05
Five-year Spread (%)	2.540	2.710	2.903	2.765	2.490	2.354	2.373	2.419
Ten-year Spread	2.487	2.579	2.756	2.618	2.425	2.287	2.381	2.397
Five-year Real Yield (%)	1.172	1.113	1.289	1.113	1.320	1.380	1.750	1.775
Ten-year Real Yield	1.661	1.659	1.771	1.568	1.648	1.664	1.897	1.969
Five-year Nominal Yield	3.712	3.823	4.192	3.878	3.810	3.734	4.123	4.194
Ten-year Nominal Yield	4.148	4.238	4.527	4.186	4.073	3.951	4.278	4.366

Source: Bloomberg. 8:40am quotes. *End of day quote.

B. Financial Markets

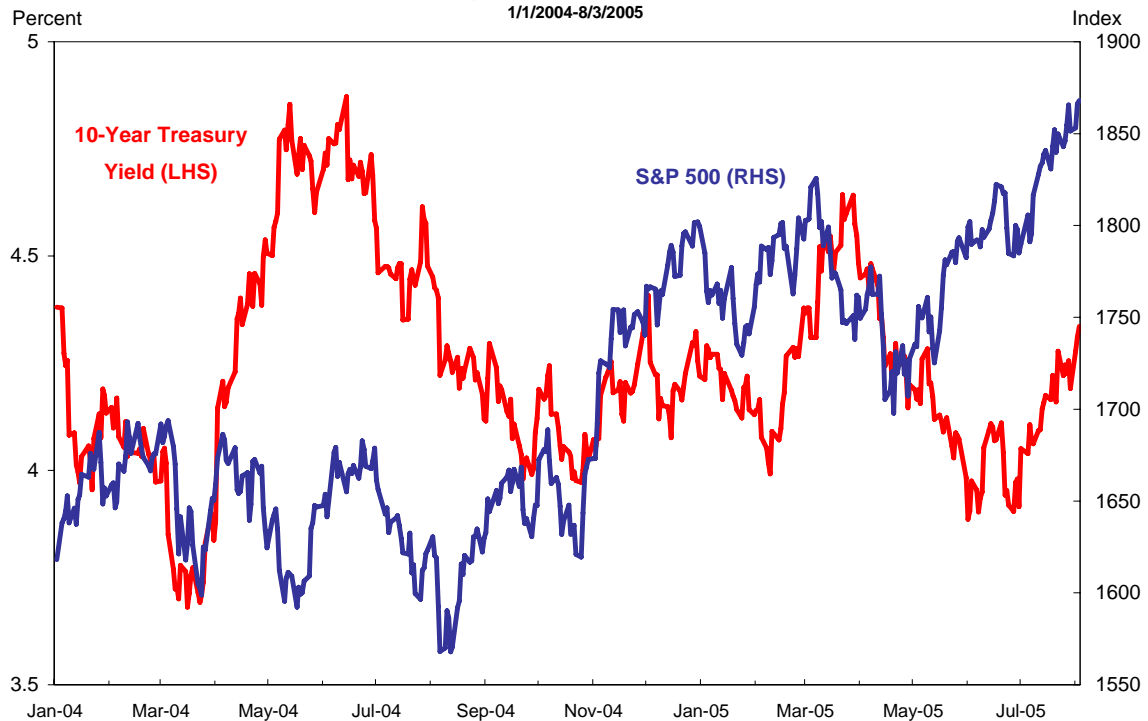
**Exhibit B-3:
Treasury and Equity Volatility**

Daily, estimated 1/1/1988 - 8/3/2005
Plotted 1/1/2004 - 8/3/2005



Treasury Yield and S&P 500 Index

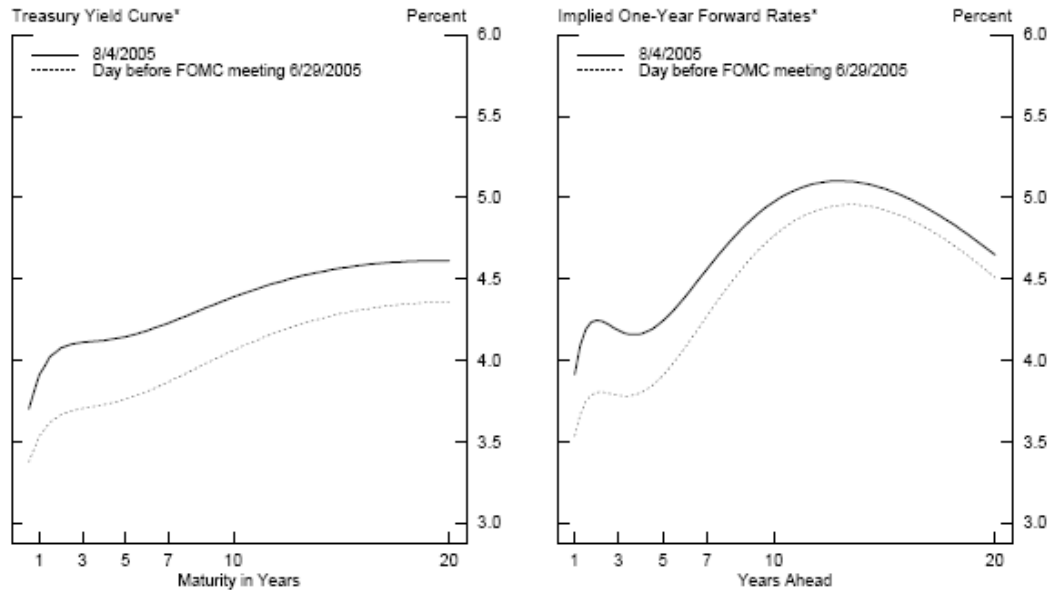
1/1/2004-8/3/2005



B. Financial Markets

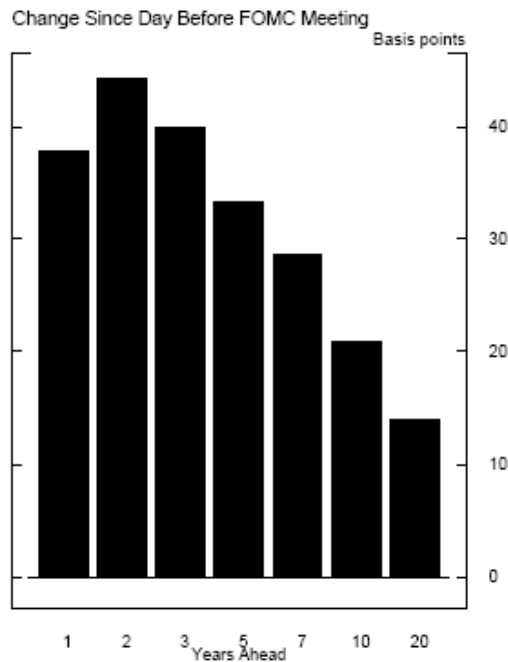
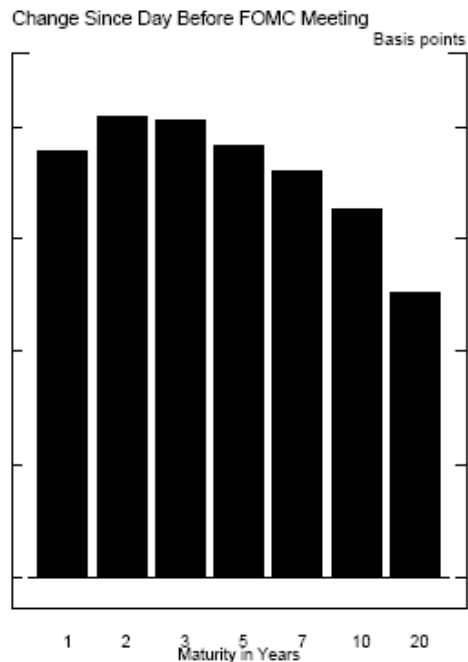
Exhibit B-4:

Treasury Yield Curve



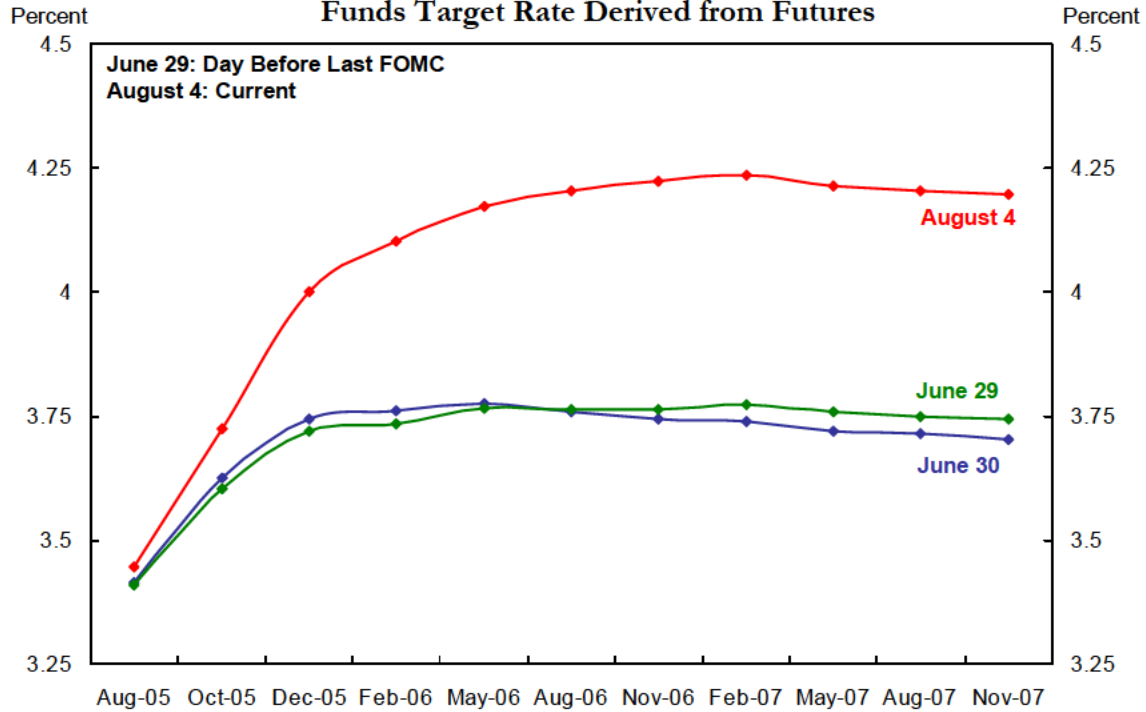
*Smoothed yield curve estimated from off-the-run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semi-annual coupons.

*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.



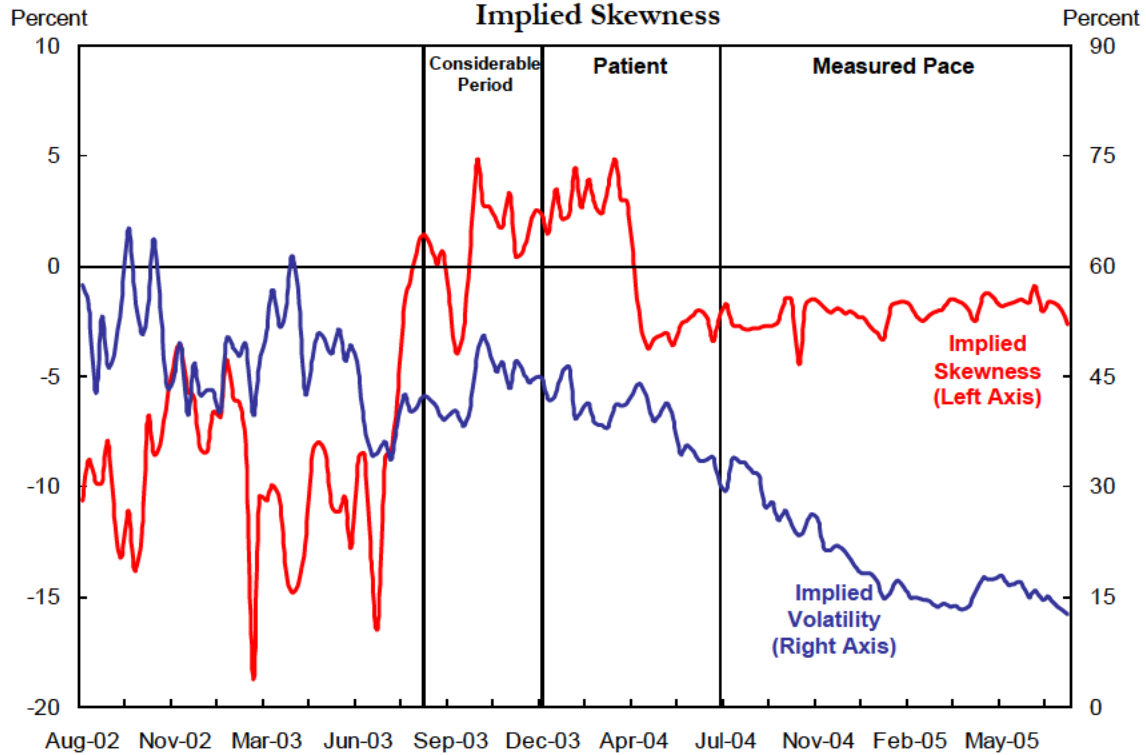
B. Financial Markets

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



Source: Federal Reserve Board

**Exhibit B-6:
Implied Skewness**



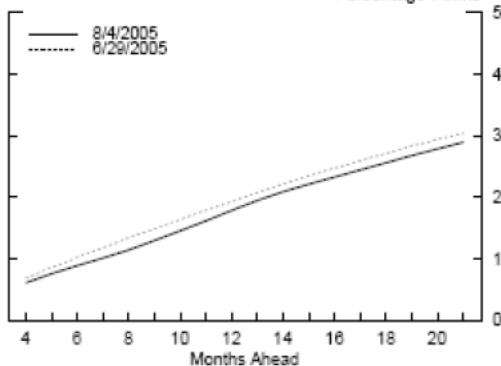
Source: CME, Author's Calculations

Joshua Rosenberg Redacted

B. Financial Markets

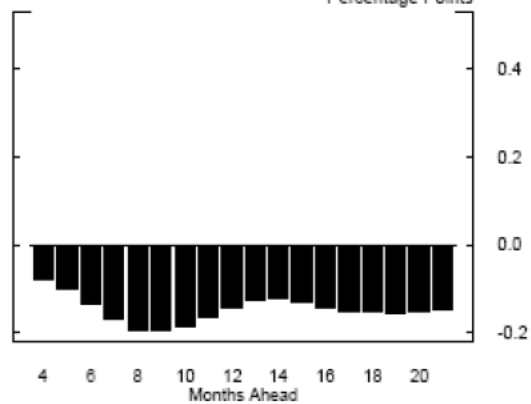
Exhibit B-7: Implied Volatility on Fed Funds Options

Eurodollar Implied Volatility Term Structure*
Percentage Points

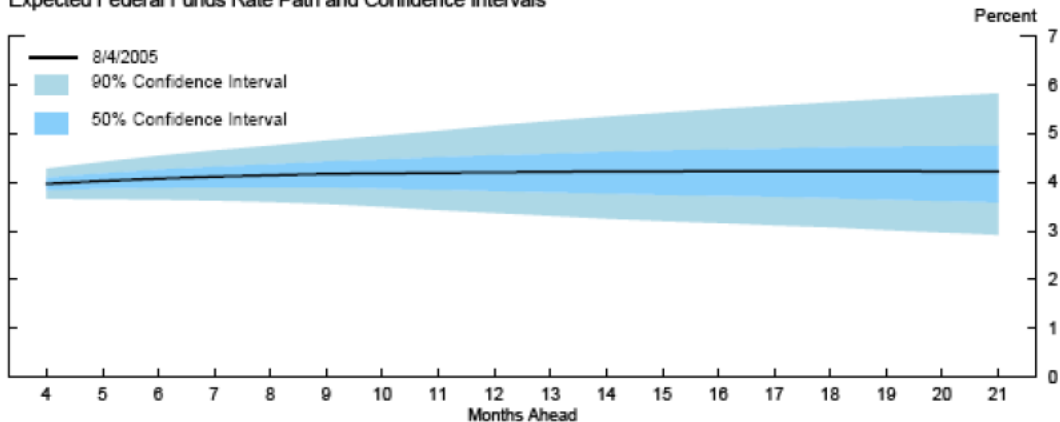


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

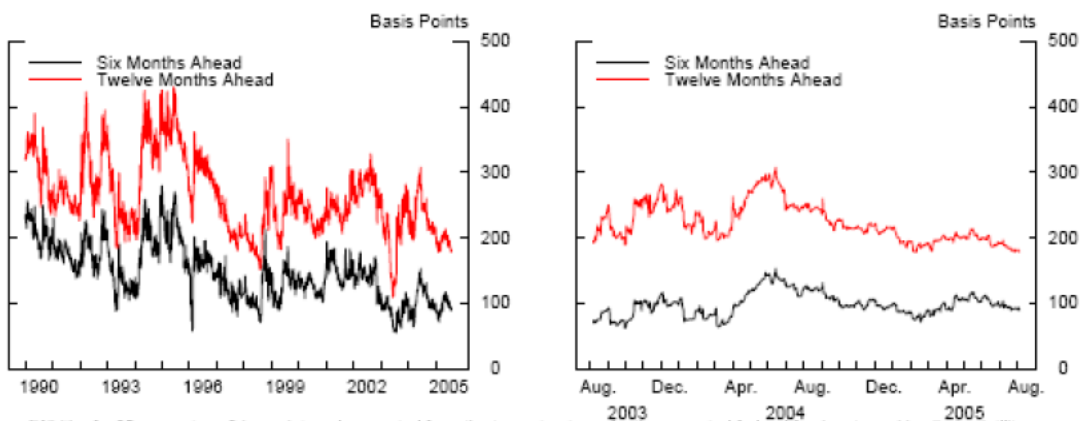
Change Since Day Before FOMC Meeting
Percentage Points



Expected Federal Funds Rate Path and Confidence Intervals



Eurodollar Implied Volatility at Selected Maturities*

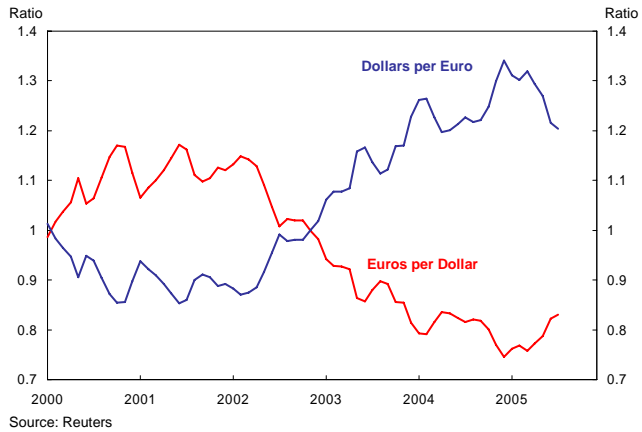


*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

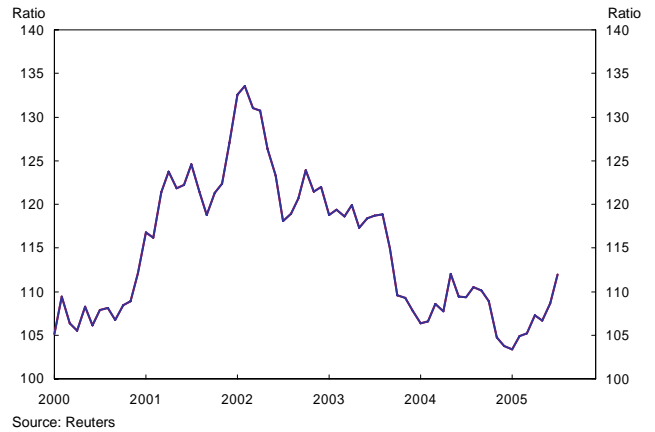
B. Financial Markets

Exhibit B-8: United States Exchange Rates

Dollar-Euro Exchange Rates

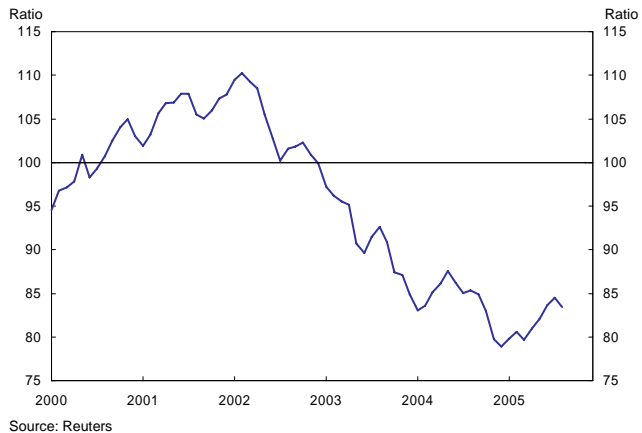


Yen per Dollar



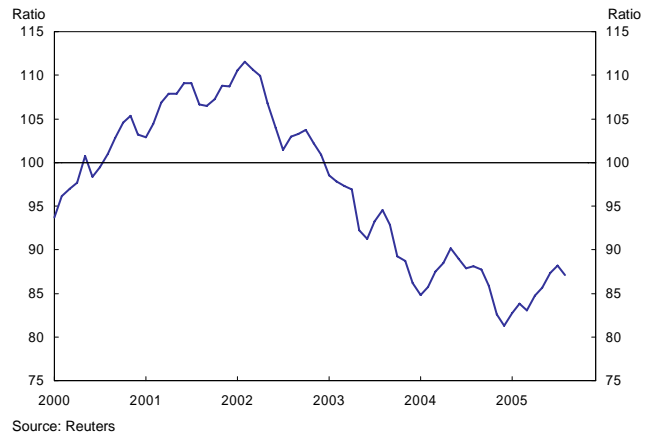
Nominal Effective Exchange Rate

Major Currency Narrow Index, 2000=100



Real Effective Exchange Rate

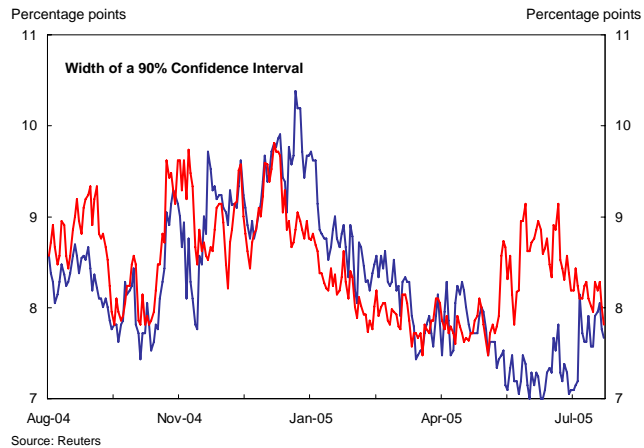
Major Currency Narrow Index, 2000=100



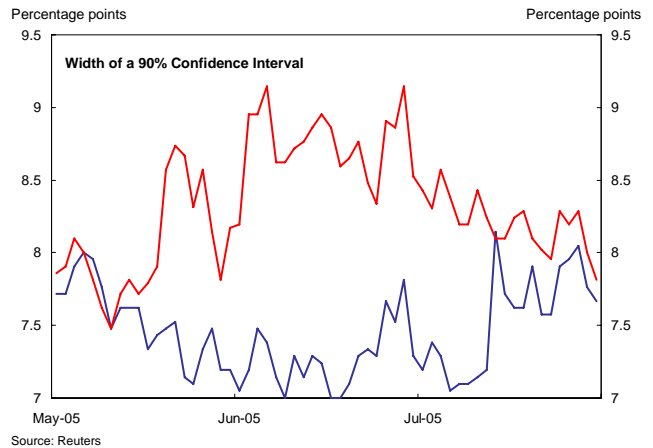
B. Financial Markets

Exhibit B-9: Euro and Yen Implied Option Volatility Euro options are in red and Yen options are in blue

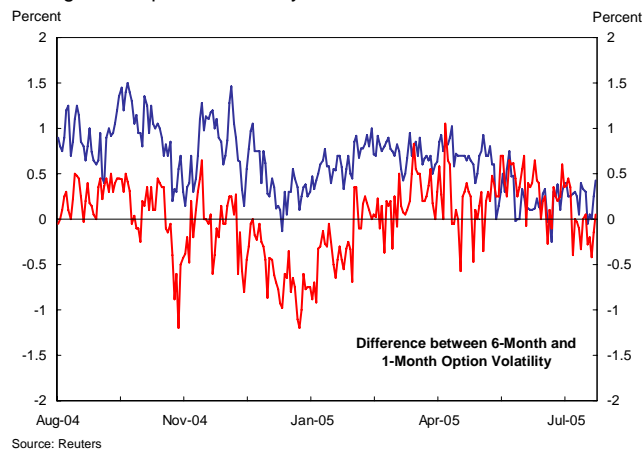
One-Month Volatility – Past Year



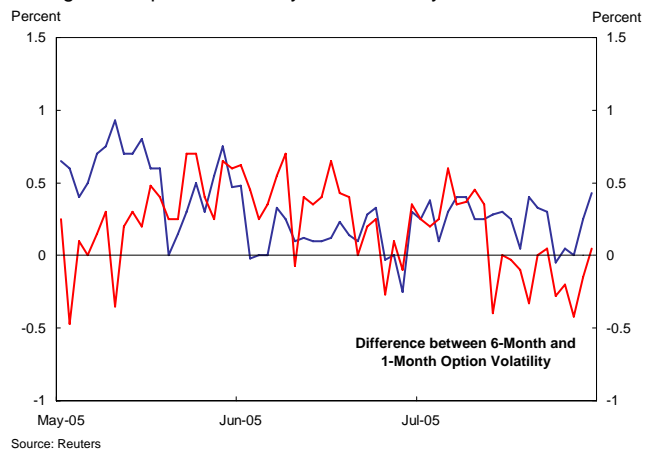
One-Month Volatility – Past 60 Days



Changes in Expected Volatility – Past Year



Changes in Expected Volatility – Past 60 Days



C. FRBNY Forecast Distributions

Background

The FRBNY forecast distributions are a generalization of techniques used at the Bank of England and other central banks to show future uncertainties and the balance of risks. The generalization allows for a dynamic balance of risks that is jointly assessed over inflation and output. There are two classes of shocks to current central projections that are of interest to central banks: supply shocks, which move inflation and output in opposite directions, and demand shocks, which move inflation and output in the same direction. Instead of providing a static assessment of the risks we use a dynamic one that allows the probability of a deviation to build over time. After a deviation, it is assumed that the economy returns to its average long run behavior centered at the implicit inflation target and potential growth. Although this is not a substitute for a dynamic model with an explicit transmission mechanism for monetary policy, it can have good properties in mimicking the behavior of an economy where the central bank has sufficient credibility to achieve its long run inflation target while pursuing short run stabilization policy.

Exhibit C-1: Risks

This exhibit shows the “balance of risks” for the individual scenarios and the central scenario contained in the Bank’s forecast. Two types of measures of the balance of risk are shown. One type indicates the probability of being in a particular scenario at a specific date. These scenarios are mutually exclusive so at any specific date they add up to one.

A second type calculates the probability of ever being in a particular scenario through 2007, with the exception of the central scenario where the probability shown is for not deviating from this scenario through 2007. Hence, one minus this probability is the risk of deviating from the central scenario at some point over the forecast horizon and this is equal to the sum of the probabilities of the other scenarios occurring.

Exhibit C-2 & C-3: Alternative Scenarios

These exhibits take the balance of risks for each scenario and show their implications for GDP growth and core PCE inflation. They plot the expected path (calculated by averaging all paths that have at least one quarter in that scenario) of 4-quarter changes in the core PCE deflator and real GDP under the central scenario and the alternative scenarios.

The global deflation scenario assumes that output is slower than the central scenario and inflation is dramatically lower. The overheating scenario assumes that for 2 quarters the economy grows quicker than expected under the central scenario, with both inflation and output higher than our central forecast. Then the real economy slows dramatically but inflation continues to be above the central forecast.

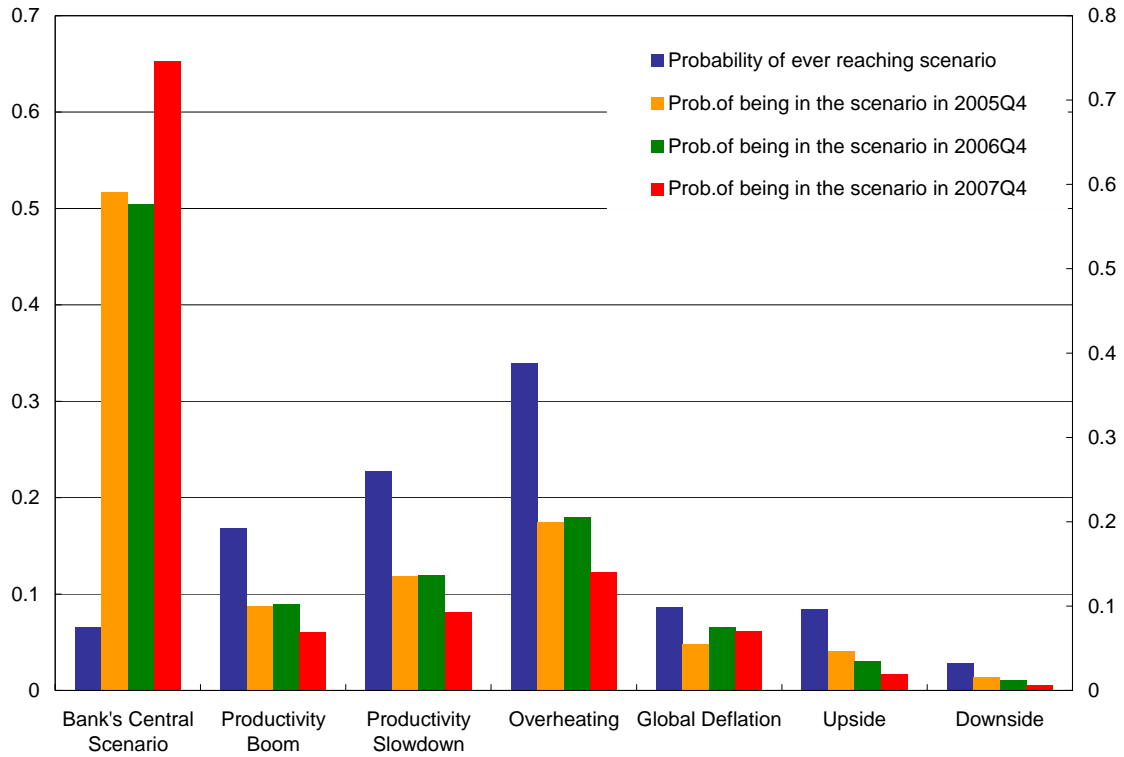
Exhibit C-4 & C-5: Fan Charts

Fan charts are shown for the core PCE deflator (Exhibit C-4) and real GDP (Exhibit C-5). These charts are constructed to represent the overall uncertainty contained in our main scenario and our alternative scenarios. They combine the information contained in the previous exhibits with the additional uncertainty that we cannot predict perfectly the path of the economy, even if we knew which scenario were true. The amount of total uncertainty in the forecast distributions is now calibrated to imply fundamental interest rate volatility lower than that given by the implied Eurodollar forward volatility curve averaged across possible policy rules from a market perspective (see the text for Exhibit D-4). In addition the expected value for each of the two forecast distributions is included in the fan chart. These expected values are computed as averages over the realizations across all possible scenarios considered in Exhibit C-1. The difference between this profile and the central bank scenario is another measure of the balance of risks. If they are equal the risks are balanced; if the expected value is above the central bank scenario, there is upside risk; if it is below, there is downside risk.

Source: MMS function, FRBNY

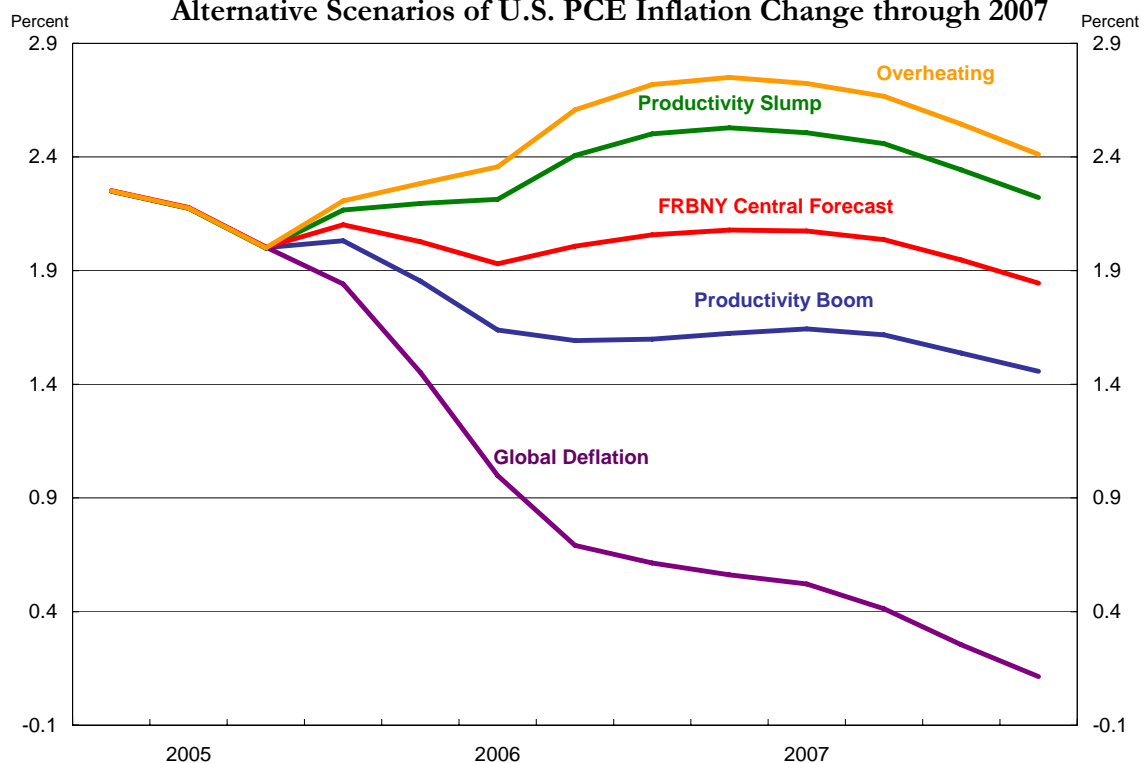
C. FRBNY Forecast Distributions

**Exhibit C-1:
Risks**

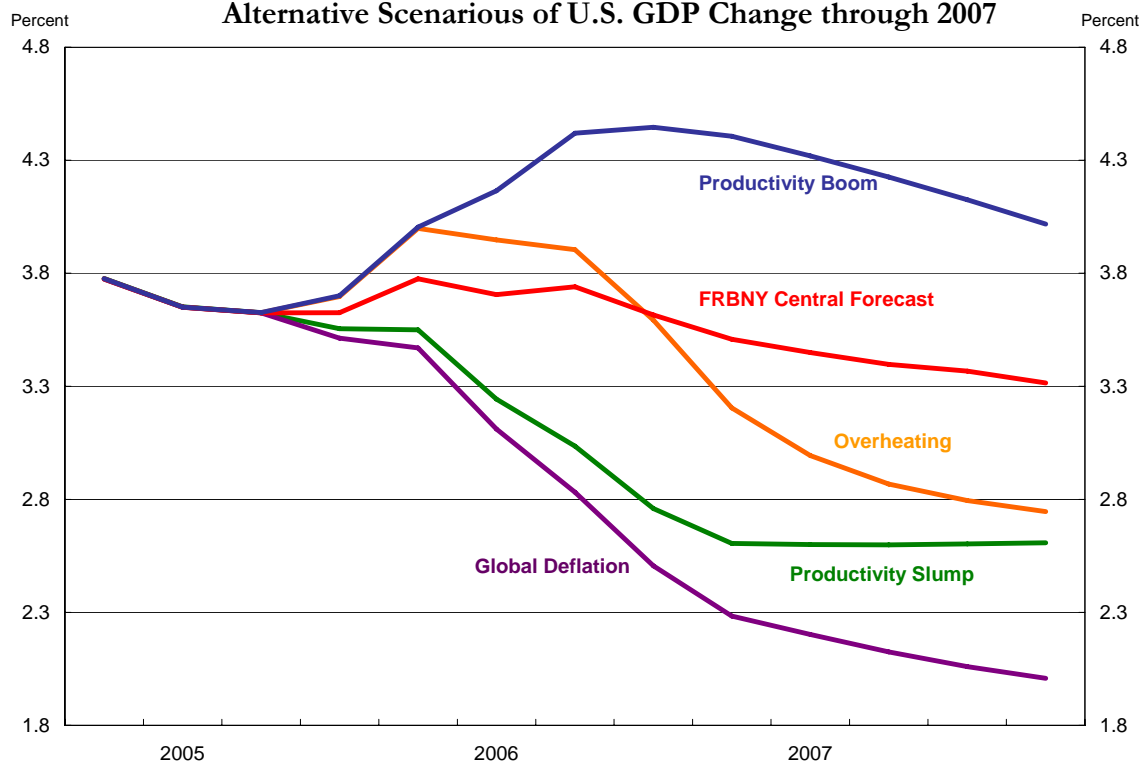


C. FRBNY Forecast Distributions

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

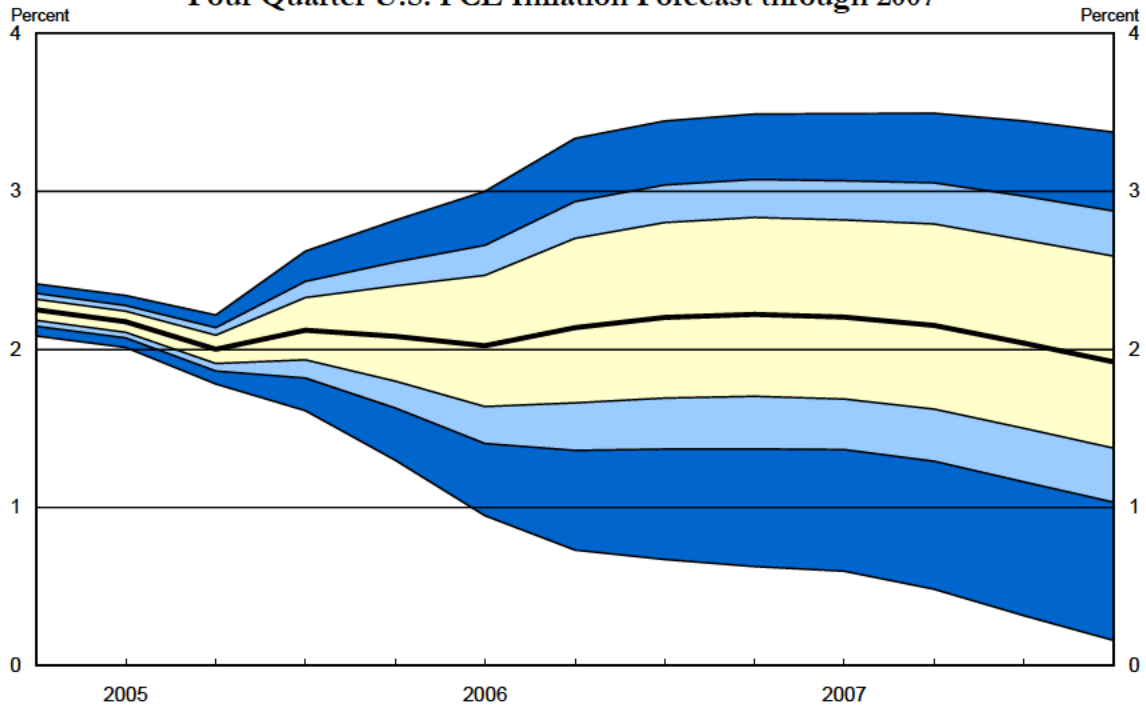


**Exhibit C-3:
Alternative Scenarios of U.S. GDP Change through 2007**



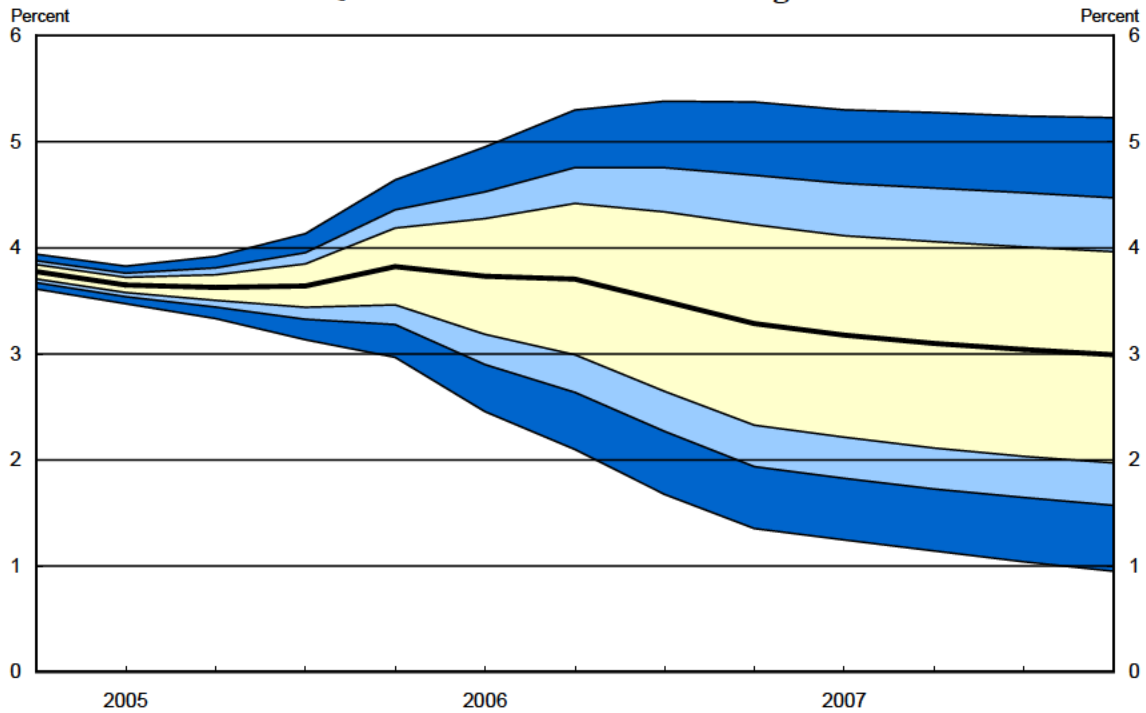
C. FRBNY Forecast Distributions

**Exhibit C-4:
Four Quarter U.S. PCE Inflation 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 expected value of the

**Exhibit C-5:
Four Quarter U.S. GDP 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 thick black line represents the expected value of the

D. FRBNY Fed Funds Rate Projections

The exhibits in this section are constructed using the policy rules given below, the Bank forecast distribution, and information from Fed Funds futures and Eurodollar futures. The policy rules convert the uncertainty over future inflation and output into uncertainty about future values of the Fed Funds rate. This allows us to use information from financial markets to calibrate the type and amount of uncertainty.

There are two types of policy uncertainty examined: the policy rule that will be followed and, given a particular policy rule, uncertainty over the parameters of the rule. Combined with the uncertainty in the bank forecast distribution, we calibrate the overall average (averaging over forecast distribution and policy rules) to be close to the expected market path (at most a 50 basis point deviation is allowed). We also calibrate the overall average volatility to be at or below the market implied volatility term structure curve. This calibration might affect the policy rule and/or the forecast distribution.

For this cycle we are using 3 different policy rules. Throughout we assume that the neutral policy rate is uniformly distributed between 3.75 and 4.25. For the last cycle we assumed a uniform distribution between 3.5 and 4.5. The lower end of the distribution was truncated based on market data since the last meeting and the upper end was truncated because the market has not yet priced in a neutral rate above 4.25.

1. *Measured ends at neutral.* A steady 25 basis point increase continues until until FFR hits neutral, and then FFR is held at neutral through mid 2006 unless there is a large shock. This is a pattern consistent with the last year (25 basis points at each meeting) and the periods after previous tightening cycles. At the end of 2006, the FFR reverts to the prescription of the baseline policy rule (see specification below).
2. *Measured ends above neutral.* The FFR is increased to 4.25% at the December FOMC and then policy is determined by use of the baseline policy rule. This rule was added to examine the effects of allowing the FFR to move above neutral in 2006.
3. *Inflation hawk.* The FFR is raised 50 basis points each quarter as long as quarterly core PCE inflation is high relative to target (2.4 in 2005Q2, two quarter average of

2.35 in 2005Q3, three quarter average of 2.3 in 2005Q4 and a four quarter average of 2.25 in 2006Q1).

In the overall averaging, we use weights of 0.7 on “measured ends at neutral”, 0.2 on “measured ends above neutral,” and 0.1 on “inflation hawk.”

Exhibit D-1 & D-2: Implications of Different Policy Rules for Nominal Fed Funds Rate

Exhibit D-1 evaluates the three different policy rules at each of the draws from the forecast distribution of output and inflation and then averages them to produce an expected path if the rule is followed. This policy specific average is then used to construct a measure of the implied volatility of each policy rule as shown in Exhibit D-2. The results are compared to the most recent implied market path from Exhibit B-6 and Exhibit B-7.

Exhibit D-3 & D-4: Alternative Forecast Scenarios: Nominal and Real Federal Funds Rate

In these exhibits, we focus on the policy rule “measured ends above neutral” and evaluate it at the Bank’s central projection and at the overheating and global deflation scenarios. Exhibit D-3 presents the average of FFR over paths containing these scenarios. Exhibit D-4 presents the average ex post real rate obtained by subtracting the 4 quarter lagged change of core PCE inflation from the paths of the nominal rate.

Exhibit D-5 & D-6. Average FFR and volatility

In these exhibits we present overall averages for the path of the FFR and its volatility. We also present results under an alternative assumption for the implicit inflation target of 1.75% and a larger initial output gap. These results are compared to market implied paths. In Exhibit D-5 the level of the FFR is shown and in Exhibit D-6 its volatility.

Policy Rule: Baseline Specification

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

$$\rho = 0.8$$

$$i_{2005Q2} = 2.91$$

$$i^* = 4.0$$

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

$$\pi^* = 1.5$$

$$\varphi_\pi = 1.5$$

$$\varphi_x = 0.5$$

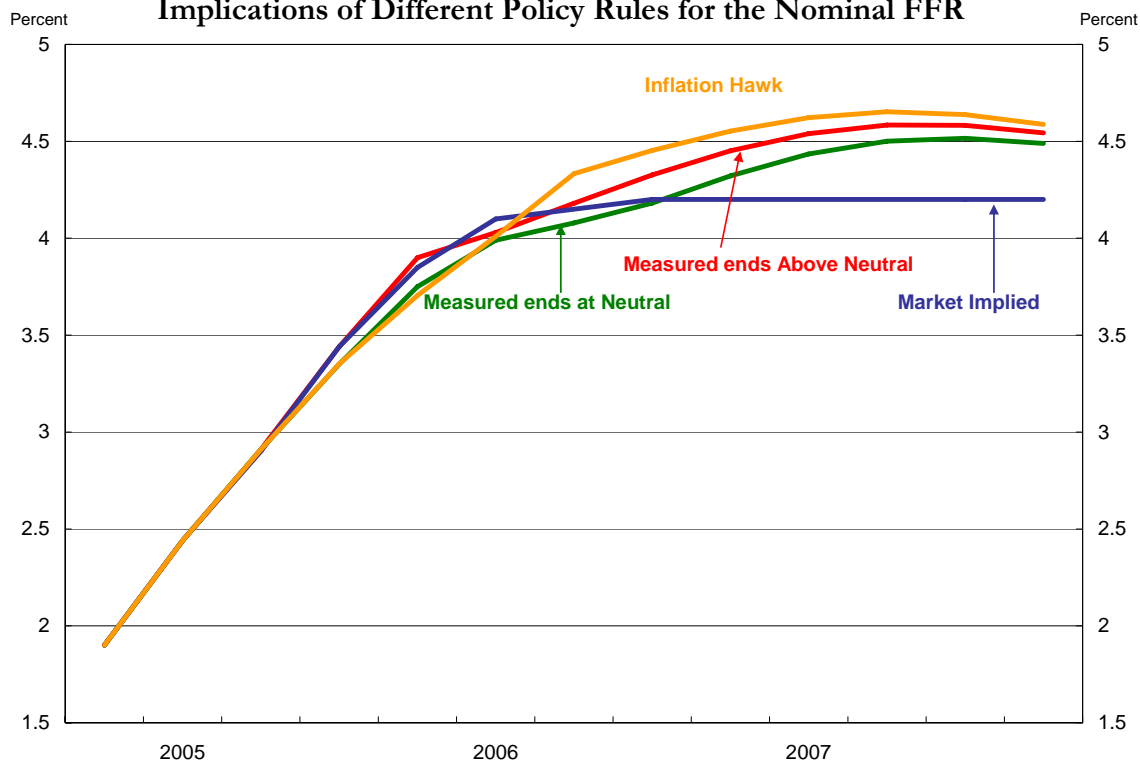
$$\pi_t : \text{Core PCE y/y}$$

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

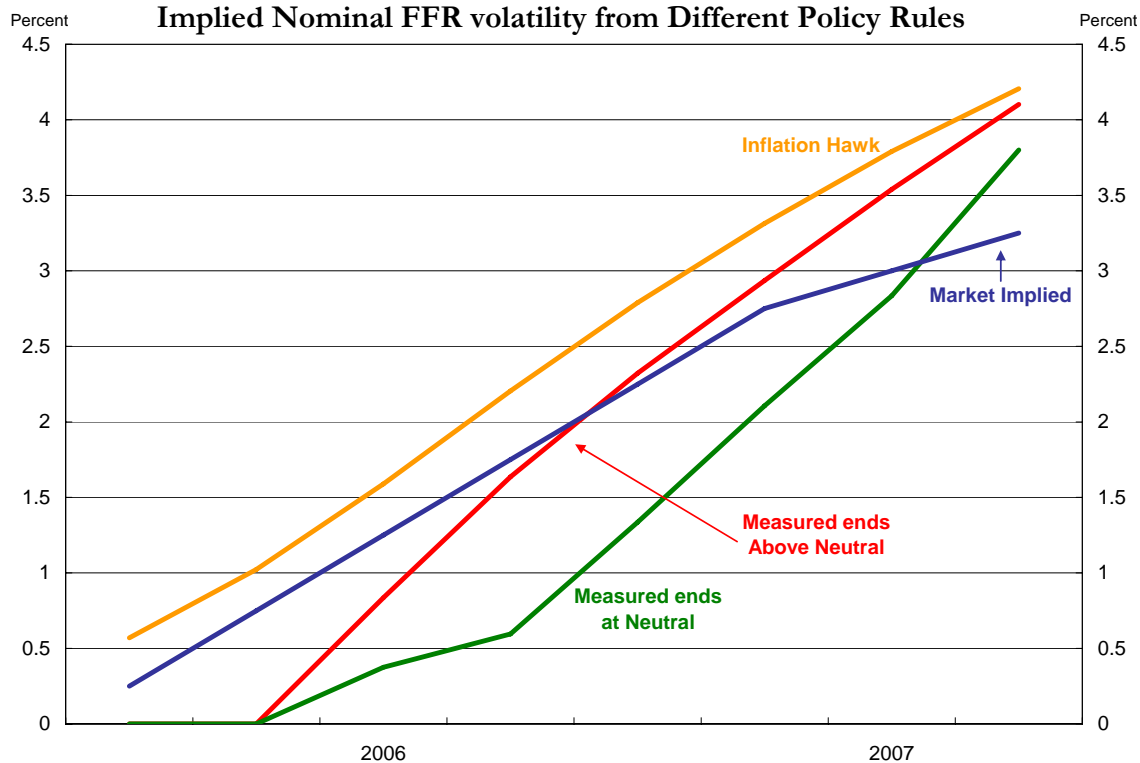
Source: MMS function, FRBNY

D. FRBNY Fed Funds Rate Projections

**Exhibit D-1:
Implications of Different Policy Rules for the Nominal FFR**



**Exhibit D-2:
Implied Nominal FFR volatility from Different Policy Rules**



D. FRBNY Fed Funds Rate Projections

Exhibit D-3:
Alternative Forecast Scenarios
Under Measured Ends at Neutral: Nominal FFR

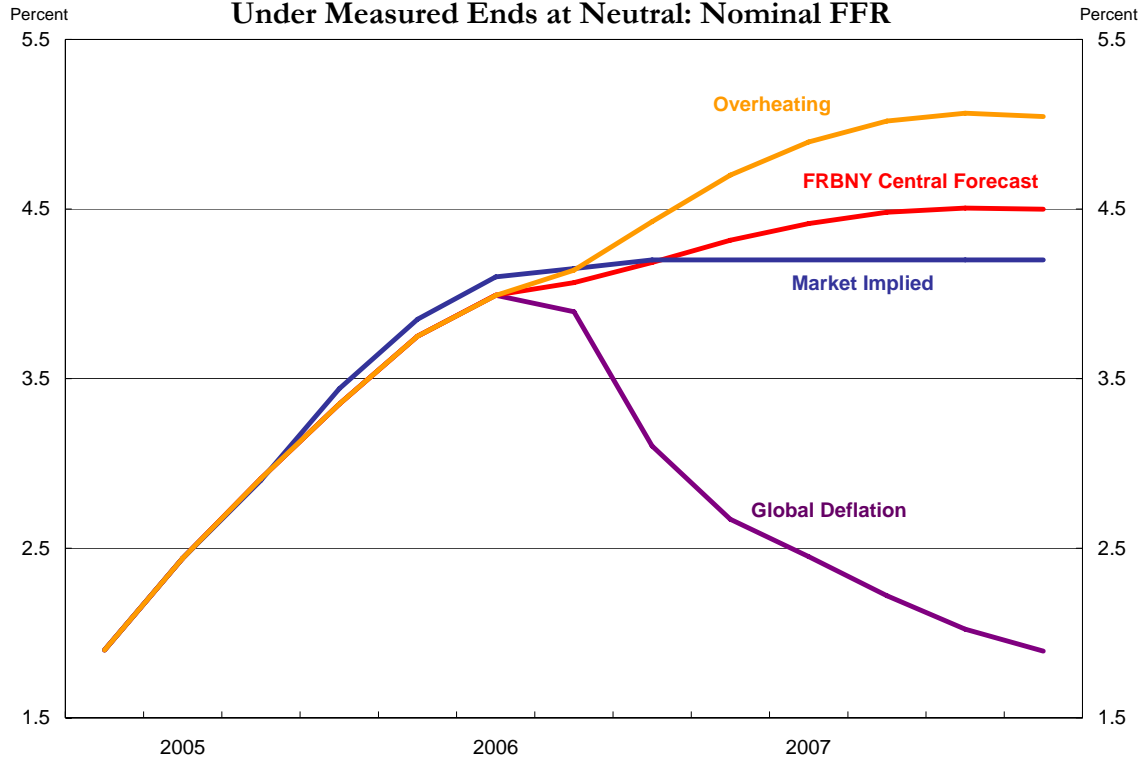
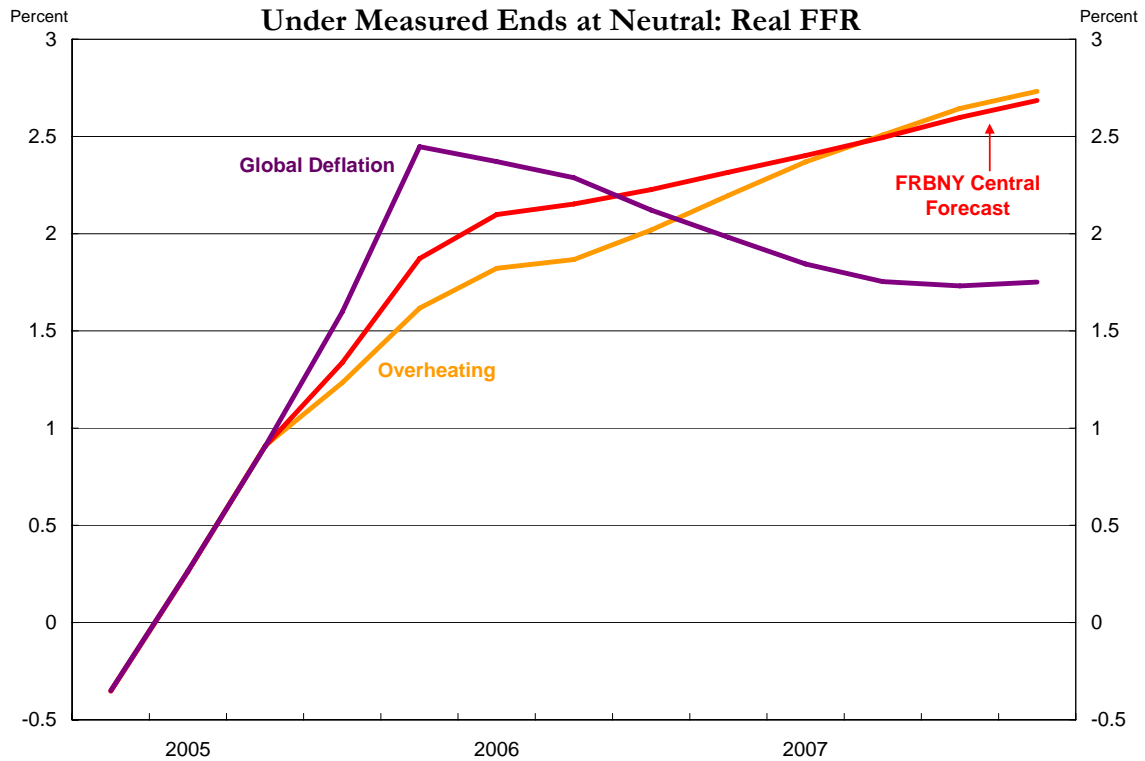
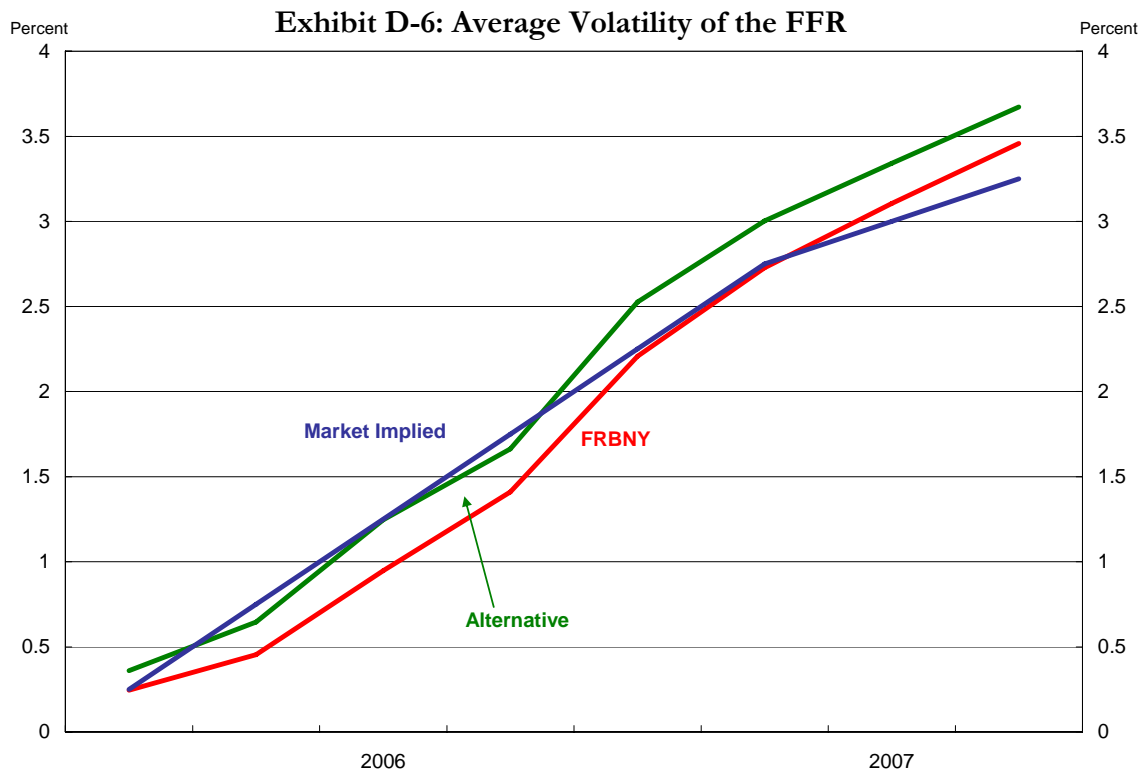
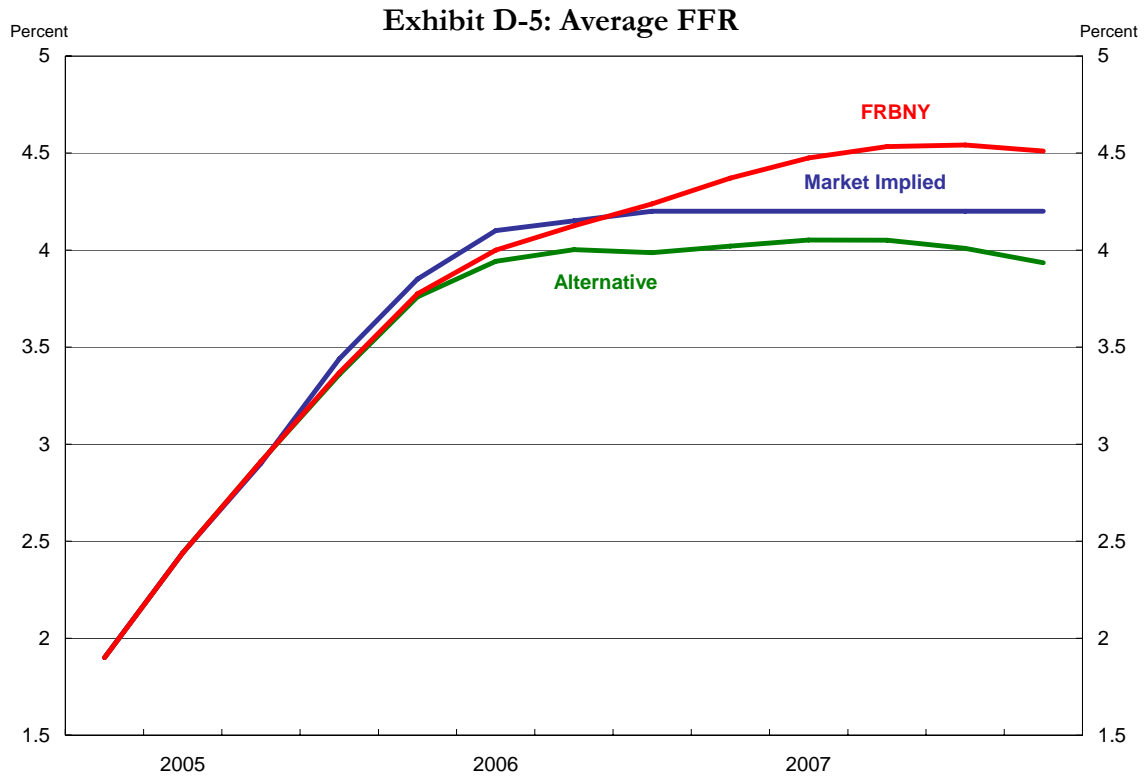


Exhibit D-4:
Alternative Forecast Scenarios
Under Measured Ends at Neutral: Real FFR



D. FRBNY Fed Funds Rate Projections



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 June 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: MaRS Function, 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 June 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: MaRS Function, 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.

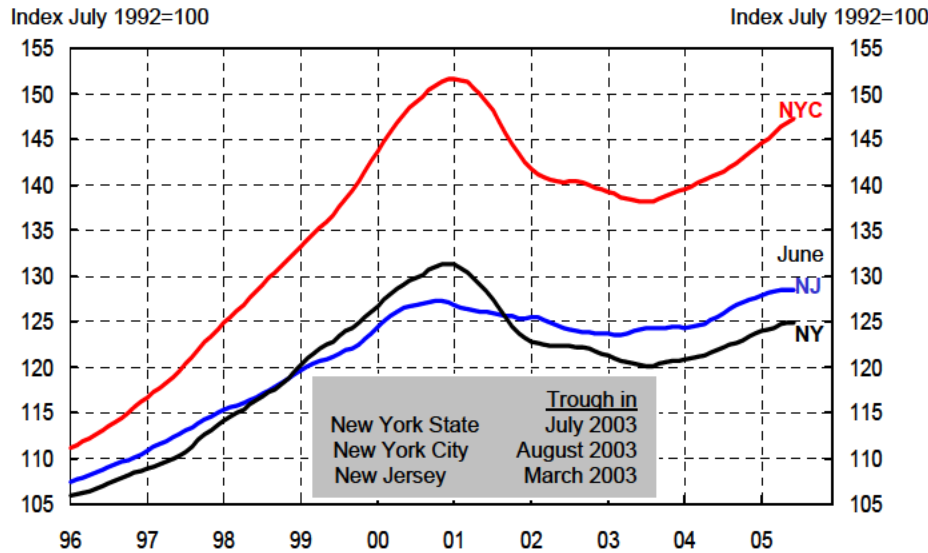
Data can be found at:

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

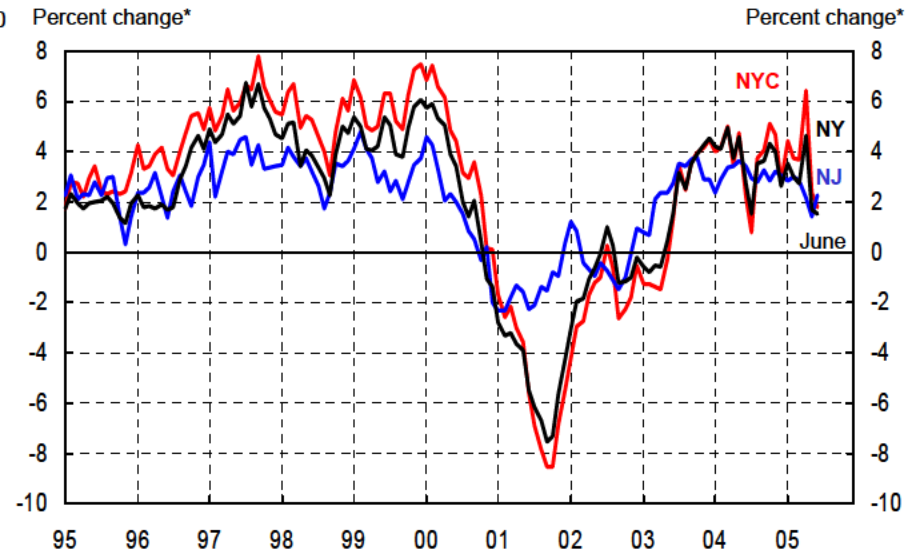
<http://www.wnjp.in.net/OneStopCareerCenter/LaborMarketInformation/lmi16/release1.htm>

E. Regional Charts

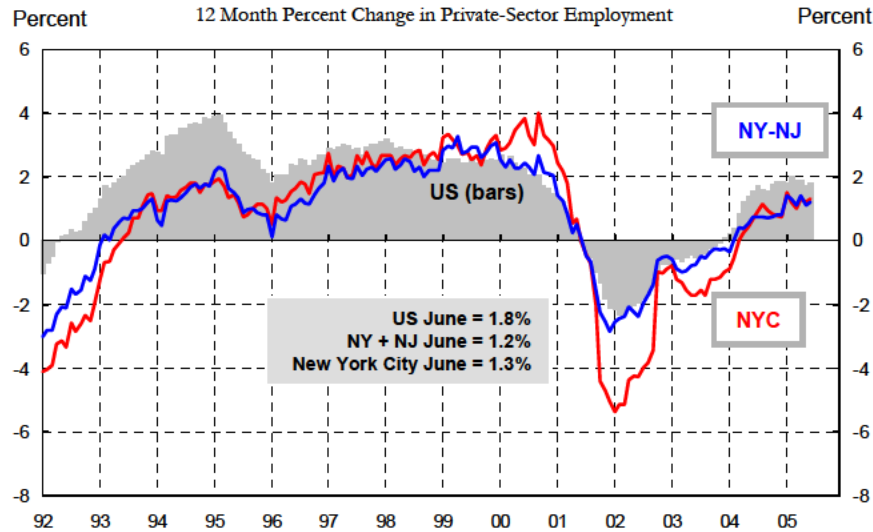
E1: INDEX OF COINCIDENT ECONOMIC INDICATORS



E2: INDEX OF LEADING ECONOMIC INDICATORS



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



E4: UNEMPLOYMENT RATES

