

### **Prefatory Note**

The attached document represents the most complete and accurate version available based on original files from the FOMC Secretariat at the Board of Governors of the Federal Reserve System.

Please note that some material may have been redacted from this document if that material was received on a confidential basis. Redacted material is indicated by occasional gaps in the text or by gray boxes around non-text content. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

## **MONETARY POLICY ALTERNATIVES**

### **Recent Developments**

(1) The FOMC's decision at the December meeting to keep its target for the federal funds rate at 1 percent came as no surprise to market participants, and interest rate futures for the first half of this year were essentially unchanged after the announcement.<sup>1</sup> But futures rates for the second half rose several basis points, presumably in response to the Committee's assessment that the probability of an unwelcome decline in inflation had fallen in recent months to a level almost equal to that of a rise in inflation.<sup>2</sup> Subsequently, however, the release of the minutes from the October FOMC meeting, which indicated that at that time the Committee was concerned about the possibility of persistent slack arising from rapid productivity growth, and the publication of surprisingly modest growth in employment in December led most market participants to push back the date of the expected onset of tightening to the fall. (See box entitled "Expectations for Monetary Policy.") That effect was only partially offset by stronger-than-expected indicators of spending

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<sup>1</sup> The effective federal funds rate averaged close to 1 percent over the intermeeting period. Futures market quotes apparently incorporated expectations for a slightly elevated funds rate at year end. In the event, the effective rate was 6 basis points below the target as the result of the provision of ample reserves around the turn of the year. Over the intermeeting period, the Desk increased its outright holdings by \$1.4 billion, entirely through purchases of Treasury bills from foreign official institutions. The outstanding amount of long-term RPs declined \$7 billion to \$14 billion along with the seasonal demand for reserves.

<sup>2</sup> The statement issued at the conclusion of the December 9<sup>th</sup> meeting is included as Appendix A.

### **Expectations for Monetary Policy**

The inclusion of the “considerable period” language in the last four FOMC statements has helped to anchor near-term policy expectations. Indeed, near-term futures rates have held close to 1 percent, and implied volatility over a four-month horizon has remained at unusually low levels. However, the estimated duration of the period for which policy has been expected to remain on hold implied by futures prices has varied considerably. At the time of the last FOMC meeting, the expected policy path turned higher after a few months, fully pricing in a 25 basis point tightening by May of this year. Futures rates now indicate that a full 25 basis point tightening is not expected until October. Similarly, the Desk’s most recent survey of primary dealers found a median expectation for an initial rate increase in the fourth quarter, although five of the twenty-two respondents predict a rise in the target before mid-year. That survey also indicated that about three-quarters of the respondents expect the FOMC to keep the “considerable period” language in the statement at the upcoming meeting.

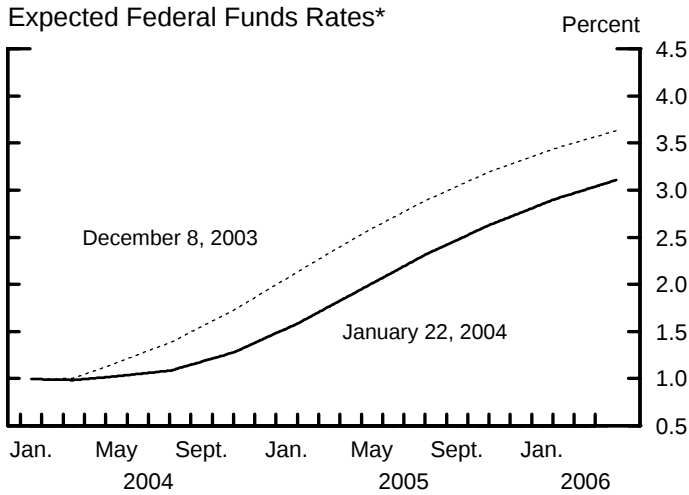
growth. On net over the intermeeting period, interest rate futures fell as much as 60 basis points (Chart 1).

(2) Reflecting the change in policy expectations, intermediate- and longer-term nominal Treasury yields declined about 30 basis points over the intermeeting period. Yields on inflation-indexed debt fell somewhat less, suggesting that the drop in nominal yields owed more to lower real interest rates than to reduced inflation compensation. Similarly, surveys of inflation expectations were little changed over the intermeeting period. Yields on higher-tier investment-grade corporate bonds moved down about in line with similar-maturity Treasury yields, while lower-tier investment-grade and speculative-grade yields fell a bit more (Chart 2). Given the declines in yields and optimism about the outlook for profits, major stock price indexes rose 6-1/2 to 9 percent over the intermeeting period.

(3) Since the December FOMC meeting, the dollar has dropped more than 2-1/4 percent on balance versus the major foreign currencies (Chart 3). The dollar’s

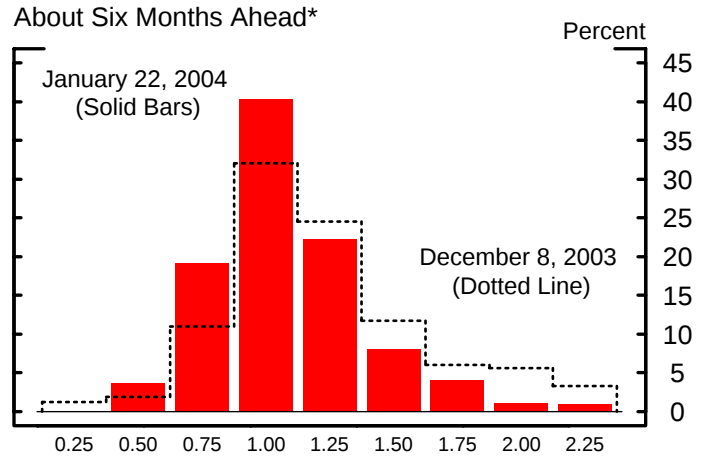
## Chart 1 Interest Rate Developments

Expected Federal Funds Rates\*



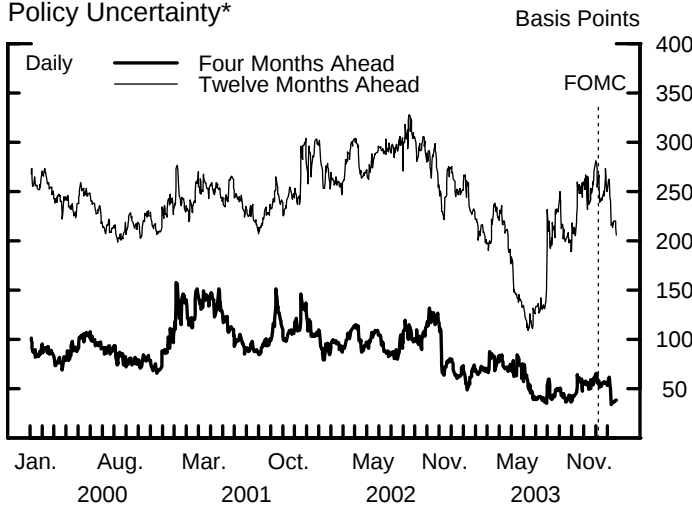
\*Estimates from federal funds and eurodollar futures, with an allowance for term premia and other adjustments.

Implied Distribution of the Federal Funds Rate  
About Six Months Ahead\*



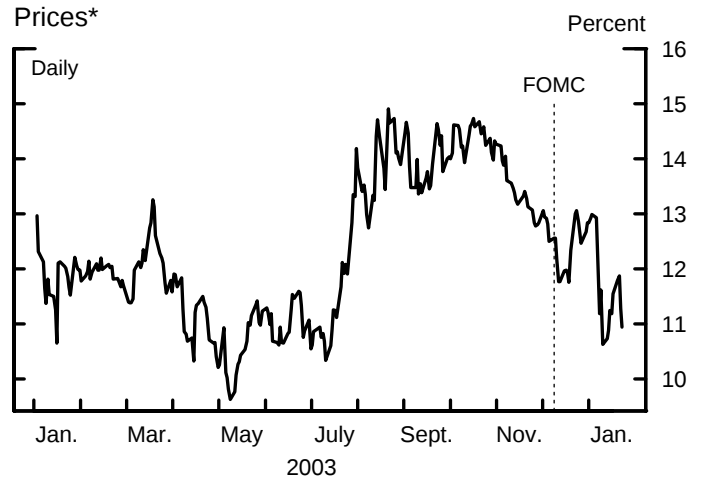
\*Based on the distribution of the three-month eurodollar rate five months ahead (adjusted for a term premium), as implied by options on eurodollar futures contracts.

Policy Uncertainty\*



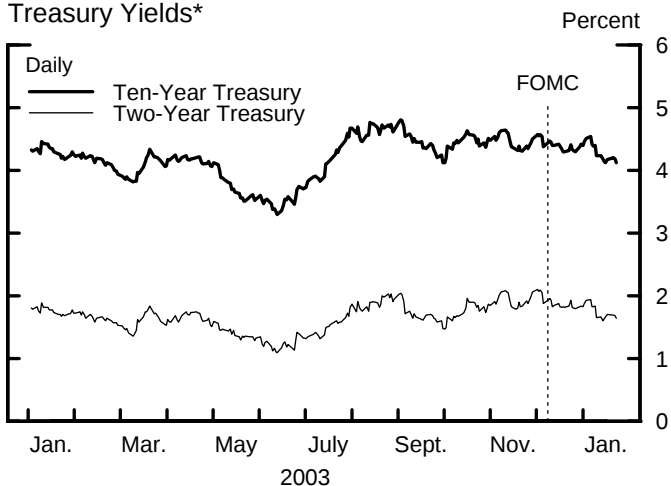
\*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.

Implied Volatility of Long-Term Treasury Bond  
Prices\*



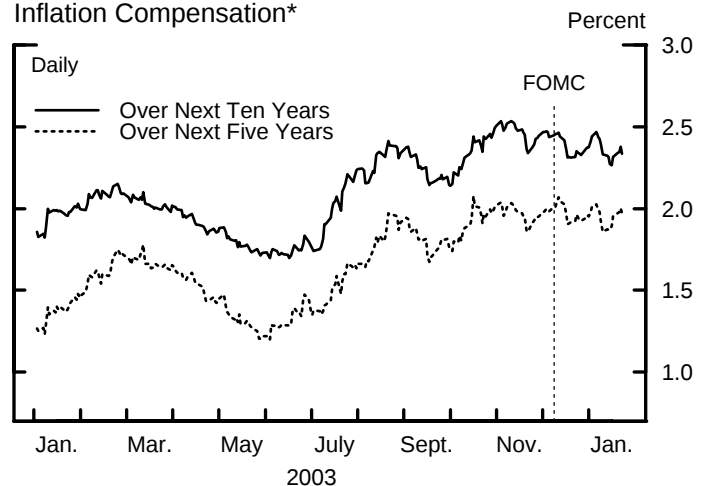
\*Derived from options on futures contracts.

Treasury Yields\*



\*Par yields from an estimated off-the-run Treasury yield curve.

Inflation Compensation\*

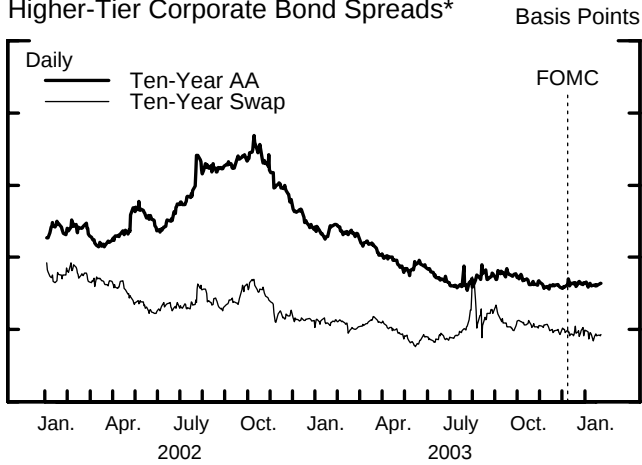


\*Based on a comparison of an estimated TIIS yield curve to an estimated nominal off-the-run Treasury yield curve.

Note: Vertical lines indicate December 8, 2003. Last daily observations are for January 22, 2004.

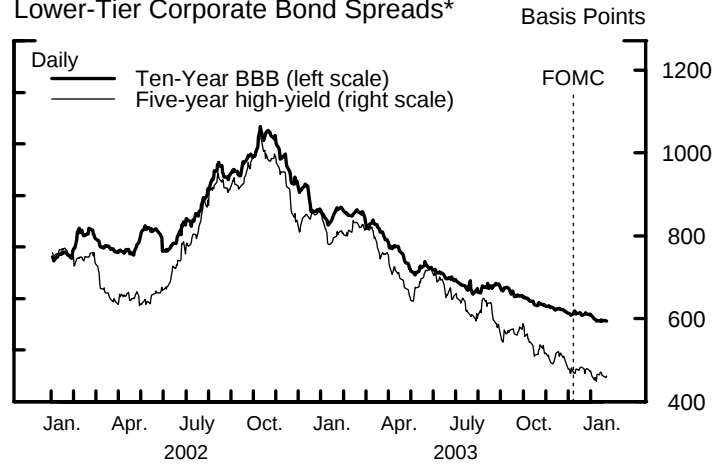
## Chart 2 Financial Market Indicators

Higher-Tier Corporate Bond Spreads\*



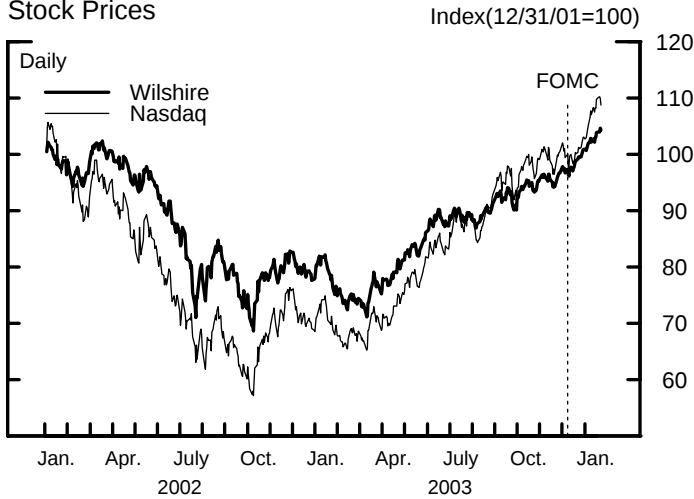
\*AA spread measured relative to an estimated off-the-run Treasury yield curve. Swap spread measured relative to the on-the-run Treasury security.

Lower-Tier Corporate Bond Spreads\*

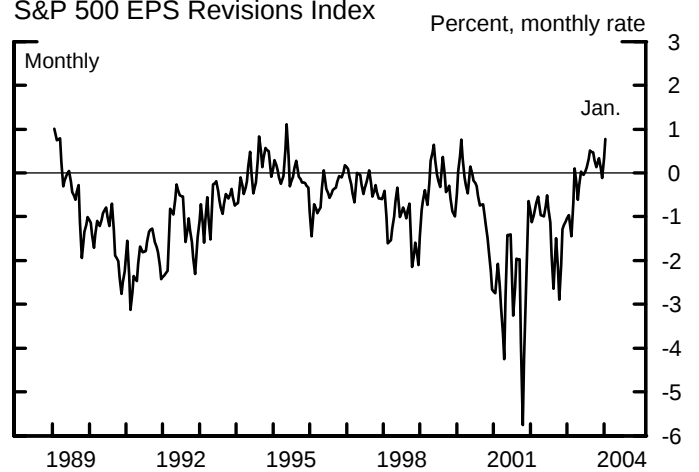


\*Measured relative to an estimated off-the-run Treasury yield curve.

Stock Prices

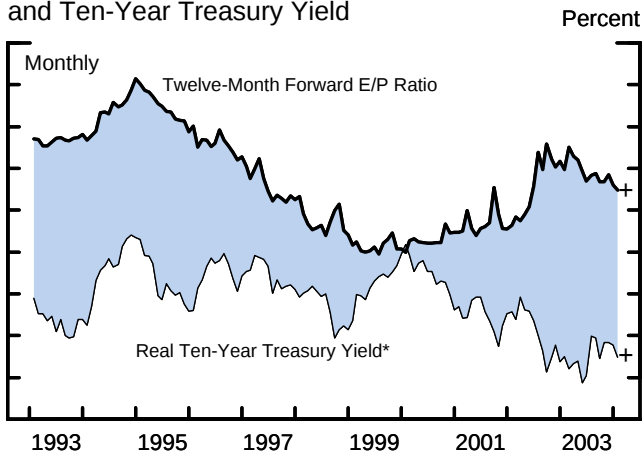


S&P 500 EPS Revisions Index



Note. Index is a weighted average of the percent change in the consensus forecasts of current-year and following-year EPS.

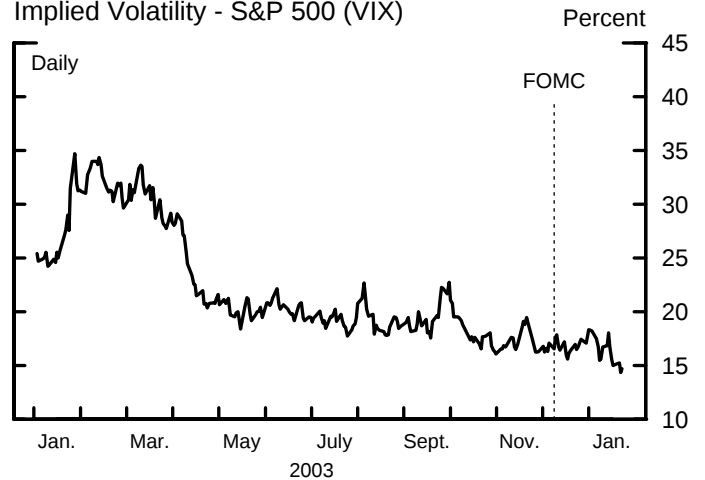
Earnings-Price Ratio for S&P 500 and Ten-Year Treasury Yield



\*End-of-month ten-year Treasury yield minus Philadelphia Fed ten-year expected inflation.

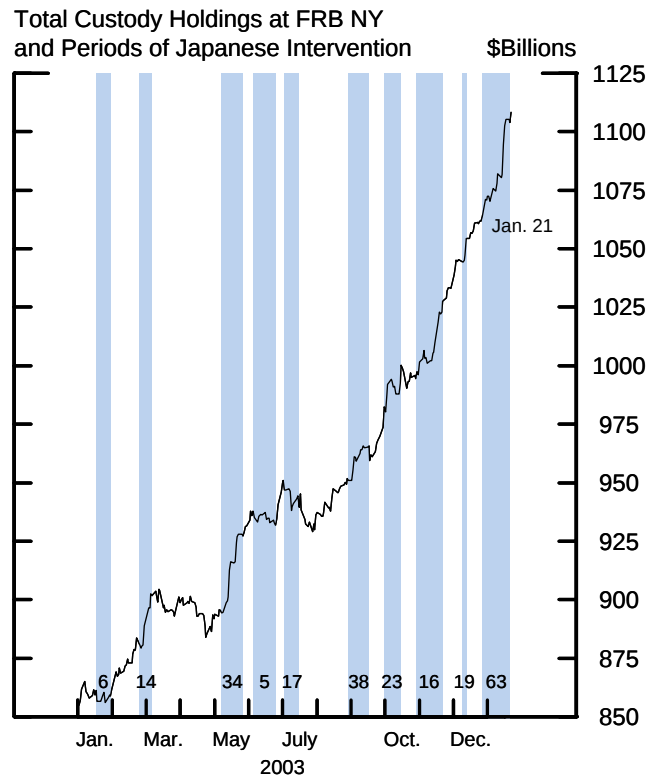
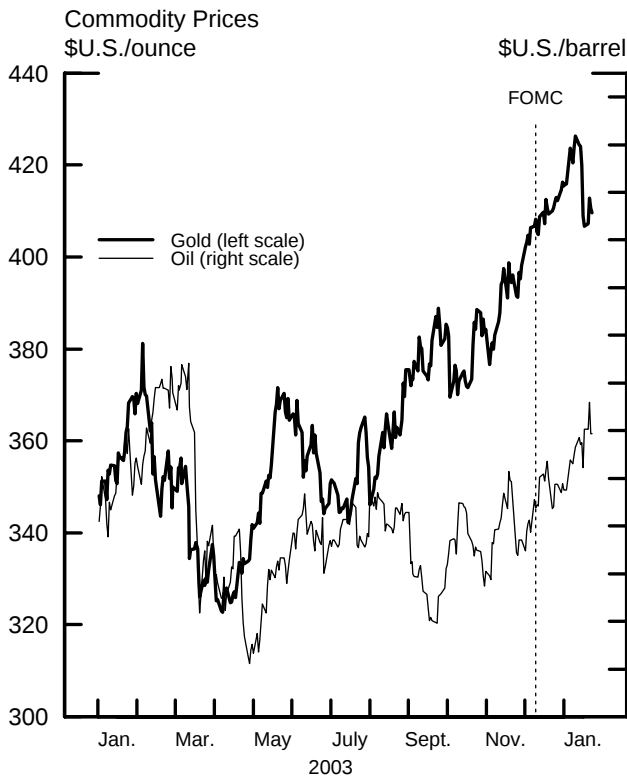
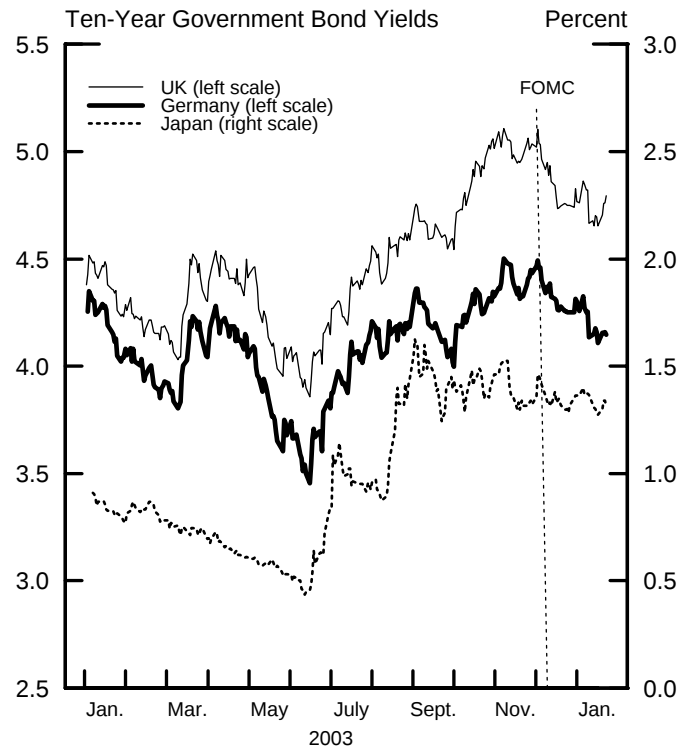
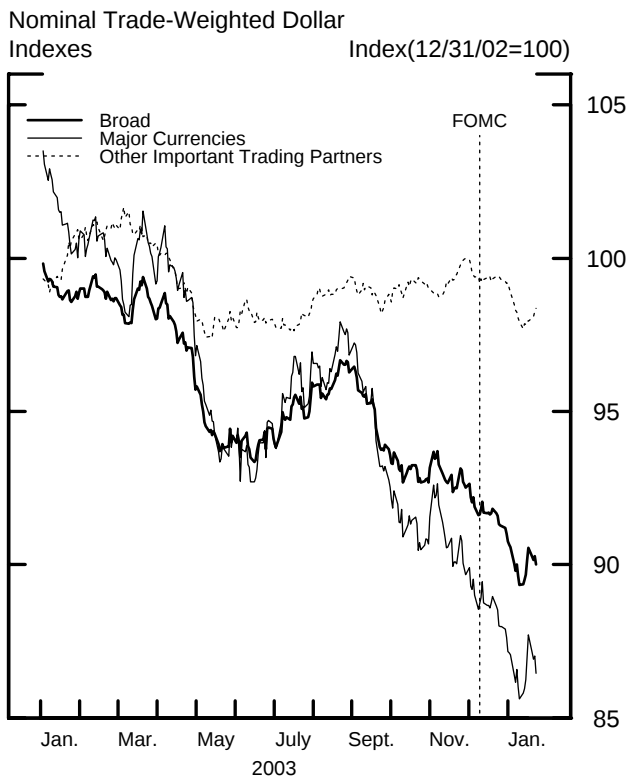
+ Denotes latest daily observation, January 22, 2004 .

Implied Volatility - S&P 500 (VIX)



Note: Vertical lines indicate December 8, 2003. Last daily observations are for January 22, 2004 .

**Chart 3**  
**International Financial Indicators**  
**(Daily Data)**



Note: Last daily observations are for January 22, 2004, except as noted.

Note: The periods of Japanese intervention are shaded blue. The figures at the bottom report the total purchases of U.S. dollars in billions for that intervention. The second-to-last intervention went from Dec. 8 to Dec. 12, straddling the Dec. 9 FOMC meeting.

decline apparently owed in part to heightened concerns about financing the U.S. current account deficit and the disappointing U.S. employment data for December, although those downward pressures were offset for a time by investors' reaction to comments by European officials expressing discomfort with the pace of the appreciation of the euro. On balance, the dollar fell about 4 percent against the euro over the period. The dollar depreciated more sharply against the pound—about 6 percent—on a growing conviction among market participants that the Bank of England would respond promptly to the quickening pace of U.K. economic activity. The dollar depreciated about 1 percent against the yen as the Bank of Japan purchased dollars in substantial volume and late in the intermeeting period raised its target range for bank reserves.<sup>3</sup> The Bank of Canada cut its policy interest rate 25 basis points following signs of deterioration in Canada's trade position, Canadian longer-term yields declined markedly, and the U.S. dollar ended the period about unchanged against the Canadian dollar. Yields on European long-term government debt declined 15 to 20 basis points over the intermeeting period, tracking yields on comparable long-term Treasuries fairly closely. Equity markets in major industrial countries continued their recent upward trends, with stock prices gaining 4 to 8 percent.

(4) The dollar fell about 1 percent against an index of the currencies of our other important trading partners. Equity markets in most developing Asian economies continued to advance, reflecting the global tech-sector revival and the region's robust economic recovery. Capital inflows reportedly added to upward pressure on exchange rates in many countries in the region, and the accumulation of foreign official reserves continued apace. Korean authorities took action to limit the

<sup>3</sup> . The Desk did not intervene during the period for the accounts of the System or Treasury.

impact of such flows on the won with new restrictions on Korean institutions' transactions in the non-deliverable forward currency market. The dollar also recorded a decline of about 2 percent against the Mexican peso as the Mexican industrial sector showed signs of reviving and a 3-1/2 percent drop versus the Brazilian *real* as activity in Brazil continued to recover. EMBI+ spreads on both countries' bonds narrowed further.

(5) With capital spending still modest and inventory accumulation only beginning to revive, businesses have been able to meet their financing needs primarily by relying on robust profits. While the outstanding amount of corporate bonds was little changed on net in December, commercial paper and C&I loans again posted substantial declines (Chart 4). For the nonfinancial business sector as a whole, debt grew in the fourth quarter at a 2-1/4 percent rate. Still, credit appears to be increasingly available to businesses, at least as evidenced by the easing of standards and terms on C&I loans reported in the January Senior Loan Officer Opinion Survey. In the household sector, interest rates on home mortgages declined over the intermeeting period in line with other market rates and, even though refinancing activity remained well below earlier last year, mortgage debt growth has been buoyed by elevated borrowing to purchase homes. Total household debt is estimated to have expanded at nearly a 9-3/4 percent rate in the fourth quarter, about matching its third-quarter advance. Federal debt expanded at a 9 percent pace in the fourth quarter, bringing the growth of domestic nonfinancial sector debt to an estimated 7 percent annual rate.

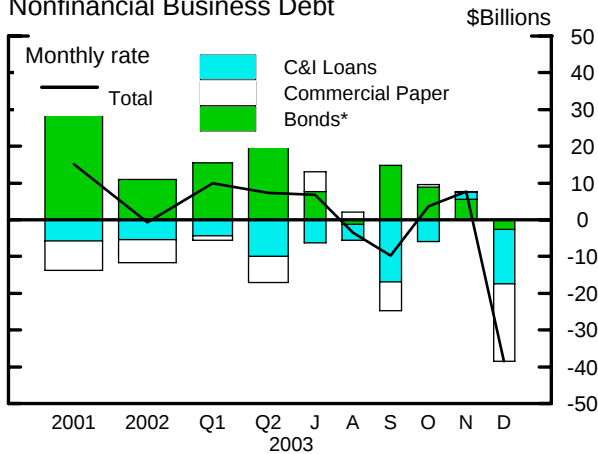
(6) M2 fell at a 1-3/4 percent pace in December, the fourth consecutive monthly decline.<sup>4</sup> M2 shrank at the same annual rate for the fourth quarter as a

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<sup>4</sup> These data incorporate the effects of the annual seasonal factor review and are confidential until their release, which is planned for January 29.

## Chart 4 Debt and Money Growth

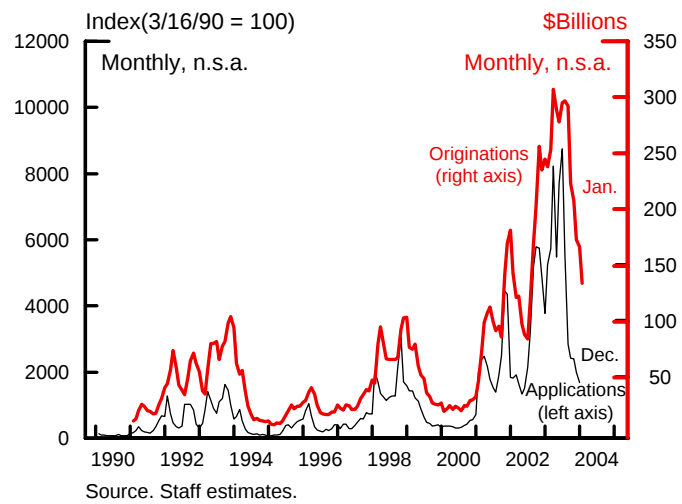
Changes in Selected Components of  
Nonfinancial Business Debt



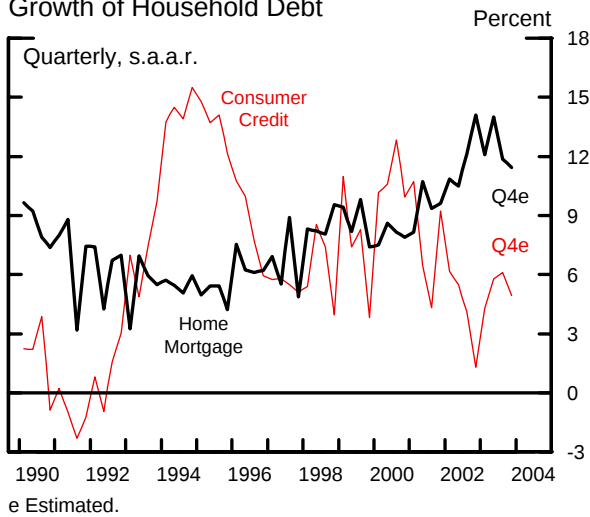
\* Not seasonally adjusted.

Note. C&I loans are adjusted for the estimated effects of FIN 46.

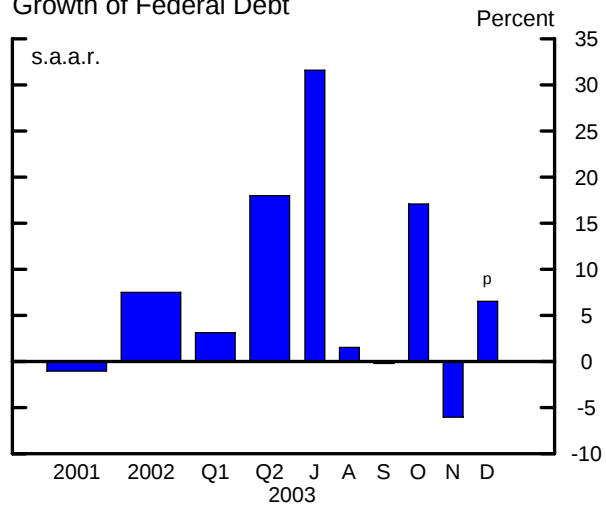
Mortgage Refinancing Activity



Growth of Household Debt



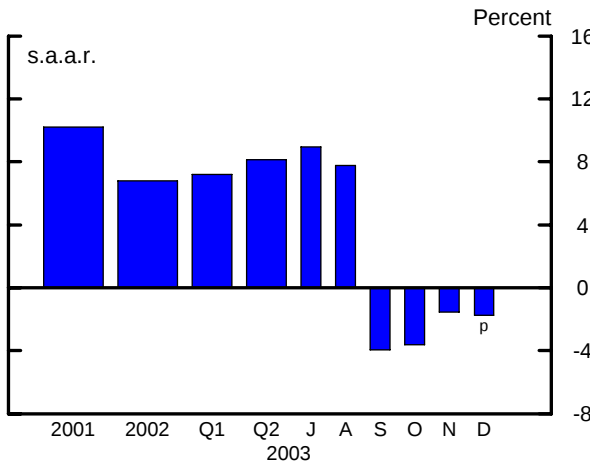
Growth of Federal Debt



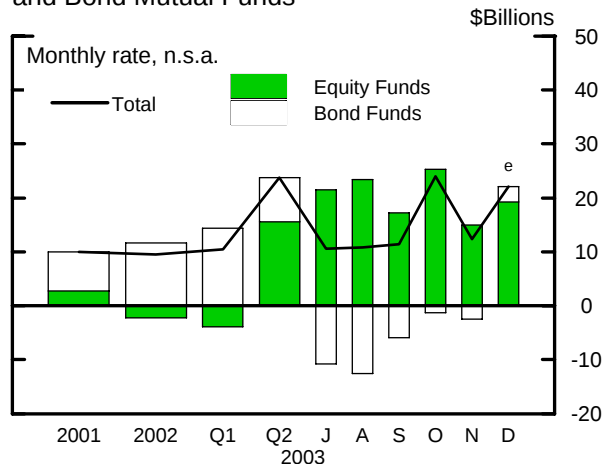
Note. Treasury debt held by the public.

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Growth of M2



Net Inflows to Equity  
and Bond Mutual Funds\*



whole, marking the largest contraction since the start of consistent data collection in 1959 and following on the heels of more than 7 percent growth over the first three quarters of last year. The weakness, which was concentrated in liquid deposits and, to a lesser extent, in retail money market mutual funds, probably owed in large part to the unwinding of mortgage refinancing effects and to portfolio shifts by households into equities. The slowdown in mortgage refinancing has slashed the amount of funds being parked in M2 deposits pending disbursement to holders of mortgage-backed securities. In addition, with fewer cash-out refinancings, proceeds from prior cash-outs that were held temporarily in M2 assets before being spent or invested elsewhere were not replenished. Furthermore, significant climbs in stock prices and a sharp reduction in equity price volatility may have encouraged brisk inflows to equity mutual funds late last year. The staff estimates that refinancing and portfolio shifts likely accounted for a 5 to 7 percentage point drag on M2 growth in the fourth quarter.

## Policy Alternatives

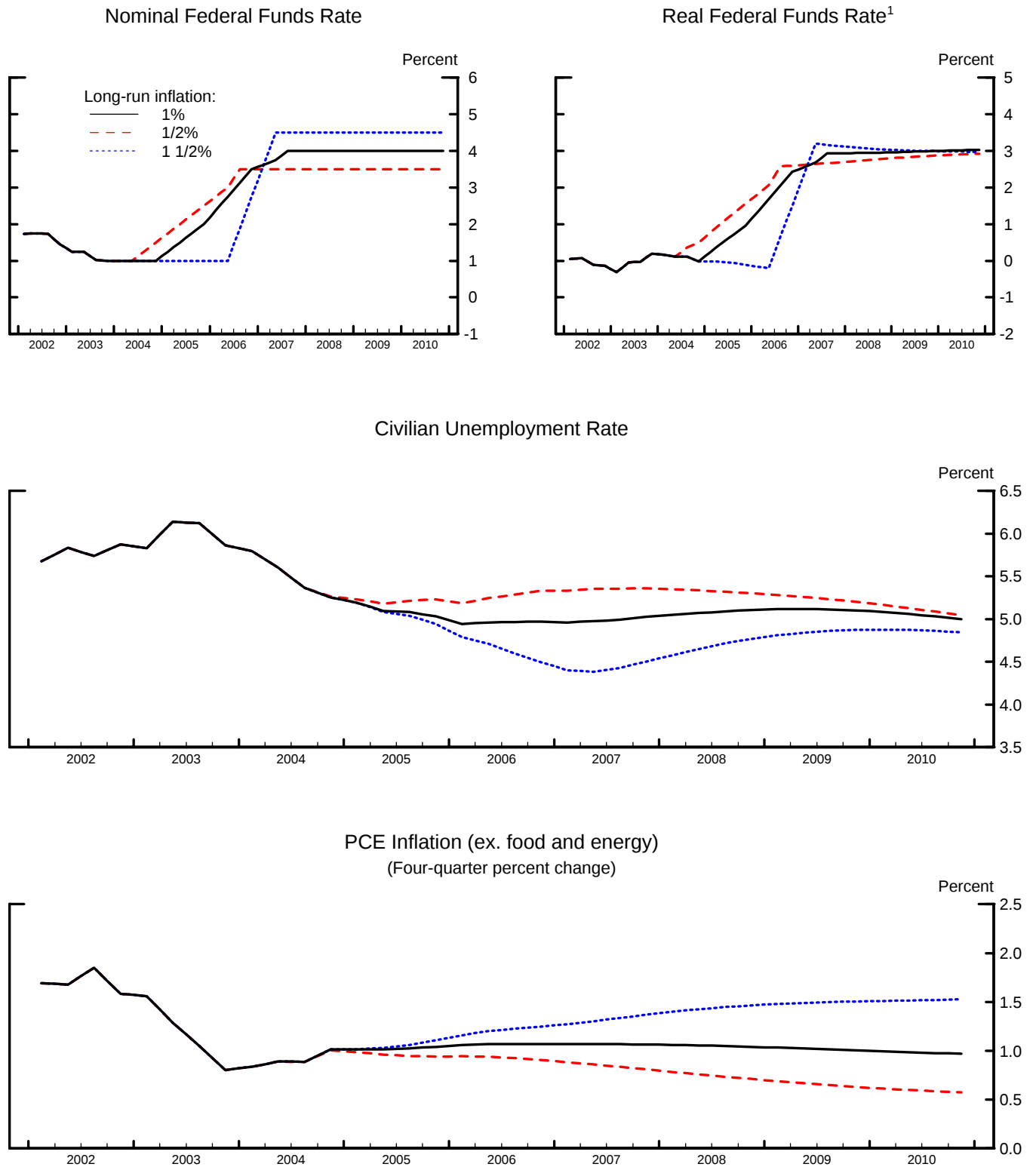
(7) More accommodative financial conditions than expected over the intermeeting period and a slight upward revision in estimated trend productivity growth have led the staff to nudge up its projection of economic growth for later this year and next year. The Greenbook assumes that the Committee will commence tightening policy in 2005 and gradually raise the funds rate to 2 percent by the end of that year. Longer-term corporate yields are projected to edge down as investors come to expect a path for policy that is more in line with the trajectory assumed by the staff and trim risk spreads as they see the economic expansion as more firmly established. Equity prices are expected to rise enough over the forecast interval to yield risk-adjusted returns comparable to those on fixed-income instruments. The dollar is assumed to continue falling, but at a gentler pace than of late. Given these supportive financial conditions, output is projected to expand about 5-1/4 percent this year, but, as fiscal policy shifts from substantial stimulus to mild restraint—related in part to the expiration of investment incentives—and monetary accommodation lessens, economic growth slows to about 4 percent in 2005. Production grows faster than the expansion of its potential, thereby closing the output gap and bringing the unemployment rate to its natural rate by the end of 2005. Core PCE inflation maintains a pace of around 1 percent over this year and next.

(8) To examine strategies and risks for monetary policy beyond 2005, various scenarios were created with the aid of the FRB/US model of the economy. To preserve the central features of the staff forecast, judgmental adjustments were made to the model in the period beyond of the Greenbook horizon. On the supply side, trend multifactor productivity is assumed to rise at around 1-3/4 percent annually, while capital deepening picks up a little, implying a gradual rise in potential output growth from 3-3/4 percent to around 4 percent in the latter part of the decade.

The natural rate of unemployment remains about 5 percent. As for aggregate demand, households are expected gradually to return their saving rate closer to its historical norm, putting some restraint on spending. Working to offset some of this restraint, the unified federal budget deficit is projected to rise to around 3 percent of GDP, reflecting rapid growth of federal interest payments and transfers, and the foreign exchange value of the dollar is anticipated to decline gradually in real terms, capping the current account deficit as a share of GDP at 5 percent. On net, according to the FRB/US model, the equilibrium real funds rate is expected to rise gradually over the rest of this decade to around 3 percent, a bit above its historical average.

(9) The first set of scenarios examines the interplay of the Committee's long-run goal for inflation and its ability to hold policy at its currently accommodative stance for a "considerable period." Chart 5 depicts an extension of the Greenbook forecast in which inflation remains near 1 percent (the solid line) and two alternatives in which policy is designed to keep core PCE inflation at 1/2 percent (the long dashed line) or 1-1/2 percent (the dotted line) in the latter part of the decade. With the staff projecting that resource slack will be about eliminated and the economy growing at a sustainable pace by the end of 2005, keeping inflation at 1 percent requires steadily raising the nominal short-term policy rate to catch up to its more gradually rising equilibrium value. Throughout this extension of the Greenbook baseline, the economy remains roughly in balance, with the unemployment rate holding near 5 percent and core PCE inflation close to the assumed 1 percent longer-run goal. Bringing inflation down toward a long-run value of around 1/2 percent, in contrast, could be consistent with initiating tightening in the second half of this year and holding unemployment slightly above its natural rate for a few years. Under the same economic assumptions, policy tightening can be delayed until the second half of 2006 if the Committee desired to push inflation up to 1-1/2 percent in the long run. In

Chart 5  
Alternative Strategies for Removing Policy Accomodation



1. The real federal funds rate is calculated as the quarterly average nominal funds rate minus the four-quarter lagged core PCE inflation rate as a proxy for inflation expectations.

that case, the economy could grow at a pace above that of its potential for several years, pulling the unemployment rate down to the neighborhood of 4-1/2 percent by 2007.

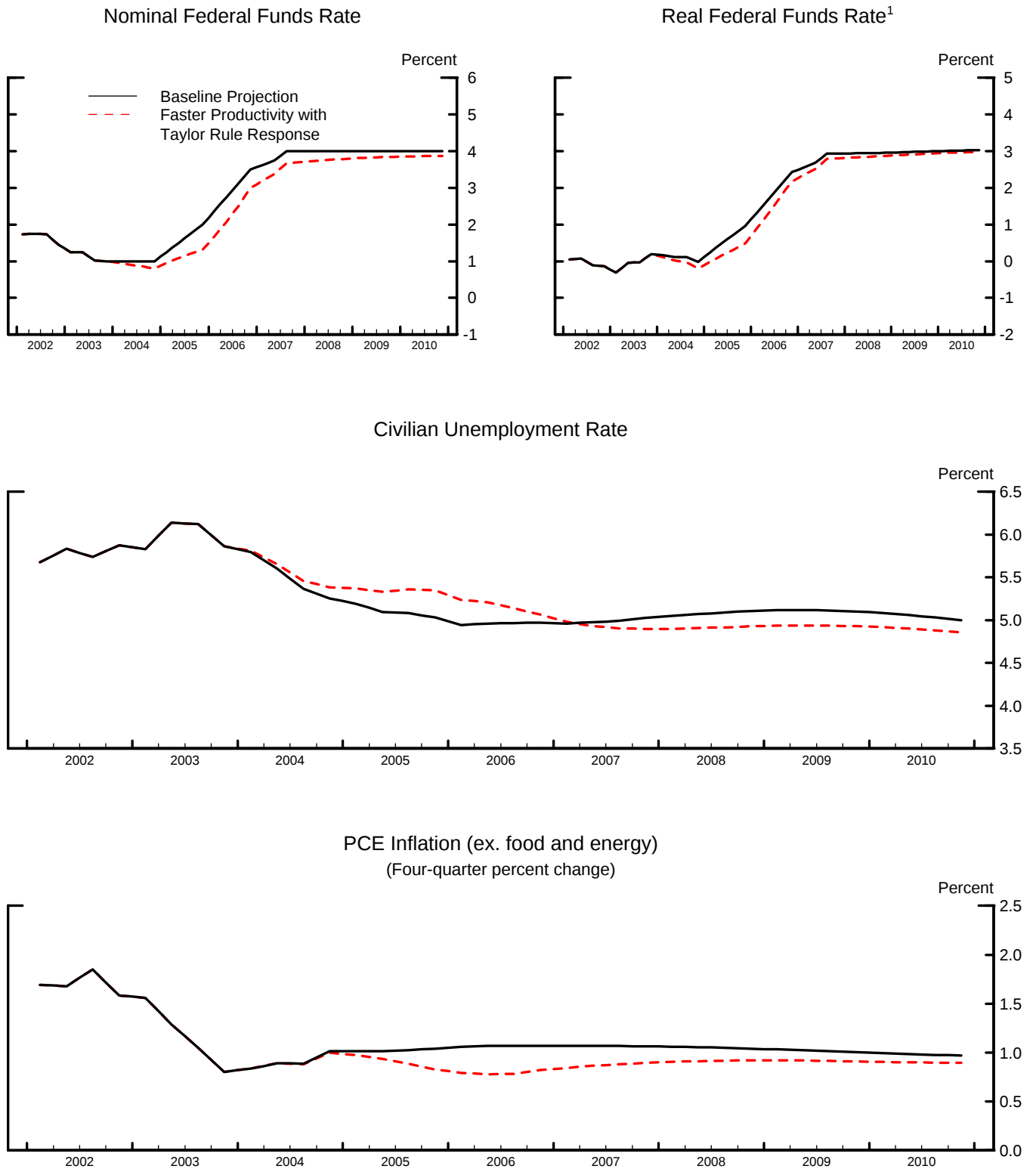
(10) Two additional scenarios were constructed to examine the policy implications of temporarily higher productivity growth, on the one hand, and more inflation pressures, on the other. For these simulations, an alternative policy path was constructed by assuming that monetary policy follows a Taylor rule so that the funds rate moves in response to deviations of the output gap and the inflation rate from the baseline extension in which the Committee has a long-run inflation goal of 1 percent.<sup>5</sup> In Chart 6, temporary gains in productivity are assumed to boost potential GDP growth by nearly 3/4 percentage point over this year and next, relative to the baseline projection, thereby putting downward pressure on the rate of inflation and pushing up the rate of unemployment. (This result is in contrast to the effects of a permanent increase in the trend rate of productivity growth, which would strengthen aggregate demand and raise the long-run equilibrium real funds rate because it significantly boosts households' wealth and sense of their permanent income. These scenarios are discussed in greater detail in the Greenbook.) To offset the effects on inflation and the output gap of the temporary productivity gains in this scenario, the Taylor rule prescribes a slight cut in the funds rate this year, before reversing course next year. Still, inflation dips as low as 3/4 percent in 2006.

(11) In the "more inflation pressures" scenario (Chart 7), the decrease in inflation observed over 2003 is attributed to a greater extent than in the Greenbook baseline to temporary special factors. Core PCE inflation is assumed to bounce back

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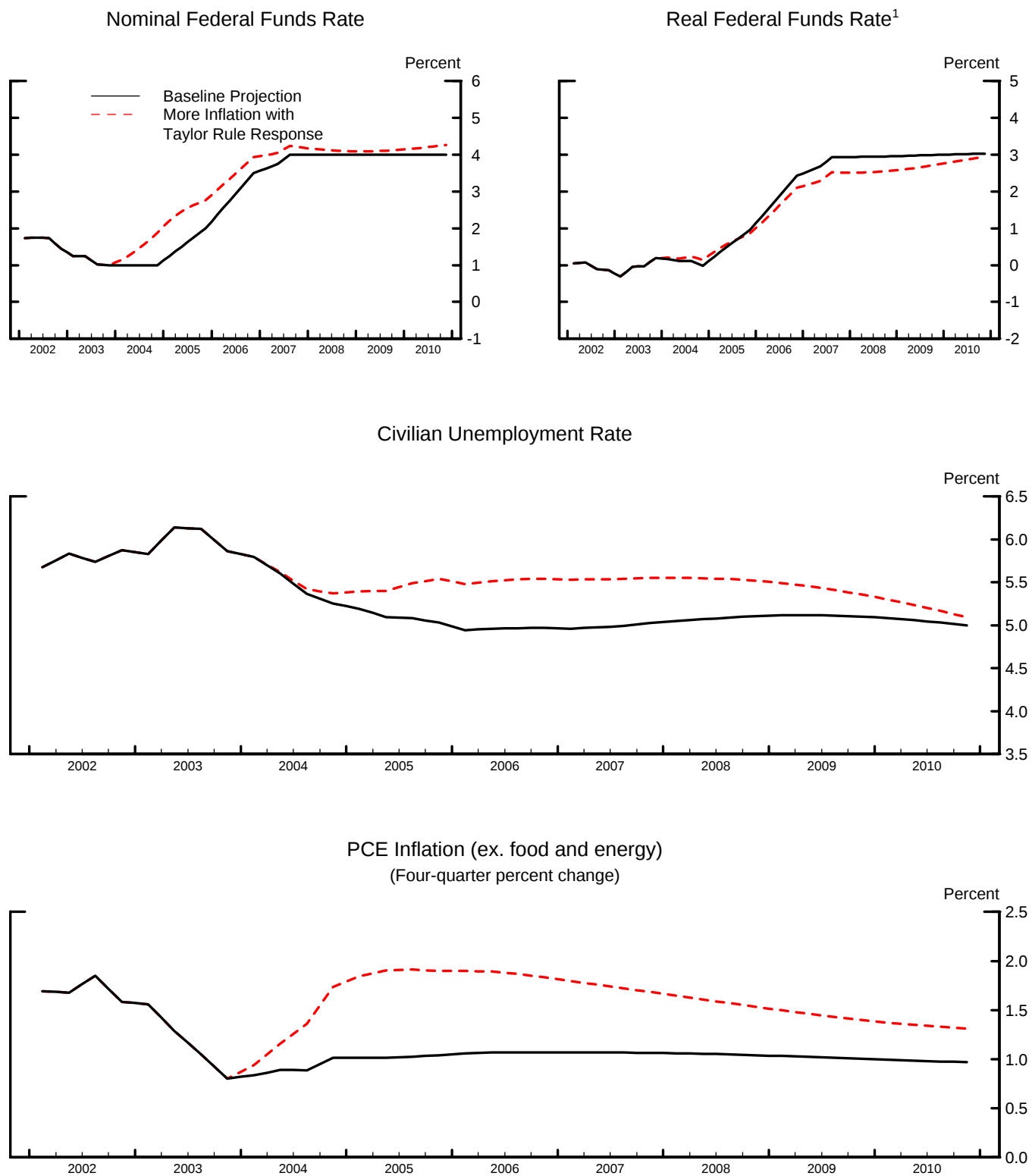
<sup>5</sup> More precisely, the difference of the fed funds rate from the baseline is one-half of the difference of the output gap from the baseline and 1-1/2 times the difference of the four-quarter core PCE inflation rate from the baseline.

Chart 6  
Temporarily Faster Productivity Growth



1. The real federal funds rate is calculated as the quarterly average nominal funds rate minus the four-quarter lagged core PCE inflation rate as a proxy for inflation expectations.

Chart 7  
More Inflation Pressures



1. The real federal funds rate is calculated as the quarterly average nominal funds rate minus the four-quarter lagged core PCE inflation rate as a proxy for inflation expectations.

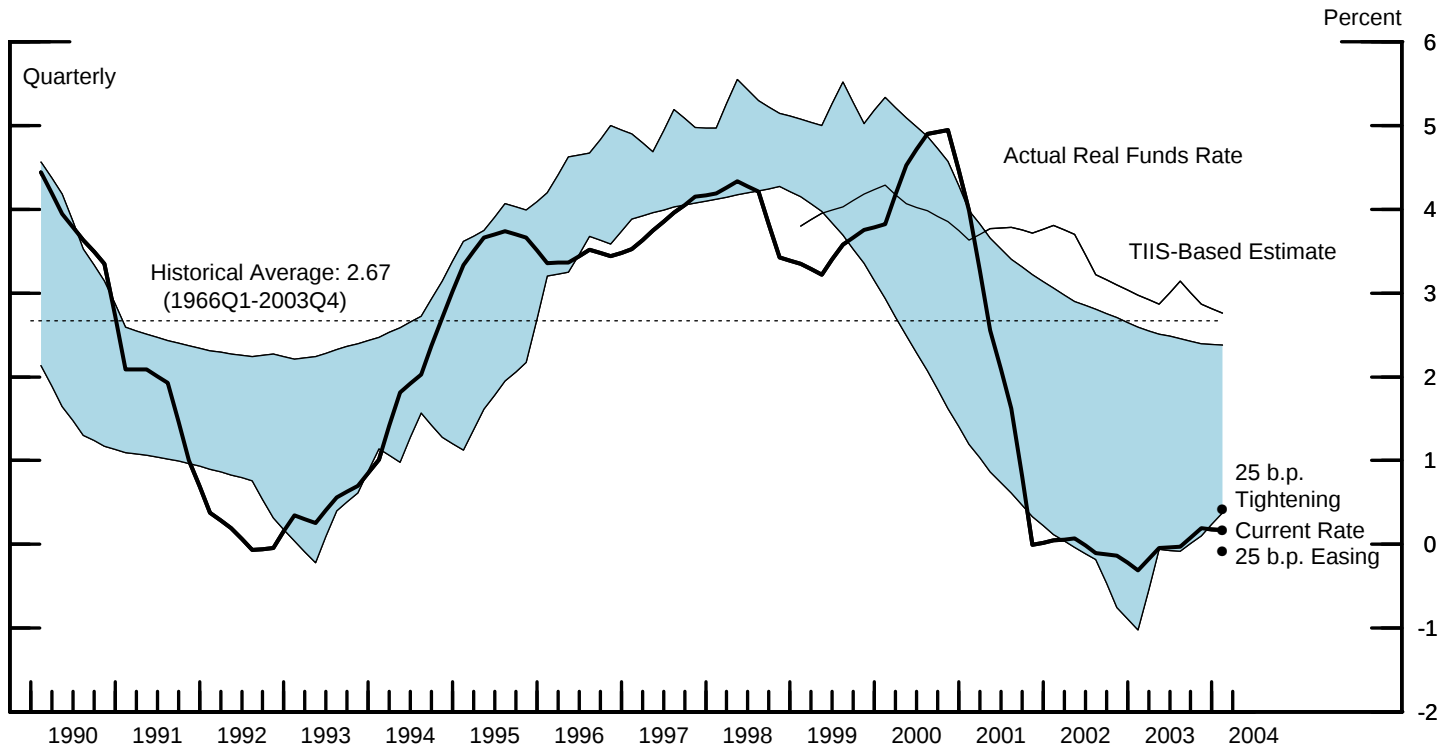
to a 1-3/4 percent rate this year and to head higher in the absence of any adjustment in the nominal federal funds rate. To counter these pressures given an assumed inflation goal of 1 percent, the Taylor rule calls for policy tightening to begin this year so as to keep the real funds rate from falling (the dashed lines). Although inflation nevertheless picks up a little over the next two years, unemployment is held above its natural rate for long enough to bring the inflation rate back toward the baseline result of 1 percent toward the latter part of the decade.

(12) With regard to the immediate choice of policy, if the Committee shares and finds acceptable the staff outlook of a closing output gap and a stable 1 percent core PCE inflation rate over the next two years, it might choose an **unchanged target for the federal funds rate** at this meeting. The Committee might interpret the recent strength in private spending, and particularly the rebound in manufacturing, as signs that a more robust expansion is under way and that the threat of a pernicious decline in inflation has receded further. Although the Committee may continue to see sizable odds on inflation edging lower, it may assign only modest cost to such an outcome if associated with faster-than-expected productivity growth rather than with unanticipated and potentially self-feeding weakness in aggregate demand. With economic growth rebounding and substantial monetary stimulus still in place, the Committee may even view disinflation risks as about offset by the probability that inflation pressures will be stronger than in the Greenbook. But even if the Committee believes that the next policy move will likely be a tightening, it might also judge that the process need not begin at this meeting because of the current low inflation rate and persistent resource slack. In particular, it may still see the costs of an accommodative policy stance as low in the current environment when weighed against the benefits of possibly countering an unexpected weakening in the expansion of private spending.

(13) By contrast, if the Committee is concerned, in light of recent unexpectedly soft inflation readings and weakness in the labor market, that economic growth may not remain rapid enough to remove resource slack before inflation declines significantly further, then it might choose to **cut the target federal funds rate 25 basis points** at this meeting. Though incoming data have pointed to a strengthening in private spending, the economic expansion may fail to gain traction if business confidence is set back or consumer demand is eroded by continued sluggish employment growth. The lackluster demand for funds by businesses, continuing contraction of M2 and bank credit, and higher energy prices may add to such concerns. Even if the economy expands as rapidly as predicted in the Greenbook, the slowdown in actual productivity growth projected by the staff may fail to materialize, implying further disinflation that, while not of the pernicious variety, may be unwelcome. Indeed, members may regard the prevailing rate of inflation as near the bottom of a range that they view as desirable over the longer run and may wish to implement a policy setting that reduces downside risks to growth while increasing the scope for inflation to move up somewhat over time, such as depicted in the longer-run scenario of Chart 5 in which the inflation goal is assumed to be 1-1/2 percent.

(14) Abstracting from the current stance of its communications with the public, the Committee might wish to consider a possible **tightening of policy** that would begin to remove some of the prevailing substantial degree of monetary ease. The economy now seems to be growing robustly, and over the last two years the real funds rate has been about zero, roughly around the lower edge of a range of estimated equilibrium values of this rate (Chart 8). Moreover, the Committee may put a high probability on the emergence of stronger inflation pressures, similar to that envisioned in many private sector forecasts. Indeed, an early tightening could help restrain inflation expectations, which remain above the current inflation rate. Given the

Chart 8  
Actual Real Federal Funds Rate and  
Range of Estimated Equilibrium Real Rates



Note: The shaded range represents the maximum and the minimum values each quarter of four estimates of the equilibrium real federal funds rate based on a statistical filter and the FRB/US model. Real federal funds rates employ a four-quarter moving average of core PCE inflation as a proxy for inflation expectations, with the staff projection used for 2004Q1.

Equilibrium Real Funds Rate Estimates (Percent)

|                                                 | <u>2002</u> | <u>2003H1</u> | <u>2003H2</u> | <u>2004Q1</u> |
|-------------------------------------------------|-------------|---------------|---------------|---------------|
| Statistical Filter                              |             |               |               |               |
| - Two-sided:                                    |             |               |               |               |
| Based on historical data and the staff forecast | 0.0         | 0.3           | 0.5           | 0.6           |
| <i>December Bluebook</i>                        | 0.2         | 0.4           | 0.5           | --            |
| - One-sided:                                    |             |               |               |               |
| Based on historical data*                       | 0.1         | -0.5          | 0.0           | 0.4           |
| <i>December Bluebook</i>                        | 0.5         | -0.2          | 0.1           | --            |
| FRB/US Model                                    |             |               |               |               |
| - Two-sided:                                    |             |               |               |               |
| Based on historical data and the staff forecast | 2.9         | 2.6           | 2.4           | 2.4           |
| <i>December Bluebook</i>                        | 2.0         | 1.7           | 1.6           | --            |
| - One-sided:                                    |             |               |               |               |
| Based on historical data**                      | 2.1         | 1.1           | 1.2           | 1.3           |
| <i>December Bluebook</i>                        | 1.2         | 0.2           | 0.4           | --            |
| Treasury Inflation-Indexed Securities           | 3.5         | 2.9           | 3.0           | 2.8           |
| <i>December Bluebook</i>                        | 3.5         | 2.9           | 3.0           | --            |

\* Also employs the staff projection for the current and next quarters.

\*\* Also employs the staff projection for the current quarter.

Note: The estimates of equilibrium real funds rates in the FRB/US model have been revised up following the rebenchmarking of the NIPA data and modifications of the model structure.

Committee's stated commitment to keep policy accommodative for a considerable period, a tightening at this meeting may not be in the cards. However, concerns that inflation pressures could arise more quickly than generally expected might induce the Committee to adjust its communications to better reflect its weighing of such expectations for policy.

### **Policy Announcement, Directive, and Assessment of Risks.**

(15) If the Committee believes that events are unfolding about as it had expected in December, then it may want to adopt language in the **rationale paragraph** of its announcement generally similar to that in the statement following the last meeting (given in appendix A), with appropriate revisions to reflect recent economic data. The rationale paragraph could again begin by noting that the accommodative stance of policy and vigorous growth in productivity are providing ongoing support to economic activity. In view of the data received over the intermeeting period, the Committee might wish to repeat the comment that "output is expanding briskly." However, given the divergences among the household and payroll surveys and other labor market indicators, the Committee may now want to characterize the labor market as "showing mixed signals" rather than as "improving modestly." The statement could again note that price increases remain muted and that inflation is expected to remain low. By contrast, if the Committee elects to ease policy at this meeting, the rationale paragraph would presumably need to be augmented to note the Committee's desire to help maintain the vigor of the economic expansion and to guard against a significant further decline in inflation, or, perhaps, to indicate its desire for a reversal of some portion of the recent disinflation. If the Committee elects to tighten policy, the rationale paragraph could be modified to note the current low real funds rate relative to measures of its equilibrium level.

(16) The range of choices regarding the **balance-of-risks paragraph** will depend importantly on whether the Committee decides to alter its communication strategy following the discussion of that topic on the first day of the meeting. This Bluebook assumes that the Committee decides to retain, at least for this meeting, the framework employed in the December announcement. If so, and if the Committee sees relatively little change in its assessment of the outlook, it may wish to issue a *statement similar to that of the last meeting*, with the risks to the prospects for economic growth in balance, the probability of an unwelcome fall in inflation almost equal to that of a rise in inflation, and no mention of an overall assessment of risks. Because the latest inflation data have been rather soft, the Committee might prefer to omit the reference to *diminished* disinflation risks, and merely provide relative odds of the change in inflation as in: “The probability of a fall in inflation appears only slightly above that of a rise in inflation.”

(17) Alternatively, the Committee may wish to consider changing its *assessment of risks to sustainable economic growth*. The Committee may have seen risks to the outlook for economic growth in December as balanced on the view that, although output was likely to expand above trend for a time, it was likely to slow to a sustainable pace by the time the level of output reached that of its potential. If, instead, Committee members interpret the term “sustainable economic growth” as simply denoting potential output growth and see the growth of spending as likely to exceed that of its potential for the next few quarters, they may prefer to announce at this meeting an assessment of net upside risks to sustainable growth.

(18) The Committee may also wish to alter its characterization of *the degree of balance regarding the inflation outlook* at this meeting. The strength of incoming data on spending might be taken as implying that the probability of an unwelcome fall in inflation has dropped even further. While the Committee still may see some

possibility that inflation ticks lower, it may also judge that outcome as much more likely to occur in the context of a rapidly expanding economy with robust productivity growth rather than slowing demand. Thus, the Committee might prefer a roughly balanced assessment of the probabilities of a rise or unwelcome fall in inflation. Alternatively, the surprisingly low recent inflation readings and the chance of a higher productivity scenario with large persisting output gaps and disinflation pressures may lead the Committee to retain at least the modest asymmetry about the inflation outlook adopted at the last meeting.

(19) Another issue related to the policy announcement is whether to retain, modify, or delete the sentence *“However, with inflation quite low and resource use slack, the Committee believes that policy accommodation can be maintained for a considerable period.”* The Committee’s treatment of this statement may depend on its views regarding the likely timing and steepness of a tightening phase for policy, as reflected in the previous discussion of alternative long-run inflation goals. If the Committee took its goal of price stability to be consistent with a longer-run inflation rate above 1 percent, then presumably it would put low odds on firming policy anytime soon and would be relatively more comfortable with retaining the “considerable period” sentence without modification. However, if members see an increased chance that, with continuing substantial financial accommodation, a combination of robust economic growth and higher inflation expectations will boost inflation above an acceptable range over the next year or two, it might want to delete this sentence to provide the flexibility for a near-term tightening of policy should that prove necessary. The backup in interest rates, drop in the stock market, and rise in the dollar that would likely result from deleting this sentence might be seen by the Committee as a check on the extent of financial stimulus in the economy. Even if the Committee put low odds on tightening policy sometime soon, it may view the cost of either delaying needed tightening or

reneging on its commitment, should inflation pressures pick up unexpectedly, as sufficiently damaging to its credibility to warrant removing the “considerable period” preemptively. However, the Committee could move gradually toward eventually deleting the sentence by declaring, for example, “*With inflation quite low and resource use slack, the Committee believes that it can be patient in adjusting the very accommodative stance of monetary policy.*” Market participants would likely read such a change as preparing the way for an eventual removal of the current highly accommodative policy stance, and interest rates would likely back up as investors brought forward the anticipated onset of tightening.

(20) If the Committee decides to retain a sentence, possibly in modified form, regarding the period for which policy accommodation can be maintained, it may feel that such a statement provides a sufficient summary assessment of the policy outlook and thus decide, as in December, that a separate sentence on the *overall balance of risks* is not needed. Even if the Committee drops the considerable-period sentence, if it views the risks to achieving sustainable growth as balanced and the probabilities of an increase or an unwelcome fall in inflation as close to balanced, then it may think an explicit statement of the overall risk assessment is redundant. However, if the Committee now believes that there are upside risks to sustainable growth or that the risk of disinflation remains clearly larger than the probability of an increase in inflation, it might want to consider resuming an announcement of the overall risk assessment.

(21) Should the Committee wish to follow the same procedure as at the last meeting, it could vote on the directive and on language associated with the announcement regarding the risk assessment. Draft language with a range of options is provided below.

## (1) Directive Wording

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee in the immediate future seeks conditions in reserve markets consistent with maintaining/INCREASING/REDUCING the federal funds rate at/TO an average of around \_\_\_\_  $\pm$  percent.

## (2) Risk Assessment

Against the background of its long-run goals of price stability and sustainable economic growth and of the information currently available, the Committee believes that the risks to the attainment of sustainable economic growth over the next few quarters [ARE WEIGHTED TOWARD THE DOWNSIDE] [are roughly equal] [ARE WEIGHTED TOWARD THE UPSIDE]; the probability of an unwelcome fall in inflation [THOUGH MINOR, EXCEEDS] [is almost equal to] [IS ABOUT EQUAL TO] that of a rise in inflation.

[TAKEN TOGETHER, THE OVERALL RISKS TO THE COMMITTEE'S OBJECTIVES ARE ROUGHLY IN BALANCE.] [THE PROSPECT OF GROWTH ABOVE A SUSTAINABLE RATE IS THE PREDOMINANT CONCERN.] [THE RISK OF INFLATION BECOMING UNDESIRABLY LOW IS THE PREDOMINANT CONCERN.]

**Market Reaction**

(22) Market participants universally expect no change in the stance of monetary policy at this meeting and generally view a change in the FOMC's risk assessment as unlikely. Thus, market prices would presumably be little affected by a statement encompassing no change in policy, no change in the risk assessments, and no change in the considerable-period sentence. By contrast, interest rates could rise substantially in response to a statement that eliminated the considerable-period sentence, particularly if accompanied by a risk assessment suggesting increased concerns about excessively rapid economic growth. The market reaction would be more subdued with a modified considerable-period sentence that continued to leave the impression that a tightening of policy was not imminent and would likely be gradual once begun.

(23) Investors would be caught unawares by a decision to ease policy at this meeting, and other short-term interest rates would decline with the federal funds rate. The consequences for longer-maturity yields would depend on the wording of the announcement and the market's reading of the implications of the decision for longer-term inflation rates. Intermediate- and longer-term yields would likely fall, and especially sharply if the announcement conveyed a sense that the FOMC intended to keep policy more accommodative for some time in order to counter the risks of a shortfall in aggregate demand or of disinflation pressures stemming from upward shifts in productivity. Given this downward revision to investors' expectations about the path of policy, stock prices would likely rise, and the dollar would fall. A decision to tighten policy at this meeting would similarly come as a shock to market participants, as it would seem at variance with their interpretation of the FOMC's recent communication efforts. Interest rates would likely rise sharply, though the extent of the increase in longer-term rates could be dampened somewhat by a

reduction in expectations for the long-run rate of inflation. The stock market would likely sell off substantially, and the dollar would rise.

### **Monetary and Credit Aggregates**

(24) The staff anticipates that M2 will resume growing this quarter. Refinancing effects should exert considerably less drag, and rapid growth of nominal income should provide a lift to money growth. Still, the velocity of M2 is expected to continue rising, as investors continue to favor capital market instruments at the expense of M2 assets. Over the period from December through June, M2 is projected to expand at a 3-1/2 percent annual rate.

(25) Growth of total domestic nonfinancial sector debt is expected to moderate this year but to a pace that still exceeds that of nominal income. Much of the deceleration reflects a slowing in the expansion of mortgage credit, as mortgage rates are expected to remain close to current levels for several quarters. Federal debt growth should rise this year but then drop back sharply in 2005 following the anticipated turn toward fiscal restraint. Despite reports of an easing in loan standards in the latest Senior Loan Officer Opinion Survey and the fairly narrow risk premia on corporate bonds, borrowing in the business sector is expected to pick up only slowly, as internal funding continues to be sufficient to cover projected increases in capital outlays and inventories over the next few quarters.

### Alternative Growth Rates for M2

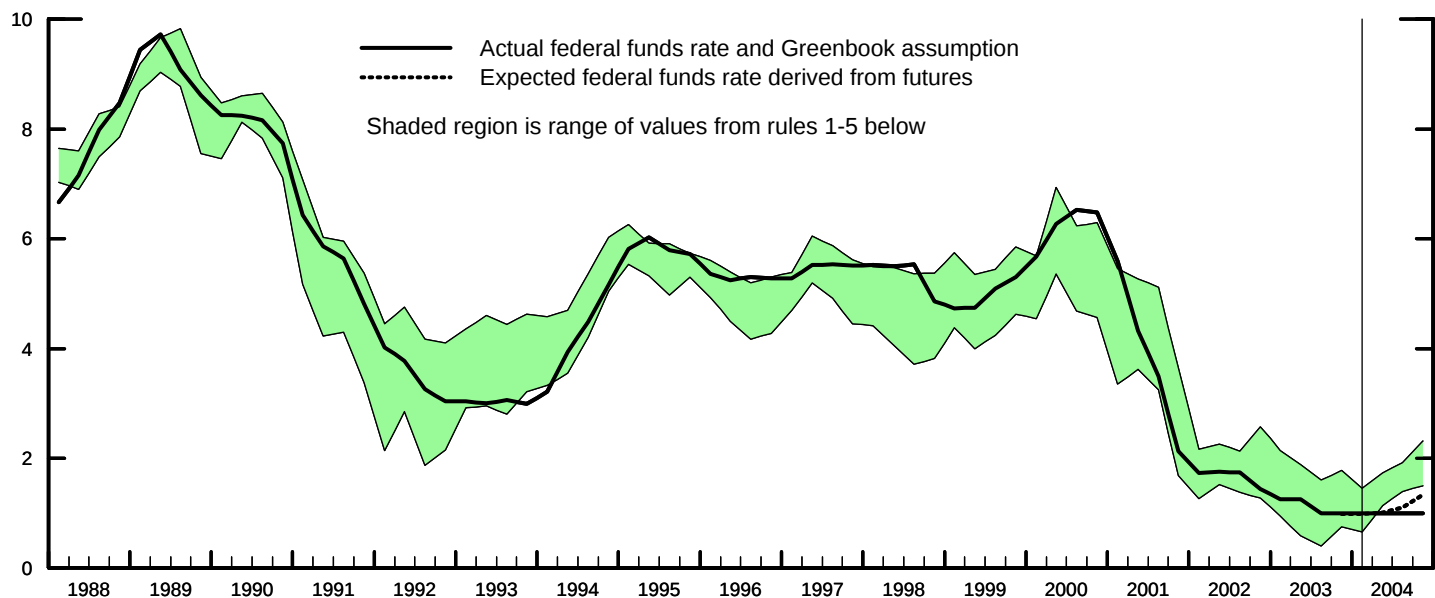
|                        |         | 25 bp Ease | No Change* | 25 bp Tighten |
|------------------------|---------|------------|------------|---------------|
| Monthly Growth Rates   |         |            |            |               |
|                        | Nov-03  | -1.5       | -1.5       | -1.5          |
|                        | Dec-03  | -1.8       | -1.8       | -1.8          |
|                        | Jan-04  | -1.5       | -1.5       | -1.5          |
|                        | Feb-04  | 5.4        | 5.0        | 4.6           |
|                        | Mar-04  | 4.3        | 3.5        | 2.7           |
|                        | Apr-04  | 3.2        | 2.4        | 1.6           |
|                        | May-04  | 7.7        | 7.0        | 6.3           |
|                        | Jun-04  | 5.7        | 5.2        | 4.7           |
| Quarterly Growth Rates |         |            |            |               |
|                        | 2003 Q3 | 7.0        | 7.0        | 7.0           |
|                        | 2003 Q4 | -1.8       | -1.8       | -1.8          |
|                        | 2004 Q1 | 0.6        | 0.4        | 0.3           |
|                        | 2004 Q2 | 5.0        | 4.3        | 3.6           |
| Annual Growth Rates    |         |            |            |               |
|                        | 2002    | 6.8        | 6.8        | 6.8           |
|                        | 2003    | 5.2        | 5.2        | 5.2           |
|                        | 2004    | 4.9        | 4.5        | 4.1           |
| Growth From            | To      |            |            |               |
| 2003 Q4                | Mar-04  | 1.6        | 1.3        | 1.0           |
| 2003 Q4                | Jun-04  | 3.3        | 2.9        | 2.4           |
| Dec-03                 | Mar-04  | 2.7        | 2.3        | 1.9           |
| Dec-03                 | Jun-04  | 4.2        | 3.6        | 3.1           |

\* This forecast is consistent with nominal GDP and interest rates in the Greenbook forecast.

## Appendix A: The December FOMC Announcement

| Paragraph              | Text                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Policy decision     | The Federal Open Market Committee decided today to keep its target for the federal funds rate at 1 percent.                                                                                                                                                                                                                                                                                                                                            |
| 2. Rationale           | The Committee continues to believe that an accommodative stance of monetary policy, coupled with robust underlying growth in productivity, is providing important ongoing support to economic activity. The evidence accumulated over the intermeeting period confirms that output is expanding briskly, and the labor market appears to be improving modestly. Increases in core consumer prices are muted and expected to remain low.                |
| 3. Assessment of risks | The Committee perceives that the upside and downside risks to the attainment of sustainable growth for the next few quarters are roughly equal. The probability of an unwelcome fall in inflation has diminished in recent months and now appears almost equal to that of a rise in inflation. However, with inflation quite low and resource use slack, the Committee believes that policy accommodation can be maintained for a considerable period. |
| 4. Vote                | Voting for the FOMC monetary policy action were: Alan Greenspan, Chairman; Timothy F. Geithner, Vice Chairman; Ben S. Bernanke; Susan S. Bies; J. Alfred Broaddus, Jr.; Roger W. Ferguson, Jr.; Edward M. Gramlich; Jack Guynn; Donald L. Kohn; Michael H. Moskow; Mark W. Olson; and Robert T. Parry.                                                                                                                                                 |

## Appendix B Taylor-Type Policy Rules



Values of the Federal Funds Rate from Policy Rules and Futures Markets

|                                                        | 2003<br>Q4 | 2004<br>Q1 | 2004<br>Q2 | 2004<br>Q3 | 2004<br>Q4 |
|--------------------------------------------------------|------------|------------|------------|------------|------------|
| <b>Outcome-based Rules</b>                             |            |            |            |            |            |
| 1. Baseline Taylor                                     | 1.78       | 1.45       | 1.74       | 1.92       | 2.31       |
| 2. Aggressive Taylor                                   | 0.75       | 0.66       | 1.14       | 1.52       | 2.10       |
| 3. Estimated                                           | 0.93       | 1.01       | 1.17       | 1.39       | 1.76       |
| <b>Forecast-based Rules</b>                            |            |            |            |            |            |
| 4. Estimated with Greenbook forecasts                  | 1.13       | 1.18       | 1.38       | 1.56       | 1.73       |
| 5. Estimated with FOMC forecasts                       | 0.99       | 1.15       | 1.28       | 1.41       | 1.50       |
| 6. First-difference rule*                              | 1.31       | 1.24       | 1.38       | 1.38       | 1.22       |
| <b>From Financial Markets</b>                          |            |            |            |            |            |
| 7. Estimated TIPS-based rule*                          | 1.19       | 1.19**     |            |            |            |
| Memo: Expected federal funds rate derived from futures | 0.99       | 0.99       | 1.01       | 1.08       | 1.28       |
| Memo: Greenbook assumption                             | 1.00       | 1.00       | 1.00       | 1.00       | 1.00       |

\* Not included in the shaded region in the figure.

\*\* Computed using average TIPS and nominal Treasury yields to date.

Note: Rule prescriptions for 2004Q1 through 2004Q4 are calculated using Greenbook projections for inflation and the output gap (or unemployment gap). It is assumed that there is no feedback from the rule prescriptions to the Greenbook projections over the indicated horizon.

## Rules Chart: Explanatory Notes

In all of the rules below,  $i_t$  denotes the federal funds rate,  $\pi_t$  the staff estimate at date  $t$  of trailing four-quarter core PCE inflation,  $(y_t - y_t^*)$  the staff estimate (at date  $t$ ) of the output gap,  $i_{t-1}$  the lagged federal funds rate,  $\varepsilon_{t-1}$  the residual from the rule's prescription the previous quarter,  $(y_{t+3|t} - y_{t+3|t}^*)$  the staff's three-quarter-ahead forecast of the output gap,  $(\Delta y_{t+3|t} - \Delta y_{t+3|t}^*)$  the staff's forecast of output growth less potential output growth three quarters ahead,  $\pi_{t+3|t}$  a three-quarter-ahead forecast of inflation, and  $(u_{t+3|t} - u_{t+3|t}^*)$  a three-quarter-ahead forecast of the unemployment gap. Data are quarterly averages taken from the Greenbook and staff memoranda closest to the middle of each quarter, unless otherwise noted.

| Rule                                                                                                                                                                                                                                                                                                                                                                                         | Specification                                                                                               | Root-mean-square error |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------|---------------|
|                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                             | 1988:1-2003:4          | 2001:1-2003:4 |
| Outcome-based                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                             |                        |               |
| 1. Baseline Taylor<br>Coefficients are benchmark values, not estimated.                                                                                                                                                                                                                                                                                                                      | $i_t = 2 + \pi_t + 0.5(y_t - y_t^*) + 0.5(\pi_{t-2})$                                                       | .93                    | .90           |
| 2. Aggressive Taylor<br>Coefficients are benchmark values, not estimated.                                                                                                                                                                                                                                                                                                                    | $i_t = 2 + \pi_t + (y_t - y_t^*) + 0.5(\pi_{t-2})$                                                          | .75                    | .77           |
| 3. Estimated Outcome-based<br>Rule includes both lagged interest rate and serial correlation in residual.                                                                                                                                                                                                                                                                                    | $i_t = 0.56i_{t-1} + 0.44 [1.14 + 0.97(y_t - y_t^*) + 1.47\pi_t] + 0.40\varepsilon_{t-1}$                   | .25                    | .28           |
| Forecast-based                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                             |                        |               |
| 4. Estimated Greenbook Forecast-based<br>Rule includes both lagged interest rate and serial correlation in residual.                                                                                                                                                                                                                                                                         | $i_t = 0.71i_{t-1} + 0.29 [0.73 + 1.05(y_{t+3 t} - y_{t+3 t}^*) + 1.55\pi_{t+3 t}] + 0.35\varepsilon_{t-1}$ | .26                    | .29           |
| 5. Estimated FOMC Forecast-based<br>Unemployment and inflation forecasts are from semiannual “central tendency” of FOMC forecasts, interpolated if necessary to yield 3-qtr-ahead values; $u_t^*$ forecast is from staff memoranda. Inflation forecasts are adjusted to core PCE deflator basis. Rule is estimated at semiannual frequency, and projected forward using Greenbook forecasts. | $i_t = 0.49i_{t-2} + 0.51 [0.32 - 2.13(u_{t+3 t} - u_{t+3 t}^*) + 1.58\pi_{t+3 t}]$                         | .46                    | .71           |
| 6. First-difference Rule<br>Coefficients are benchmark values, not estimated.                                                                                                                                                                                                                                                                                                                | $i_t = i_{t-1} + 0.5(\Delta y_{t+3 t} - \Delta y_{t+3 t}^*) + 0.5(\pi_{t+3 t} - 2)$                         | .87                    | .33           |
| From Financial Markets                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                             |                        |               |
| 7. Estimated TIPS-based<br>$\pi_{comp5 t}$ denotes the time- $t$ difference between 5-yr nominal Treasury yields and TIPS. Sample begins in 1999 due to TIPS volatility in 1997-8.                                                                                                                                                                                                           | $i_t = 0.94i_{t-1} + [-1.39 + 0.84\pi_{comp5 t}]$                                                           | .44 <sup>#</sup>       | .49           |

# RMSE calculated for 1999-2003 period.

# SELECTED INTEREST RATES

(percent)

|         |           | Short-term    |                                 |         |         |                      |             | Long-term                   |        |         |         |                |         |             |                      |                                            |      |
|---------|-----------|---------------|---------------------------------|---------|---------|----------------------|-------------|-----------------------------|--------|---------|---------|----------------|---------|-------------|----------------------|--------------------------------------------|------|
|         |           | Federal funds | Treasury bills secondary market |         |         | CDs secondary market | Comm. paper | Off-the-run Treasury yields |        |         |         | Indexed yields |         | Moody's Baa | Municipal Bond Buyer | Conventional home mortgages primary market |      |
|         |           |               | 4-week                          | 3-month | 6-month | 3-month              | 1-month     | 2-year                      | 5-year | 10-year | 30-year | 5-year         | 10-year |             |                      | Fixed-rate                                 | ARM  |
|         |           | 1             | 2                               | 3       | 4       | 5                    | 6           | 7                           | 8      | 9       | 10      | 11             | 12      | 13          | 14                   | 15                                         | 16   |
| 02      | -- High   | 1.92          | 1.82                            | 1.88    | 2.16    | 1.98                 | 1.81        | 3.75                        | 4.99   | 5.73    | 6.04    | 3.33           | 3.56    | 8.23        | 5.67                 | 7.18                                       | 5.26 |
|         | -- Low    | 1.15          | 1.07                            | 1.16    | 1.23    | 1.31                 | 1.26        | 1.59                        | 2.72   | 3.94    | 4.85    | 1.54           | 2.19    | 7.30        | 5.02                 | 5.93                                       | 4.01 |
| 03      | -- High   | 1.45          | 1.26                            | 1.22    | 1.28    | 1.32                 | 1.28        | 2.11                        | 3.60   | 4.80    | 5.61    | 1.84           | 2.48    | 7.48        | 5.50                 | 6.44                                       | 4.06 |
|         | -- Low    | 0.86          | 0.75                            | 0.81    | 0.82    | 0.93                 | 0.91        | 1.09                        | 2.06   | 3.29    | 4.37    | 0.77           | 1.56    | 6.01        | 4.78                 | 5.21                                       | 3.45 |
| Monthly |           |               |                                 |         |         |                      |             |                             |        |         |         |                |         |             |                      |                                            |      |
|         | Jan 03    | 1.24          | 1.17                            | 1.19    | 1.22    | 1.29                 | 1.25        | 1.76                        | 3.07   | 4.30    | 5.14    | 1.68           | 2.32    | 7.35        | 5.19                 | 5.92                                       | 3.99 |
|         | Feb 03    | 1.26          | 1.20                            | 1.19    | 1.20    | 1.27                 | 1.24        | 1.64                        | 2.92   | 4.14    | 5.01    | 1.28           | 2.03    | 7.06        | 5.15                 | 5.84                                       | 3.86 |
|         | Mar 03    | 1.25          | 1.18                            | 1.15    | 1.16    | 1.23                 | 1.21        | 1.59                        | 2.81   | 4.04    | 4.98    | 1.13           | 1.99    | 6.95        | 5.12                 | 5.75                                       | 3.76 |
|         | Apr 03    | 1.26          | 1.16                            | 1.15    | 1.17    | 1.24                 | 1.22        | 1.65                        | 2.94   | 4.16    | 5.07    | 1.39           | 2.21    | 6.85        | 5.17                 | 5.81                                       | 3.80 |
|         | May 03    | 1.26          | 1.08                            | 1.09    | 1.10    | 1.22                 | 1.21        | 1.41                        | 2.53   | 3.74    | 4.70    | 1.19           | 1.94    | 6.38        | 4.92                 | 5.48                                       | 3.66 |
|         | Jun 03    | 1.22          | 0.98                            | 0.94    | 0.94    | 1.04                 | 1.06        | 1.23                        | 2.27   | 3.51    | 4.56    | 0.95           | 1.75    | 6.19        | 4.87                 | 5.23                                       | 3.52 |
|         | Jul 03    | 1.01          | 0.89                            | 0.92    | 0.97    | 1.05                 | 1.01        | 1.50                        | 2.84   | 4.14    | 5.06    | 1.33           | 2.12    | 6.62        | 5.14                 | 5.63                                       | 3.57 |
|         | Aug 03    | 1.03          | 0.95                            | 0.97    | 1.05    | 1.08                 | 1.03        | 1.89                        | 3.36   | 4.64    | 5.46    | 1.53           | 2.32    | 7.01        | 5.43                 | 6.26                                       | 3.79 |
|         | Sep 03    | 1.01          | 0.91                            | 0.96    | 1.03    | 1.08                 | 1.02        | 1.70                        | 3.16   | 4.45    | 5.30    | 1.34           | 2.19    | 6.79        | 5.30                 | 6.15                                       | 3.86 |
|         | Oct 03    | 1.01          | 0.91                            | 0.94    | 1.02    | 1.10                 | 1.02        | 1.75                        | 3.17   | 4.45    | 5.30    | 1.24           | 2.07    | 6.73        | 5.27                 | 5.95                                       | 3.74 |
|         | Nov 03    | 1.00          | 0.94                            | 0.95    | 1.04    | 1.11                 | 1.02        | 1.92                        | 3.27   | 4.45    | 5.27    | 1.29           | 1.97    | 6.66        | 5.15                 | 5.93                                       | 3.75 |
|         | Dec 03    | 0.98          | 0.89                            | 0.92    | 1.01    | 1.10                 | 1.03        | 1.90                        | 3.25   | 4.41    | 5.22    | 1.26           | 1.99    | 6.60        | 5.11                 | 5.88                                       | 3.76 |
| Weekly  |           |               |                                 |         |         |                      |             |                             |        |         |         |                |         |             |                      |                                            |      |
|         | Nov 21 03 | 0.99          | 0.94                            | 0.95    | 1.03    | 1.11                 | 1.02        | 1.83                        | 3.14   | 4.33    | 5.18    | 1.21           | 1.89    | 6.57        | 5.09                 | 5.83                                       | 3.72 |
|         | Nov 28 03 | 1.00          | 0.96                            | 0.95    | 1.04    | 1.11                 | 1.02        | 1.95                        | 3.25   | 4.41    | 5.24    | 1.30           | 1.97    | 6.61        | 5.09                 | 5.89                                       | 3.77 |
|         | Dec 5 03  | 1.00          | 0.95                            | 0.94    | 1.04    | 1.11                 | 1.02        | 2.04                        | 3.38   | 4.52    | 5.30    | 1.38           | 2.03    | 6.66        | 5.19                 | 6.02                                       | 3.77 |
|         | Dec 12 03 | 0.98          | 0.91                            | 0.92    | 1.02    | 1.10                 | 1.02        | 1.90                        | 3.26   | 4.43    | 5.27    | 1.21           | 1.95    | 6.63        | 5.15                 | 5.88                                       | 3.77 |
|         | Dec 19 03 | 1.00          | 0.86                            | 0.90    | 0.98    | 1.10                 | 1.03        | 1.83                        | 3.18   | 4.35    | 5.17    | 1.22           | 1.98    | 6.54        | 5.06                 | 5.82                                       | 3.77 |
|         | Dec 26 03 | 0.98          | 0.85                            | 0.90    | 1.00    | 1.10                 | 1.06        | 1.85                        | 3.19   | 4.34    | 5.14    | 1.24           | 1.98    | 6.54        | 5.04                 | 5.81                                       | 3.73 |
|         | Jan 2 04  | 0.96          | 0.85                            | 0.93    | 1.02    | 1.09                 | 1.03        | 1.85                        | 3.24   | 4.43    | 5.23    | 1.27           | 2.02    | 6.63        | 5.05                 | 5.85                                       | 3.72 |
|         | Jan 9 04  | 0.98          | 0.87                            | 0.90    | 1.02    | 1.07                 | 1.00        | 1.82                        | 3.20   | 4.40    | 5.23    | 1.24           | 1.96    | 6.56        | 5.03                 | 5.87                                       | 3.76 |
|         | Jan 16 04 | 1.00          | 0.84                            | 0.89    | 0.97    | 1.05                 | 0.98        | 1.65                        | 2.97   | 4.17    | 5.06    | 1.07           | 1.85    | 6.37        | 4.92                 | 5.66                                       | 3.62 |
|         | Jan 23 04 | --            | 0.77                            | 0.89    | 0.97    | 1.05                 | 0.98        | 1.68                        | 2.99   | 4.17    | 5.04    | 1.02           | 1.82    | --          | --                   | 5.64                                       | 3.56 |
| Daily   |           |               |                                 |         |         |                      |             |                             |        |         |         |                |         |             |                      |                                            |      |
|         | Jan 6 04  | 0.92          | 0.87                            | 0.92    | 1.03    | 1.08                 | 1.00        | 1.83                        | 3.23   | 4.42    | 5.25    | 1.23           | 1.96    | 6.61        | --                   | --                                         | --   |
|         | Jan 7 04  | 0.94          | 0.87                            | 0.91    | 1.02    | 1.07                 | 1.00        | 1.82                        | 3.21   | 4.39    | 5.23    | 1.22           | 1.94    | 6.57        | --                   | --                                         | --   |
|         | Jan 8 04  | 0.99          | 0.87                            | 0.88    | 1.01    | 1.06                 | 0.99        | 1.83                        | 3.21   | 4.39    | 5.23    | 1.28           | 1.98    | 6.53        | --                   | --                                         | --   |
|         | Jan 9 04  | 0.99          | 0.87                            | 0.87    | 0.97    | 1.05                 | 0.98        | 1.66                        | 3.02   | 4.24    | 5.12    | 1.15           | 1.89    | 6.42        | --                   | --                                         | --   |
|         | Jan 12 04 | 1.00          | 0.87                            | 0.90    | 0.98    | 1.05                 | 1.00        | 1.66                        | 3.01   | 4.23    | 5.12    | 1.13           | 1.89    | 6.43        | --                   | --                                         | --   |
|         | Jan 13 04 | 0.99          | 0.86                            | 0.89    | 0.97    | 1.05                 | 0.98        | 1.61                        | 2.95   | 4.18    | 5.08    | 1.07           | 1.84    | 6.40        | --                   | --                                         | --   |
|         | Jan 14 04 | 1.01          | 0.85                            | 0.88    | 0.96    | 1.05                 | 0.98        | 1.63                        | 2.93   | 4.14    | 5.04    | 1.05           | 1.85    | 6.34        | --                   | --                                         | --   |
|         | Jan 15 04 | 1.04          | 0.81                            | 0.88    | 0.96    | 1.05                 | 0.98        | 1.66                        | 2.94   | 4.12    | 5.01    | 1.04           | 1.84    | 6.32        | --                   | --                                         | --   |
|         | Jan 16 04 | 0.98          | 0.79                            | 0.89    | 0.97    | 1.05                 | 0.98        | 1.70                        | 3.01   | 4.17    | 5.04    | 1.04           | 1.84    | 6.34        | --                   | --                                         | --   |
|         | Jan 19 04 | 0.98          | --                              | --      | --      | --                   | --          | --                          | --     | --      | --      | 1.04           | 1.84    | --          | --                   | --                                         | --   |
|         | Jan 20 04 | 1.02          | 0.78                            | 0.90    | 0.98    | 1.05                 | 0.97        | 1.70                        | 3.03   | 4.20    | 5.07    | 1.04           | 1.84    | 6.39        | --                   | --                                         | --   |
|         | Jan 21 04 | 1.00          | 0.81                            | 0.89    | 0.96    | 1.05                 | 0.99        | 1.68                        | 3.00   | 4.18    | 5.06    | 0.99           | 1.79    | 6.38        | --                   | --                                         | --   |
|         | Jan 22 04 | --            | 0.73                            | 0.88    | 0.96    | 1.05                 | --          | 1.64                        | 2.94   | 4.12    | 5.00    | 0.96           | 1.77    | --          | --                   | --                                         | --   |

NOTE: Weekly data for columns 1 through 13 are averages of daily data. Columns 2 through 4 are on a coupon equivalent basis. Data in column 6 are interpolated from data on certain commercial paper trades settled by the Depository Trust Company. Column 14 is the Bond Buyer revenue index, which is a 1-day quote for Thursday. Column 15 is the average contract rate on new commitments for fixed-rate mortgages (FRMs) with 80 percent loan-to-value ratios at major institutional lenders. Column 16 is the average initial contract rate on new commitments for 1-year, adjustable-rate mortgages (ARMs) at major institutional lenders offering both FRMs and ARMs with the same number of discount points.

# Money Aggregates

Seasonally adjusted

| Period                         | M1     | M2     | nontransactions components |            | M3     |
|--------------------------------|--------|--------|----------------------------|------------|--------|
|                                |        |        | In M2                      | In M3 only |        |
|                                | 1      | 2      | 3                          | 4          | 5      |
| <b>Annual growth rates(%):</b> |        |        |                            |            |        |
| Annually (Q4 to Q4)            |        |        |                            |            |        |
| 2001                           | 6.8    | 10.2   | 11.2                       | 18.4       | 12.7   |
| 2002                           | 3.3    | 6.8    | 7.8                        | 5.6        | 6.4    |
| 2003 p                         | 6.7    | 5.2    | 4.8                        | 3.9        | 4.8    |
| <b>Quarterly(average)</b>      |        |        |                            |            |        |
| 2003-Q1                        | 7.9    | 7.2    | 7.0                        | 5.5        | 6.7    |
| Q2                             | 8.5    | 8.1    | 8.0                        | 0.4        | 5.7    |
| Q3                             | 7.6    | 7.0    | 6.9                        | 13.6       | 9.1    |
| Q4 p                           | 2.3    | -1.8   | -2.8                       | -3.8       | -2.4   |
| <b>Monthly</b>                 |        |        |                            |            |        |
| 2002-Dec.                      | 12.4   | 6.0    | 4.3                        | 19.8       | 10.4   |
| 2003-Jan.                      | 3.3    | 6.7    | 7.6                        | -8.6       | 1.8    |
| Feb.                           | 14.2   | 8.8    | 7.4                        | -2.3       | 5.3    |
| Mar.                           | 5.4    | 5.2    | 5.2                        | 2.5        | 4.4    |
| Apr.                           | 4.9    | 8.8    | 9.7                        | -3.0       | 5.1    |
| May                            | 11.5   | 9.8    | 9.3                        | 2.7        | 7.5    |
| June                           | 12.7   | 7.4    | 6.0                        | 4.4        | 6.5    |
| July                           | 4.6    | 9.0    | 10.1                       | 36.7       | 17.6   |
| Aug.                           | 8.2    | 7.8    | 7.7                        | -1.5       | 4.9    |
| Sep.                           | 0.7    | -3.9   | -5.2                       | 3.8        | -1.5   |
| Oct.                           | 1.3    | -3.6   | -4.9                       | -7.2       | -4.8   |
| Nov.                           | -0.7   | -1.5   | -1.8                       | -5.7       | -2.8   |
| Dec. p                         | 8.4    | -1.8   | -4.5                       | -7.0       | -3.4   |
| <b>Levels (\$billions):</b>    |        |        |                            |            |        |
| Monthly                        |        |        |                            |            |        |
| 2003-Aug.                      | 1282.1 | 6117.6 | 4835.5                     | 2805.7     | 8923.4 |
| Sep.                           | 1282.9 | 6097.5 | 4814.5                     | 2814.5     | 8912.0 |
| Oct.                           | 1284.3 | 6079.1 | 4794.8                     | 2797.5     | 8876.6 |
| Nov.                           | 1283.6 | 6071.3 | 4787.7                     | 2784.3     | 8855.6 |
| Dec. p                         | 1292.6 | 6062.4 | 4769.8                     | 2768.1     | 8830.5 |

p preliminary

These data incorporate the effects of the annual seasonal factor review and are confidential until their release, which is planned for January 29. Weekly levels are not shown because re-estimation of weekly seasonal factors is not yet complete.

**Changes in System Holdings of Securities <sup>1</sup>**  
**(Millions of dollars, not seasonally adjusted)**

Strictly Confidential  
Class II FOMC

January 22, 2004

|                       | Treasury Bills                |                    |               | Treasury Coupons           |        |       |         |                    |               | Federal<br>Agency<br>Redemptions<br>(-) | Net change<br>total<br>outright<br>holdings <sup>4</sup> | Net RPs <sup>5</sup>        |                            |               |
|-----------------------|-------------------------------|--------------------|---------------|----------------------------|--------|-------|---------|--------------------|---------------|-----------------------------------------|----------------------------------------------------------|-----------------------------|----------------------------|---------------|
|                       | Net<br>Purchases <sup>2</sup> | Redemptions<br>(-) | Net<br>Change | Net Purchases <sup>3</sup> |        |       |         | Redemptions<br>(-) | Net<br>Change |                                         |                                                          | Short-<br>Term <sup>6</sup> | Long-<br>Term <sup>7</sup> | Net<br>Change |
|                       |                               |                    |               | < 1                        | 1-5    | 5-10  | Over 10 |                    |               |                                         |                                                          |                             |                            |               |
| 2001                  | 15,503                        | 10,095             | 5,408         | 15,663                     | 22,814 | 6,003 | 8,531   | 16,802             | 36,208        | 120                                     | 41,496                                                   | 3,492                       | 636                        | 4,128         |
| 2002                  | 21,421                        | ---                | 21,421        | 12,720                     | 12,748 | 5,074 | 2,280   | ---                | 32,822        | ---                                     | 54,242                                                   | -5,366                      | 517                        | -4,850        |
| 2003                  | 18,150                        | ---                | 18,150        | 6,565                      | 7,814  | 4,107 | 220     | ---                | 18,706        | 10                                      | 36,846                                                   | 2,223                       | 1,036                      | 3,259         |
| 2002 QIV              | 250                           | ---                | 250           | ---                        | 339    | 314   | ---     | ---                | 653           | ---                                     | 903                                                      | 4,892                       | -304                       | 4,588         |
| 2003 QI               | 6,024                         | ---                | 6,024         | 1,796                      | 2,837  | 1,291 | 50      | ---                | 5,974         | ---                                     | 11,998                                                   | 1,957                       | 3,770                      | 5,727         |
| QII                   | 6,259                         | ---                | 6,259         | 2,209                      | 1,790  | 234   | ---     | ---                | 4,232         | ---                                     | 10,491                                                   | -2,578                      | 1,056                      | -1,522        |
| QIII                  | 2,568                         | ---                | 2,568         | ---                        | ---    | 1,232 | 150     | ---                | 1,382         | ---                                     | 3,950                                                    | 1,712                       | -554                       | 1,158         |
| QIV                   | 3,299                         | ---                | 3,299         | 2,561                      | 3,188  | 1,350 | 20      | ---                | 7,118         | 10                                      | 10,407                                                   | -561                        | 2,750                      | 2,189         |
| 2003 May              | 1,684                         | ---                | 1,684         | 786                        | 1,057  | 234   | ---     | ---                | 2,077         | ---                                     | 3,761                                                    | -515                        | 346                        | -170          |
| Jun                   | 1,032                         | ---                | 1,032         | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 1,032                                                    | -3,302                      | 1,354                      | -1,948        |
| Jul                   | 808                           | ---                | 808           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 808                                                      | 2,486                       | -1,548                     | 938           |
| Aug                   | 981                           | ---                | 981           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 981                                                      | 3,195                       | -935                       | 2,259         |
| Sep                   | 780                           | ---                | 780           | ---                        | ---    | 1,232 | 150     | ---                | 1,382         | ---                                     | 2,162                                                    | -1,562                      | 1,817                      | 256           |
| Oct                   | 880                           | ---                | 880           | ---                        | 1,447  | 280   | ---     | ---                | 1,728         | ---                                     | 2,608                                                    | -73                         | -527                       | -600          |
| Nov                   | 925                           | ---                | 925           | 2,561                      | 1,503  | 787   | ---     | ---                | 4,851         | ---                                     | 5,775                                                    | -382                        | 894                        | 512           |
| Dec                   | 1,494                         | ---                | 1,494         | ---                        | 237    | 283   | 20      | ---                | 540           | 10                                      | 2,024                                                    | -767                        | 5,268                      | 4,500         |
| 2003 Oct 29           | 178                           | ---                | 178           | ---                        | 1,447  | 280   | ---     | ---                | 1,728         | ---                                     | 1,905                                                    | 2,958                       | ---                        | 2,958         |
| Nov 5                 | 192                           | ---                | 192           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 192                                                      | -3,785                      | -1,000                     | -4,785        |
| Nov 12                | 293                           | ---                | 293           | 1,100                      | ---    | ---   | ---     | ---                | 1,100         | ---                                     | 1,393                                                    | 1,798                       | -3,000                     | -1,202        |
| Nov 19                | 166                           | ---                | 166           | 1,461                      | 786    | ---   | ---     | ---                | 2,247         | ---                                     | 2,412                                                    | 1,220                       | 714                        | 1,935         |
| Nov 26                | 295                           | ---                | 295           | ---                        | 717    | 787   | ---     | ---                | 1,504         | ---                                     | 1,799                                                    | -823                        | 5,143                      | 4,320         |
| Dec 3                 | 132                           | ---                | 132           | ---                        | 237    | 283   | 20      | ---                | 540           | ---                                     | 672                                                      | 3,702                       | -857                       | 2,845         |
| Dec 10                | 382                           | ---                | 382           | ---                        | ---    | ---   | ---     | ---                | ---           | 10                                      | 372                                                      | -5,581                      | ---                        | -5,581        |
| Dec 17                | 347                           | ---                | 347           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 347                                                      | -788                        | 1,714                      | 926           |
| Dec 24                | 267                           | ---                | 267           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 267                                                      | 3,679                       | 2,714                      | 6,393         |
| Dec 31                | 452                           | ---                | 452           | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 452                                                      | 724                         | 2,571                      | 3,295         |
| 2004 Jan 7            | 65                            | ---                | 65            | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 65                                                       | -1,414                      | -3,429                     | -4,843        |
| Jan 14                | 88                            | ---                | 88            | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 88                                                       | -5,930                      | -5,571                     | -11,502       |
| Jan 21                | 43                            | ---                | 43            | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 43                                                       | 8,910                       | 1,000                      | 9,910         |
| 2004 Jan 22           | 60                            | ---                | 60            | ---                        | ---    | ---   | ---     | ---                | ---           | ---                                     | 60                                                       | -13,898                     | -6,000                     | -19,898       |
| Intermeeting Period   |                               |                    |               |                            |        |       |         |                    |               |                                         |                                                          |                             |                            |               |
| Dec 9-Jan 22          | 1,430                         | ---                | 1,430         | ---                        | ---    | ---   | ---     | ---                | ---           | 10                                      | 1,420                                                    | 1,548                       | -7,000                     | -5,452        |
| Memo: LEVEL (bil. \$) |                               |                    |               |                            |        |       |         |                    |               |                                         |                                                          |                             |                            |               |
| Jan 22                |                               |                    | 245.1         | 114.7                      | 182.3  | 47.7  | 77.1    |                    | 421.8         | ---                                     | 669.9                                                    | -11.6                       | 14.0                       | 2.4           |

1. Change from end-of-period to end-of-period. Excludes changes in compensation for the effects of inflation on the principal of inflation-indexed securities.
2. Outright purchases less outright sales (in market and with foreign accounts).
3. Outright purchases less outright sales (in market and with foreign accounts). Includes short-term notes acquired in exchange for maturing bills. Excludes maturity shifts and rollovers of maturing issues, except the rollover of inflation compensation.

4. Includes redemptions (-) of Treasury and agency securities.
5. RPs outstanding less reverse RPs.
6. Original maturity of 13 days or less.
7. Original maturity of 14 to 90 days.