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OCTOBER 31, 2002

# MONETARY POLICY ALTERNATIVES

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PREPARED FOR THE FEDERAL OPEN MARKET COMMITTEE  
BY THE STAFF OF THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

## MONETARY POLICY ALTERNATIVES

### Recent Developments

(1) Market participants had expected the FOMC to keep both the intended federal funds rate unchanged and the risk assessment tilted toward economic weakness at the September 24<sup>th</sup> meeting. But the inclusion of concerns about “heightened geopolitical risks” in the announcement and the indication of two dissenting votes favoring an easing of monetary policy led markets to expect a lower trajectory for the policy rate. A subsequent rally in equity prices tended to buoy market interest rates and policy expectations. In recent days, however, generally weaker-than-anticipated economic data and press reports suggesting that the FOMC was inclined to ease by year-end left the expected path of policy lower on net over the period (chart 1).<sup>1</sup> Current futures quotes indicate that market participants place considerable weight on policy easing at the November meeting, with survey evidence suggesting that some are looking for a 50 basis point move. With rates on further-ahead futures contracts declining 20 to 45 basis points over the intermeeting period, market participants are apparently anticipating that the funds rate will trough at around 1-1/4 percent by spring 2003.

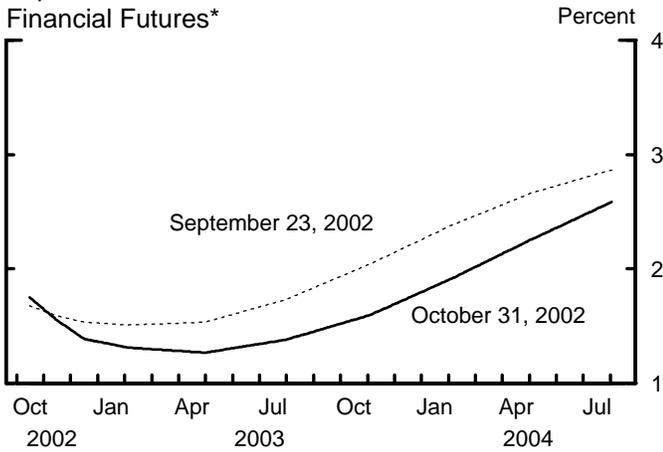
(2) After extending their decline in the opening days of the period, share prices rallied sharply in October on better-than-expected profits news at several major corporations. In recent days, though, economic data on the softer side of market expectations have resulted in a partial retracing of those gains. On net, broad stock

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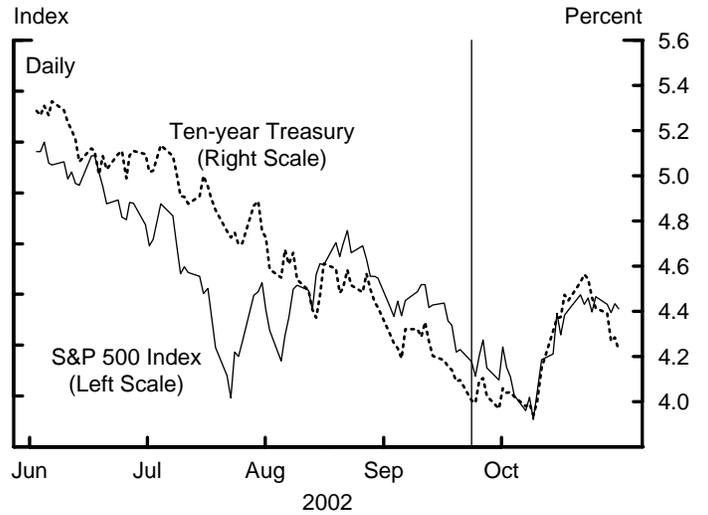
<sup>1</sup> The federal funds rate averaged close to 1-3/4 percent over the intermeeting period. With currency growth quite low relative to historical trends, the Desk made no outright purchases during the period. Other market factors generally added reserves, and the Desk responded by reducing the outstanding volume of long-term System RPs from \$11 billion to \$6 billion.

# Chart 1 Financial Market Indicators

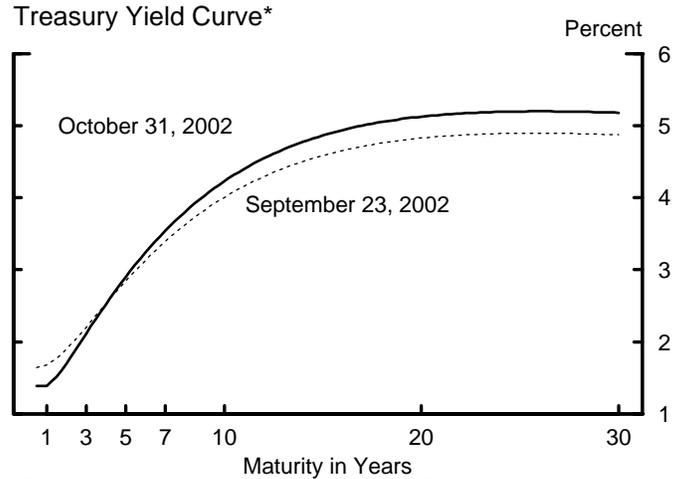
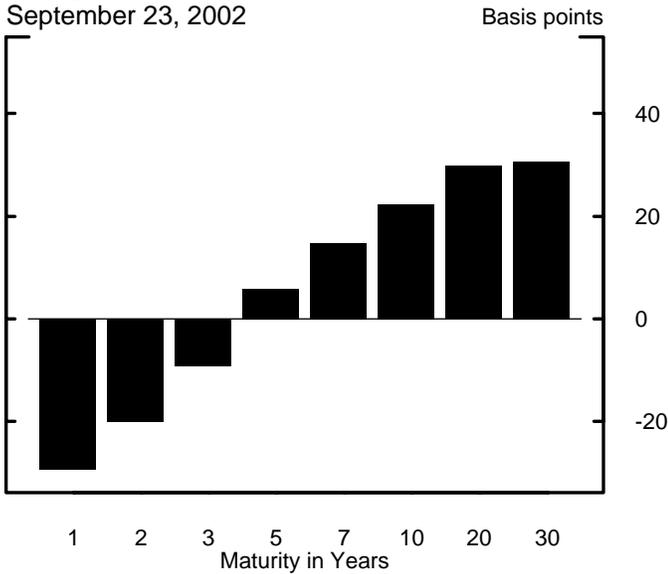
**Expected Federal Funds Rates Estimated from Financial Futures\***



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

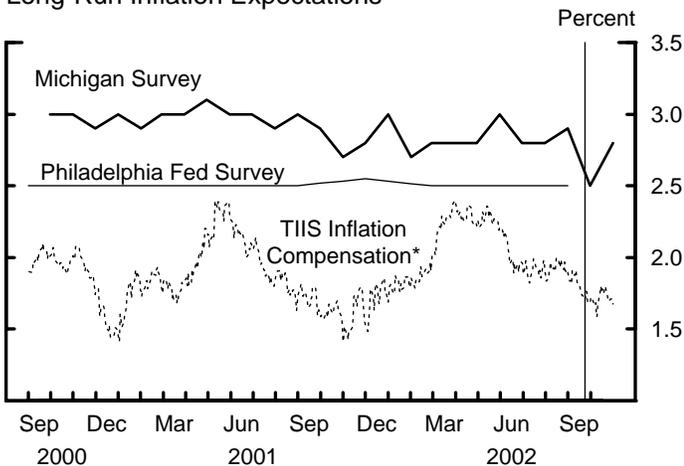


**Change in Treasury Yield Curve Since September 23, 2002**



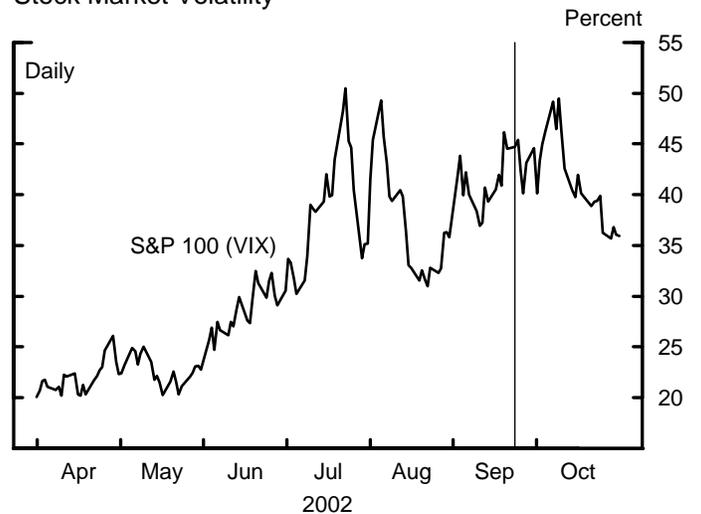
\*Smoothed yield curve estimated from off-the-run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semi-annual coupons.

**Long-Run Inflation Expectations**



\*The inflation rate that equalizes the price of the January 2012 TIIS and the value of a portfolio of nominal securities with the same payments.

**Stock Market Volatility**



Note: Solid vertical lines indicate September 23. Daily data are through October 31.

price indexes increased about 6 percent over the period, while the tech-heavy Nasdaq rose about 12 percent. Equity prices were quite volatile over the period and, judging from options on stock futures contracts, are expected to remain so. As has been true for a while, longer-term Treasury yields generally moved in tandem with equity prices. On balance over the intermeeting period, intermediate- and longer-term yields increased 5 to 30 basis points, with the swing in ten-year Treasury yields reportedly magnified by the efforts of holders of mortgage securities to manage the duration of their portfolios. Reflecting the heightened expectation of policy ease, though, yields on Treasuries with maturities of two years or less fell on net.

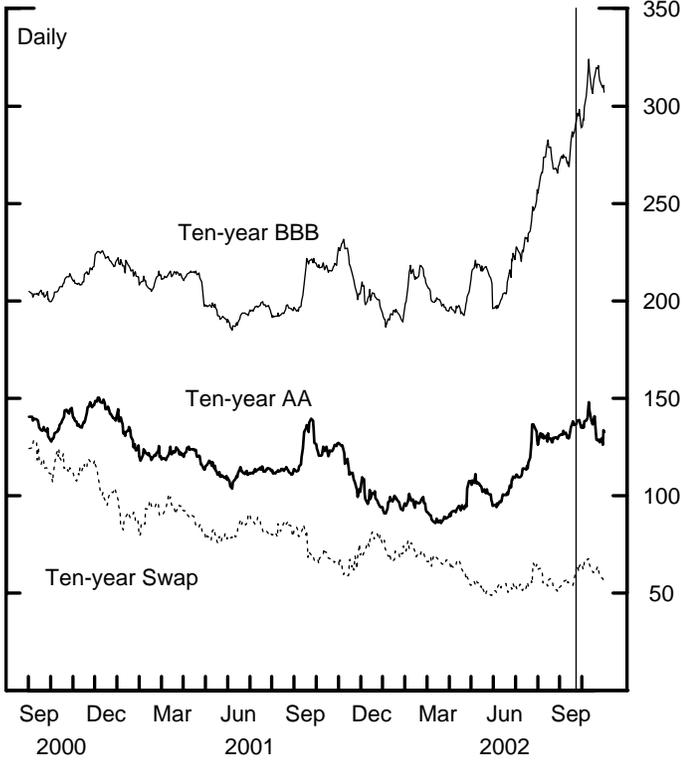
(3) In the investment-grade corporate debt market, yields on higher-quality bonds increased about as much as those on Treasuries over the intermeeting period (chart 2). Risk spreads on lower-quality investment-grade debt climbed 15 basis points, as auto manufacturers and their captive finance companies in that index underperformed, and spreads on broad high-yield debt indexes rose about 30 basis points, suggesting further deterioration in perceived creditworthiness. These elevated spreads may also reflect a lack of liquidity in corporate markets, as bid-asked spreads reportedly remained wide throughout the intermeeting period. (The box on the next page examines market liquidity.)

(4) The dollar moved within narrow ranges against the major foreign currencies during the intermeeting period, and its trade-weighted value edged lower. Most foreign stock indexes and government bond yields followed the pattern seen in U.S. markets, ending the period higher on net. European ten-year benchmark bond yields rose 20 to 25 basis points over the intermeeting period despite economic data pointing to lackluster growth, especially in Germany. Yields may have been influenced by concerns over widening fiscal deficits in some key European countries—including Germany and France—and the reopening of the debate over the

## Chart 2 Financial Market Indicators

Spreads of Selected Private Long-Term Yields

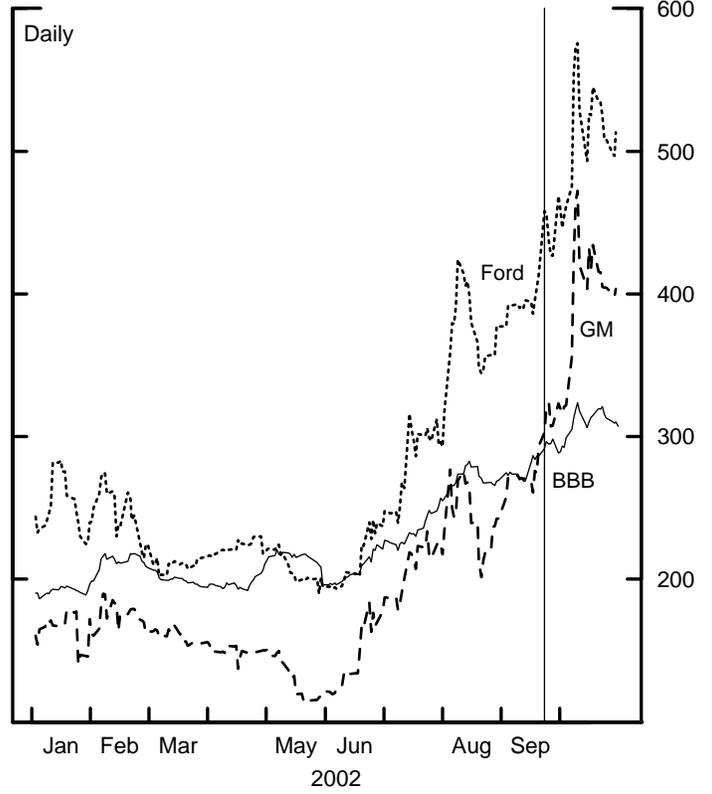
Basis points



Note. Spreads measured over ten-year Treasury.

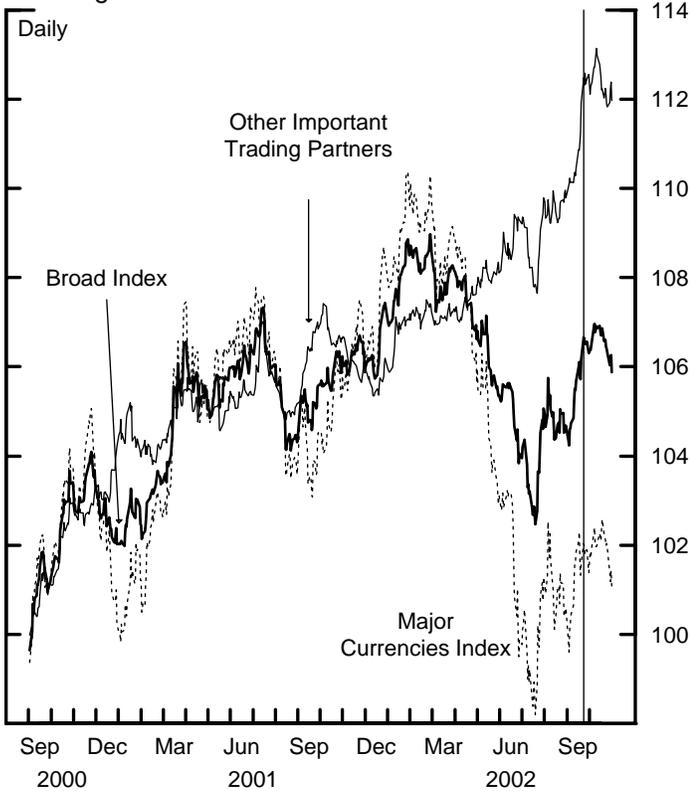
Ten-year Corporate Yields less Ten-year Treasury

Basis points



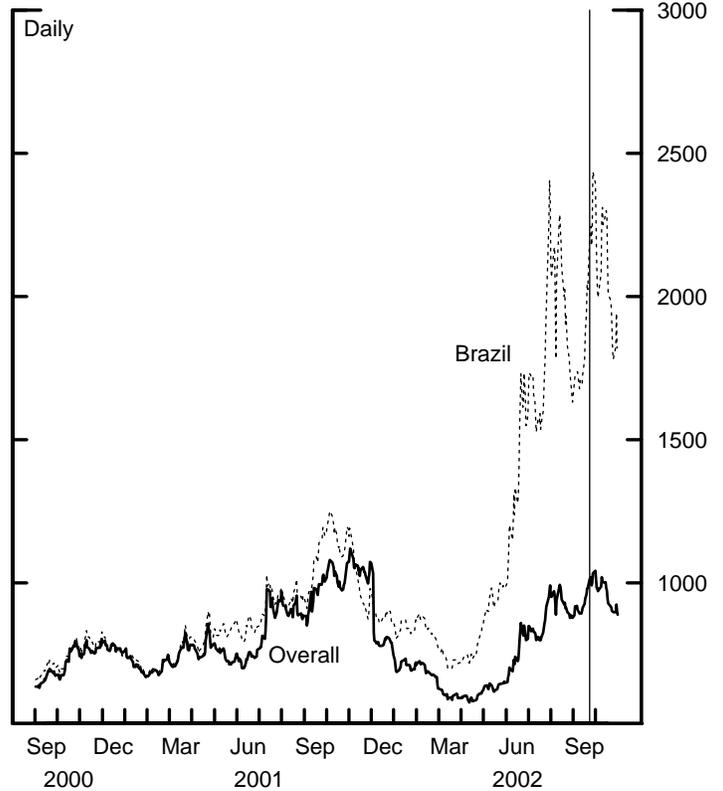
Nominal Trade-Weighted Dollar Exchange Rates

Index(8/31/00 = 100)



EMBI+ Index

Index



Note. Last observation for Brazil is October 30.

Note: Solid vertical lines indicate September 23. Data are through October 31, except as noted.

### **Market Liquidity**

Recent evidence on market perceptions of the health of major financial institutions and the functioning of financial markets is mixed. Credit default swap spreads for major commercial and investment banks rose significantly during the summer (chart 3). Although they have since reversed some of those increases, they remain elevated on balance. Credit swap spreads for finance companies have shot up as much as 500 basis points on net.

Increased perceptions of, and aversion toward, risk have probably been associated with some withdrawal from market making, as reports suggest that liquidity in many segments of the fixed-income markets has deteriorated since the late summer. In the Treasury market, premiums for on-the-run securities over their off-the-run counterparts have risen since midyear, with the relatively larger increase for the ten-year note probably related in part to its usefulness in hedging mortgage-backed securities. Information on bid-asked spreads and market depth is harder to come by, but anecdotal evidence indicates that the Treasury market is functioning well. The deterioration in the corporate market has reportedly been more pronounced, as market participants characterize dealing as much more difficult than in the first half of the year.

fiscal provisions of the European Union's Stability and Growth Pact. In contrast, Japanese stock prices extended their slump during the intermeeting period, with banking shares shedding almost 9 percent. On October 30, Japanese authorities announced a draft version of their highly anticipated bank-reform package along with new tax cuts, and the Bank of Japan stated that it would target a higher level of liquidity and increase its purchases of government securities. The announcement had been delayed amid indications of political resistance, leading financial market participants to scale back their expectations about the reforms. In the event, those market doubts appeared to be confirmed in that the announced steps were viewed as insufficient to make much headway against Japan's deep structural problems.



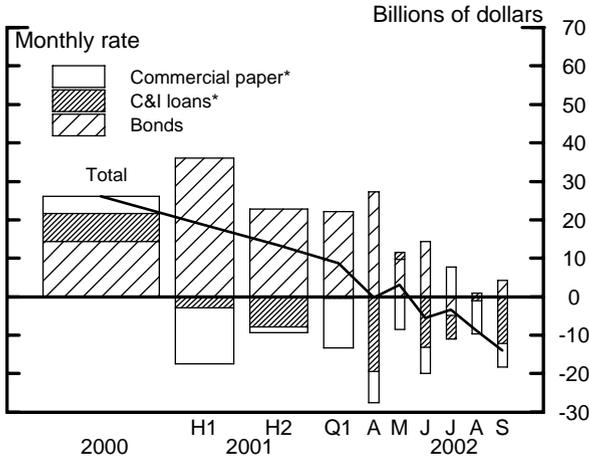
. The Desk did not intervene during the period for the accounts of the System or Treasury.

(5) Against currencies of other important trading partners, the dollar was about unchanged. In Brazil, financial market pressures that had built up ahead of the first round of voting on October 6 eased somewhat on perceptions that the Worker's Party candidate Lula (who clinched victory in the second round vote on October 27) might be more sympathetic to business interests and more fiscally responsible than previously thought. Although the Brazilian *real* depreciated 1-1/2 percent against the dollar over the period, Brazil's EMBI+ spread over Treasuries narrowed about 3-1/2 percentage points (although it is still high at 18-1/2 percentage points), and its major stock price index gained 9-1/2 percent. The Mexican peso appreciated 2 percent against the dollar, while Mexico's EMBI+ spread narrowed 60 basis points, to about 385 basis points. In emerging Asia, the rebound in technology share prices helped Taiwan's stock market gain 6 percent. Korean stock prices also participated in the mid-October technology-driven recovery, but still moved down for the period as a whole.

(6) The weakness in borrowing of nonfinancial businesses that became notable during the summer intensified in recent months. Business loans, which had leveled off in August, have been declining since then, and commercial paper paydowns have continued (chart 4). Corporate bonds outstanding, which had been running off over the summer, have only stabilized in recent months. The paucity of borrowing appears mainly to reflect very limited needs to finance investment that were met mainly by depleting stocks of liquid assets and tapping internally generated funds. Indeed, the majority of bank respondents to the October Senior Loan Officer survey reported that C&I loan demand had declined further over the previous three

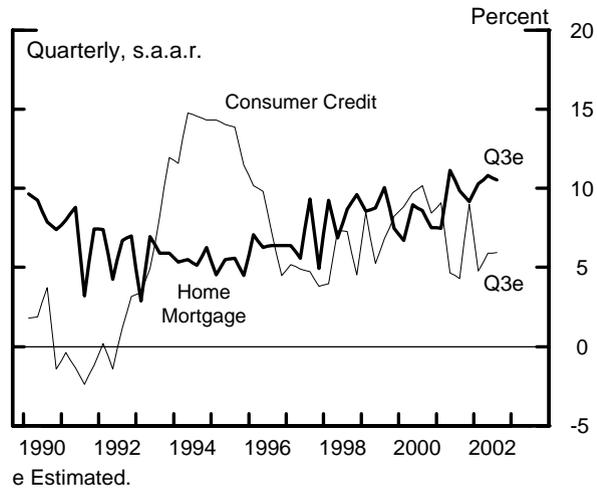
## Chart 4 Debt and Money Growth

### Growth of Components of Nonfinancial Business Debt

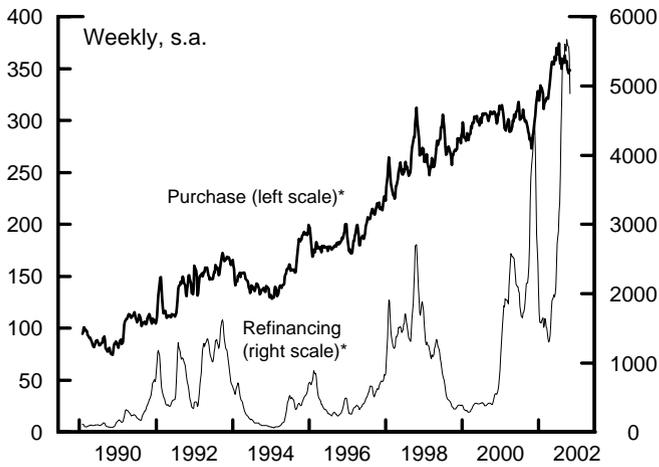


\* Seasonally adjusted.

### Growth of Household Debt



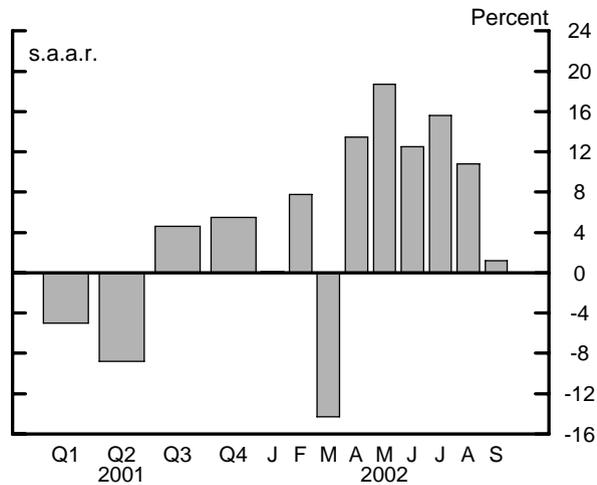
### MBA Residential Mortgage Indexes



\* Four-week moving average.

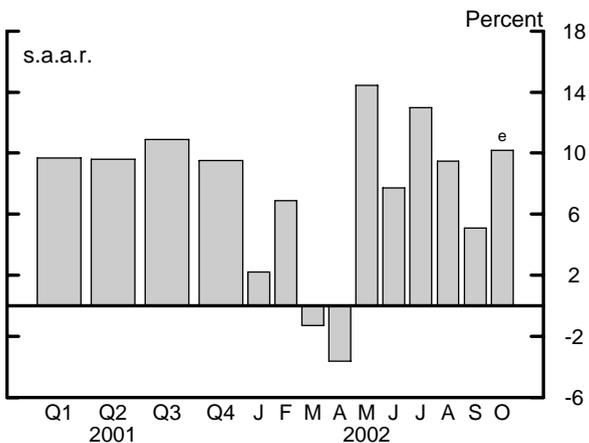
Note. March 16, 1990 = 100 for n.s.a. series.

### Growth of Federal Debt

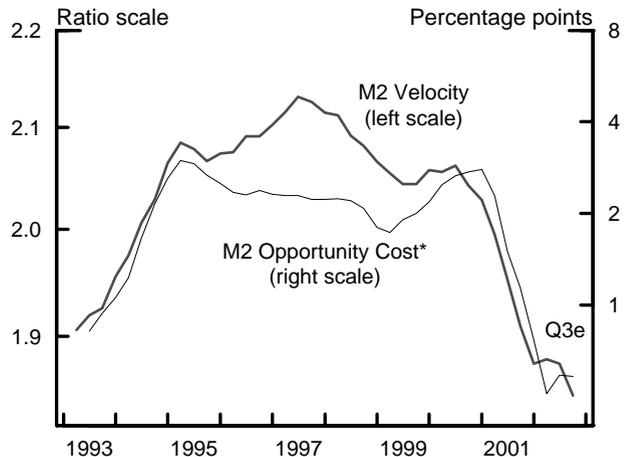


Note. Treasury debt held by the public, month end.

### Growth of M2



### M2 Velocity and Opportunity Cost



\* Two-quarter moving average.

e Estimated.

months, the chief reason being reduced spending on plant and equipment. Business lending standards and terms reportedly tightened again, on net, but by a somewhat smaller proportion of respondents than in recent surveys.<sup>2</sup> Households, by contrast, continued to borrow heavily in mortgage markets and to take on additional consumer debt through September.

(7) With the effects of past policy easings on money demand largely played out and spending apparently softening, M2 growth has slowed to an estimated average 7-3/4 percent annual rate over September and October. M2 likely would have decelerated even more were it not for the boost to deposit growth provided by increased prepayments of mortgages. Currency growth slowed appreciably, reflecting significantly weaker foreign demand and some moderation in domestic demand as well. Based on this morning's GDP release, M2 velocity fell about 6 percent in the third quarter even though measures of opportunity costs were little changed. The decline in velocity seemed largely to reflect strong flows into M2 prompted by the volatility of financial markets and by heavy mortgage refinancing.

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<sup>2</sup> Banks have been reporting weaker loan demand and a tightening of standards and terms for some time. A special question on the October Senior Loan Officer survey asked respondents to rank supply and demand factors as reasons for the very substantial decline in C&I loans so far this year. Weaker business funding needs by creditworthy borrowers was the top reason by a wide margin.

## Policy Alternatives

(8) Over the intermeeting period, incoming data provided further disappointments on production and employment and, on the whole, seemed to suggest some flagging in the growth of consumption when compared with the September Greenbook. Accordingly, the staff has revised down its forecast for real output growth over the next few quarters, but not to the point where continued economic expansion seems to be in serious doubt. Real GDP growth, after running at a projected rate of only 1 percent in the current quarter, is expected to strengthen gradually over most of the forecast period, although it remains below that of potential growth until the second half of next year. As a result, the civilian unemployment rate is expected to move up to 6-1/4 percent early next year before edging lower after mid-2003. With economic slack persisting, core inflation is projected to drift lower, bringing the annual rise in core PCE prices down to about 1-1/4 percent in 2003 and 2004. This forecast assumes that the Committee keeps policy steady, as opposed to the modest tightening built in toward the end of the forecast period in the September Greenbook. An unchanged funds rate is assumed to hold yields on long-term Treasury securities near current levels, while rates on corporate issues should in time decline somewhat as a gradual strengthening of the economic expansion results in some unwinding of credit concerns. Equity prices rise moderately over the forecast period to keep risk-adjusted returns in line with those on fixed-income securities. The foreign exchange value of the dollar is assumed to decline a little, albeit from a current level that is slightly higher than projected in the last Greenbook.

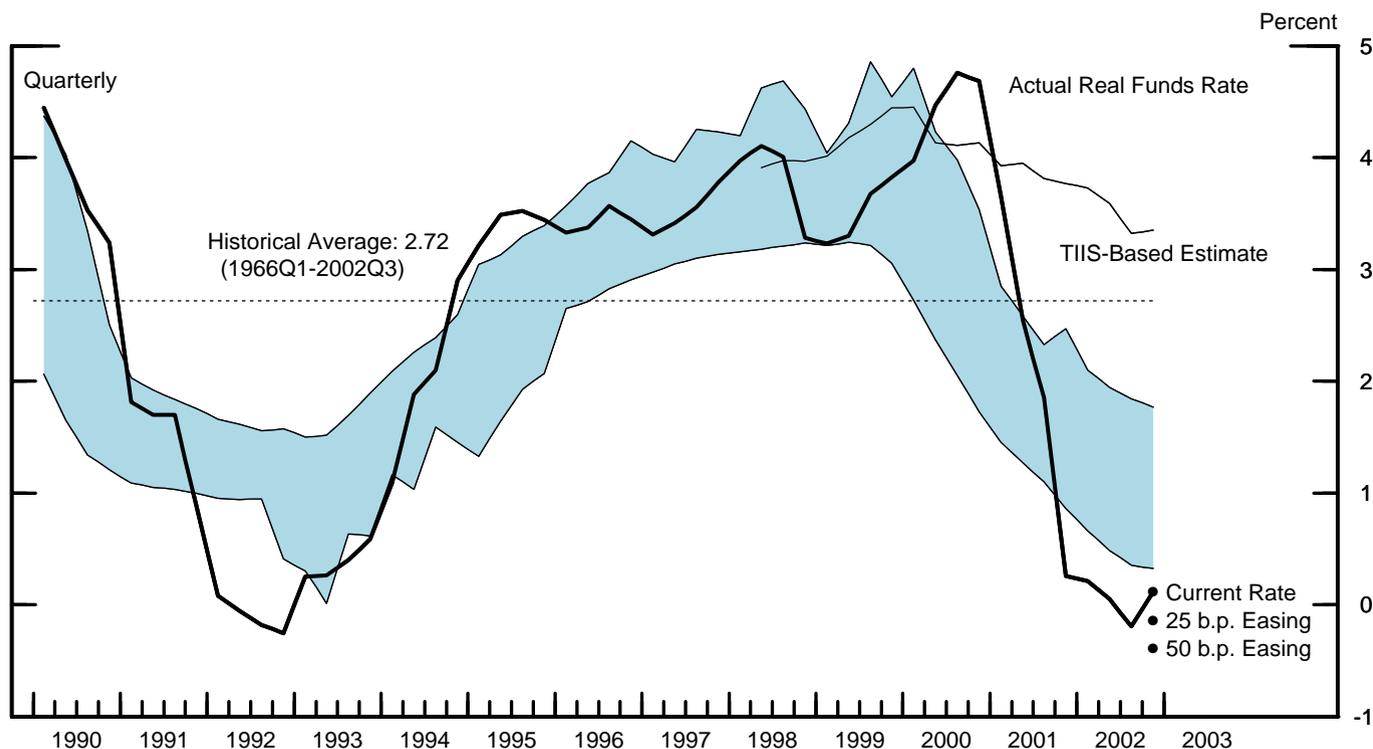
(9) Should the Committee believe that the business climate is still likely to improve gradually at the current stance of policy, as conveyed by its announcement after the September meeting, it might choose to **leave the federal funds rate unchanged** at this meeting. Such an outcome may be seen as broadly consistent with

the Greenbook forecast, in which output growth slowly builds momentum. The Committee may be particularly drawn to this policy approach if it views the current degree of slack in resource use to be less pronounced than does the staff and hence sees less scope for further disinflation than is embodied in the staff forecast. In addition, while estimates of the equilibrium real short-term interest rate have moved lower over the past year—and some have been revised down ex post—the actual real rate has been below the lower bound of the range of estimates since mid-2001. Even with the narrowing in that gap projected for the current quarter, the Committee may be of the view that sufficient monetary stimulus is already in the pipeline given the lags in the transmission of policy (chart 5).<sup>3</sup> Indeed, the Committee may believe that the Greenbook forecast, which is somewhat below the consensus outlook, is overly pessimistic regarding prospects for aggregate demand. As noted in the box on page 8, while the staff projection for the next two years shows lower inflation and a higher unemployment rate than in the prior few Greenbooks, the recent realizations of those variables have moved the other way. In the current quarter, higher energy prices have boosted inflation and gains in estimates of household employment have been associated with a lower unemployment rate than was thought likely a couple of months ago. The Committee might be inclined to keep policy on hold if it put more weight on those outcomes than on forecast revisions.

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<sup>3</sup> The jagged movements in the real federal funds rate in the chart owe to swings in the proxy for inflation expectations—the backward-looking four-quarter growth rate of core PCE prices. Core PCE prices were reduced significantly in the third quarter of 2001 by the imputed payment by insurers of claims related to the destruction of the World Trade Center. Over time, as that observation enters and exits the calculation of the four-quarter growth rate, PCE inflation and the associated real rate bounce around.

Chart 5  
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 six estimates of the equilibrium real federal funds rate based on a statistical filter and the FRB/US model. Real federal funds rates employ four-quarter lagged core PCE inflation as a proxy for inflation expectations, with the staff projection used for 2002Q3 - 2002Q4.

Equilibrium Real Funds Rate Estimates (Percent)

	2000	2001	2002H1	2002Q3
Statistical Filter				
- Two-sided:				
• Based on historical data* <i>September Bluebook</i>	2.3 2.4	1.5 1.6	1.0 1.3	0.9 1.2
• Based on historical data and the staff forecast <i>September Bluebook</i>	2.2 2.3	1.2 1.3	0.6 0.8	0.4 0.6
- One-sided:				
• Based on historical data* <i>September Bluebook</i>	4.1 4.1	2.5 2.5	1.7 1.8	0.9 1.2
FRB/US Model***				
- Two-sided:				
• Based on historical data** <i>September Bluebook</i>	2.7 2.7	1.9 2.0	1.2 1.4	0.9 1.1
• Based on historical data and the staff forecast <i>September Bluebook</i>	2.9 2.9	2.4 2.4	2.0 2.0	1.8 1.9
- One-sided:				
• Based on historical data** <i>September Bluebook</i>	3.6 3.6	2.3 2.3	1.4 1.4	0.9 1.1
Treasury Inflation-Indexed Securities <i>September Bluebook</i>	4.2 4.2	3.9 3.9	3.7 3.7	3.3 3.3

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

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

\*\*\*FRB/US estimates for both the current and the last Bluebook reflect a methodological change, which, when applied to the last Bluebook, implies a difference of no more than 8 basis points to any entry in the table.

### **Revisions to the Outlook Since the August Meeting**

Economic forecasts by the staff and most market participants have turned gloomier since mid-August when the Committee moved its assessment of the balance of risks to one tilted toward economic weakness. Some of that forecast revision owes to changes in the assessment of aggregate demand and other fundamental forces and some to changes in market rates and prices. To get some sense of the relative contribution of the former, a simulation was run using the FRB/US model in which the August Greenbook was revised to incorporate the current assumption of a flat federal funds rate (as opposed to the higher August Greenbook path). The dotted lines in chart 6 depict this adjusted August simulation, while the solid lines depict the most recent Greenbook.

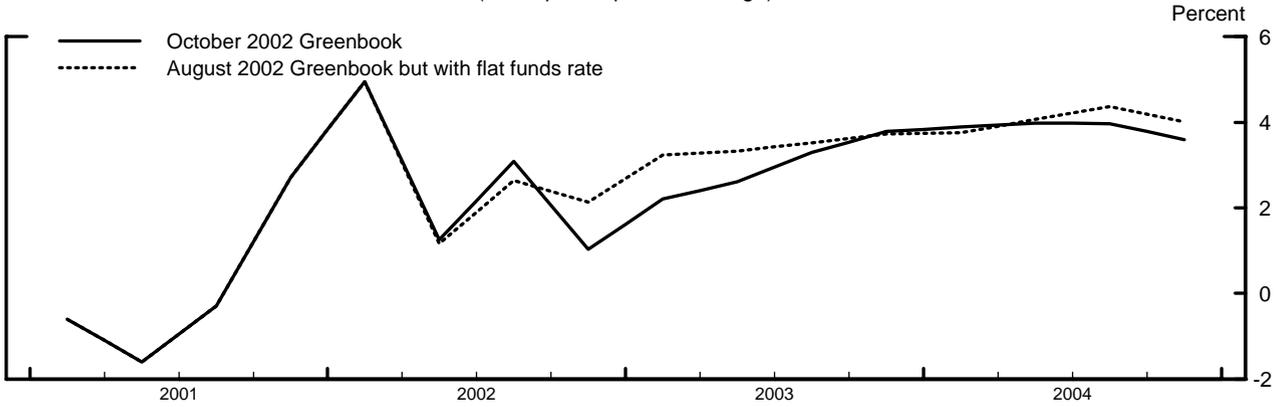
In the staff's current assessment, real GDP growth is likely to take longer to return to its potential than was the case in August, implying that the unemployment rate runs higher. With a larger cumulative buildup of resource slack, disinflation is more pronounced. However, near-term developments have led the staff to mark the unemployment rate down and inflation up for this year.

Mechanical policy rules relying on current and lagged observations of macroeconomic data, such as the Taylor rule, would take those near-term revisions as reasons to raise the policy rate. By contrast, mechanical policy rules relying on current and projected variables, such as the policymaker perfect foresight path that is discussed below, would put more emphasis on the revisions to the forecast and call for easier policy than was the case in August.

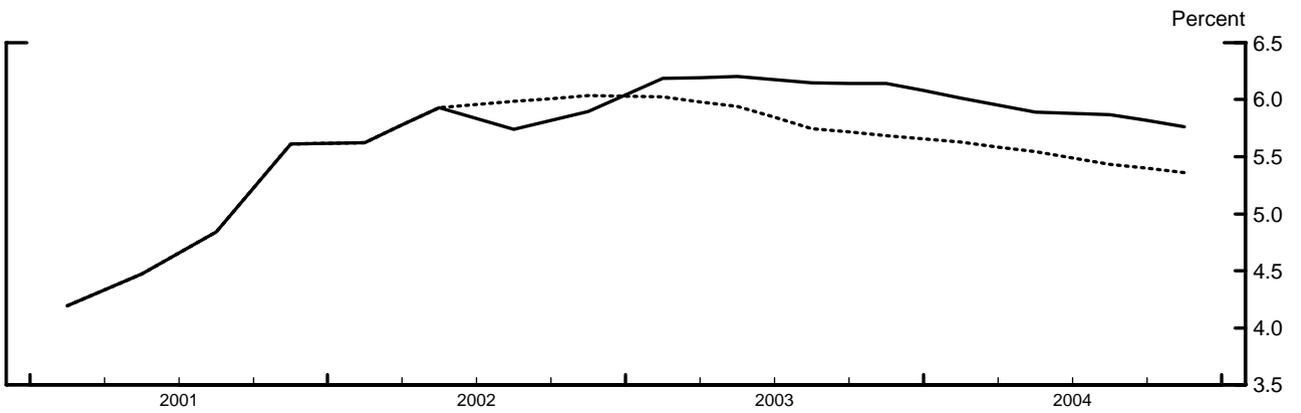
(10) Market prices appear to embody significant odds that the Committee will ease policy at this meeting. Accordingly, a decision to leave policy unchanged, presumably accompanied by the assessment expected in the markets that the risks remain tilted toward economic weakness, is likely to have a noticeable effect on asset prices. Interest rates could move up, particularly at the short end of the yield curve, and equity prices would probably fall. The balance-of-risks statement, the wording of the rest of the announcement, and the vote tally will influence the odds investors place on policy easing going forward and thus affect the response of financial markets.

# Chart 6 Economic Outlook in August and October

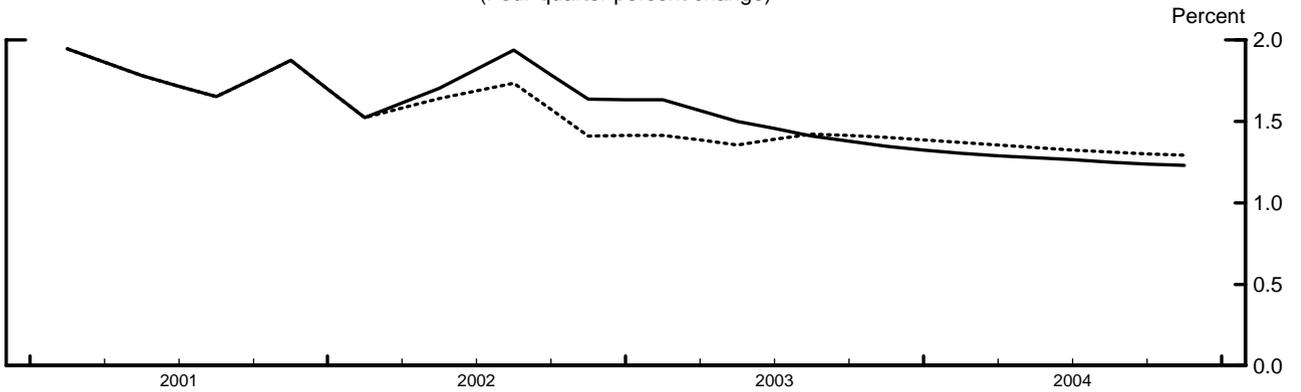
## Real GDP Growth (Four-quarter percent change)



## Civilian Unemployment Rate



## PCE Inflation (ex. food and energy) (Four-quarter percent change)



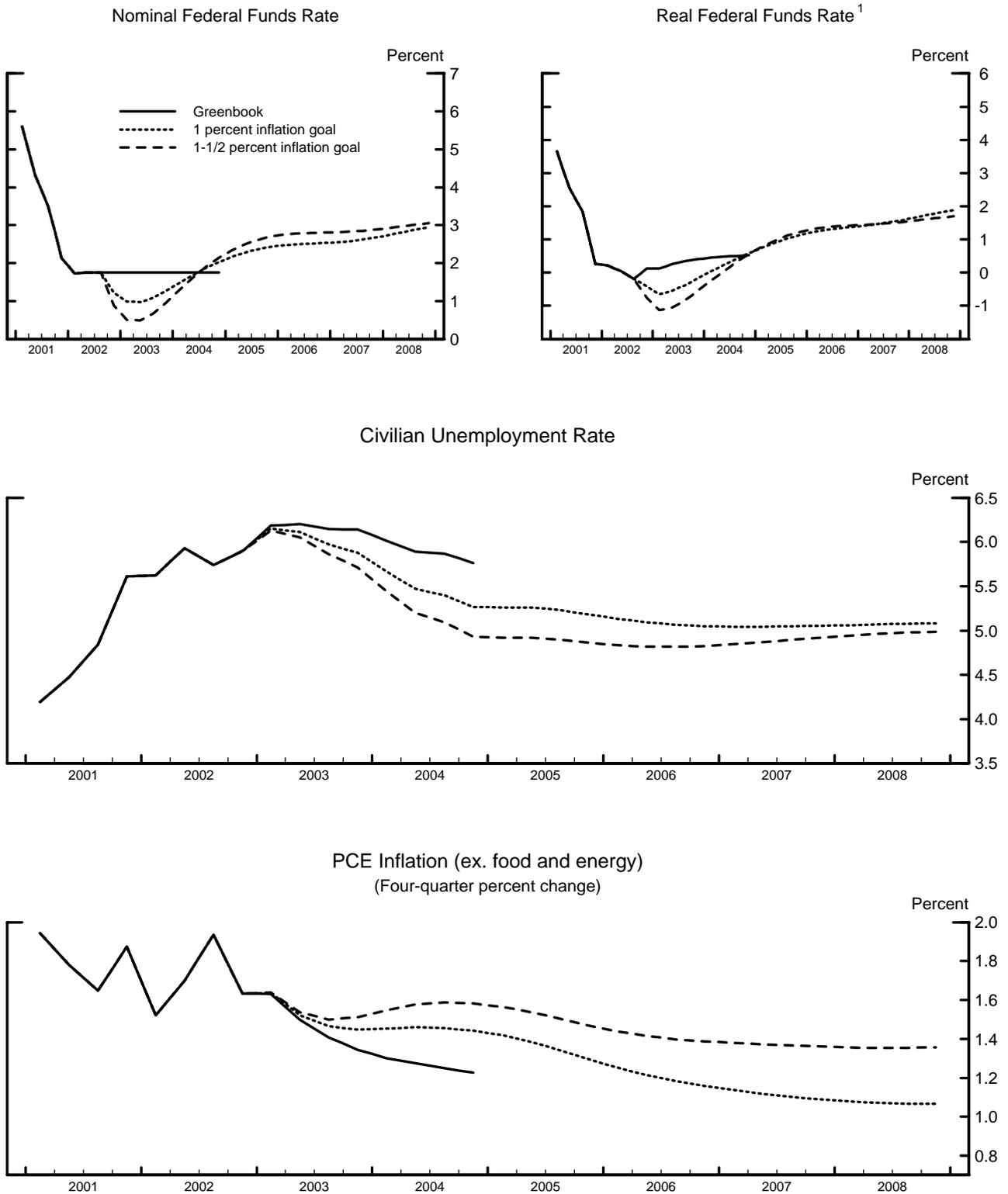
(11) The Committee instead might **ease policy 25 basis points** if, in view of signs of slowing aggregate demand growth, it now sees the likely degree of economic slack several quarters ahead with an unchanged stance of policy as unacceptable, especially given subdued readings on inflation expectations and the prospects for further disinflation. The incoming data suggest that spending by both households and businesses has been weaker than expected by the staff, and the Committee might be concerned that economic growth could turn out slower than in the Greenbook outlook. Also, whether financial conditions will prove to be as supportive of growth as the staff expects is open to question: Credit spreads and liquidity conditions in segments of the corporate bond market have deteriorated, and banks have continued to firm terms and standards on business loans, albeit in fewer numbers than earlier in the year. With some large financial intermediaries themselves encountering market resistance, their ability to make markets and intermediate credit flows could be crimped to a greater degree than anticipated by the staff, potentially contributing to some diminution in market liquidity and credit availability. In these circumstances, the Committee may believe the time has come to bolster spending by easing policy. Presumably, the Committee would see a relatively small policy adjustment of 25 basis points as not likely to put the risks back into balance, particularly in view of the apparent weakening in the economic outlook since the last meeting.

(12) The Committee might view the signs of softening growth that have become apparent over the past six weeks as especially troubling in association with historically low inflation and nominal interest rates as well as the significant downside risks already envisioned by the Committee since August. In these circumstances, the Committee might wish to move aggressively to shore up aggregate demand through a **50-basis-point easing** of policy and might see little cost to doing so in terms of a

need to reverse course anytime soon. Indeed, the policymaker perfect foresight simulations that employ a judgmental extension of the Greenbook assumptions and are depicted in chart 7 entail a substantial near-term easing of monetary policy, even with an inflation target as low as 1 percent. Moreover, while those simulations by definition assume no uncertainty in forecasting economic relationships, the Committee might be concerned that weaker spending propensities or more favorable inflation-output tradeoffs could well result in still lower inflation rates. The possibility of significant further disinflation might be viewed as unduly heightening the risk that the ability to lower real interest rates could be constrained by the zero bound to nominal rates. Although the Committee might be reluctant to claim that a 25-basis-point easing would balance the risks to the economy and inflation, a move of 50 basis points might more plausibly do so.

(13) A 25-basis-point reduction in the target federal funds rate, coupled with a statement that the risks remained weighted toward economic weakness, likely would provide a small boost to financial markets, lowering yields and raising stock prices, although the magnitude of these influences could be affected considerably by the content of the Committee's statement. If the statement emphasized a need to combat weakness in aggregate demand as the primary rationale for the policy action, the effect on equity prices could be muted and that on longer-term interest rates accentuated, but if the statement suggested that the principal motivation was to provide greater assurance of a satisfactory expansion, gains in equity prices and declines in corporate bond yields could be more noticeable while the net effects on Treasury bond yields might be smaller. A 50-basis-point cut in the funds rate target, even if accompanied by a statement that the risks to the outlook were seen as balanced, likely would prompt sizable drops in yields across the maturity and credit spectrums, although the fall in long-term Treasury yields could be limited if equity markets rally strongly.

Chart 7  
 Policymaker Perfect Foresight Strategy for Monetary Policy



The perfect foresight simulations extend the key assumptions of the staff outlook (other than the path for monetary policy) through 2008:

- potential output grows at about 3-1/2 percent per year
- the relative price of oil stabilizes at its 2005 level
- the exchange value of dollar measured in real terms falls at a 3 percent clip
- modest growth in federal expenditures allows an improvement in the federal budget balance

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.

(14) Under the Greenbook forecast, the growth rate of nonfederal debt edges down over the next couple of quarters. Household debt growth is projected to moderate as spending on motor vehicles slows and as mortgage refinancing activity turns down from its current stratospheric levels. Business borrowing strengthens slightly but remains comparatively weak in coming months as inventory and fixed investment turns up only gradually. With economic growth increasing only tentatively and investment projects seen as entailing considerable risks, the availability and terms of credit facing businesses are expected to change little in the near term, although they should ease somewhat later in the projection period as it becomes more evident to market participants that the expansion is gaining traction. Federal borrowing is likely to be reduced somewhat in the current quarter by the Treasury's unexpectedly high cash balance at the end of the third quarter but is expected to rebound in the first quarter as the effects of deficits again fully show through. On balance, domestic nonfinancial sector debt is projected to expand at around a 6 percent pace in the fourth and first quarters, slightly slower than over the first three quarters of 2002. M2 growth is also expected to moderate in coming months from its pace over the past several quarters, owing to projected reductions in mortgage refinancing, the ebbing influence of past reductions in short-term interest rates and opportunity costs on money demand, and a more attractive equity market. Over the four quarters of 2002, M2 is projected to expand 7 percent, while its velocity declines 2-3/4 percent.

### Alternative Growth Rates for M2

	No change*	25 bp ease	50 bp ease
Monthly Growth Rates			
Jun-02	7.7	7.7	7.7
Jul-02	13.0	13.0	13.0
Aug-02	9.5	9.5	9.5
Sep-02	5.1	5.1	5.1
Oct-02	10.2	10.2	10.2
Nov-02	7.8	8.0	8.2
Dec-02	4.8	5.4	6.0
Jan-03	3.7	4.5	5.3
Feb-03	3.0	3.7	4.5
Mar-03	3.0	3.6	4.2
Quarterly Growth Rates			
2002 Q1	5.5	5.5	5.5
2002 Q2	3.3	3.3	3.3
2002 Q3	10.4	10.4	10.4
2002 Q4	7.9	8.0	8.1
2003 Q1	4.2	4.8	5.5
(Q4/Q4) Growth Rates			
2001	10.3	10.3	10.3
2002	6.9	7.0	7.0
2001 Q4 to Oct-02	6.9	6.9	6.9
Oct-02 to Dec-02	6.3	6.7	7.1
Oct-02 to Mar-03	4.5	5.1	5.7

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

## Directive and Balance-of-Risks Language

(15) Presented below for the members' consideration is draft wording for (1) the directive and (2) the “balance of risks” sentence to be included in the press release issued after the meeting (not part of the directive).

### (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 \_\_\_~~1-3/4~~ percent.

### (2) “Balance of Risks” Sentence

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 [continue to be weighted mainly towards conditions that may generate economic weakness] [ARE BALANCED WITH RESPECT TO PROSPECTS FOR BOTH GOALS] [ARE WEIGHTED MAINLY TOWARD CONDITIONS THAT MAY GENERATE HEIGHTENED INFLATION PRESSURES] in the foreseeable future.

Exhibit 10  
**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
01 -- High	5.99	3.66	5.51	5.30	5.96	6.12	4.91	5.11	5.68	5.99	3.59	3.61	8.20	5.65	7.24	6.86
-- Low	1.74	1.69	1.69	1.77	1.79	1.76	2.47	3.66	4.58	5.06	2.65	2.96	7.62	5.20	6.45	5.06
02 -- High	1.80	1.80	1.85	2.12	1.97	1.79	3.69	4.94	5.69	6.00	3.31	3.54	8.18	5.67	7.18	5.26
-- Low	1.62	1.55	1.51	1.48	1.65	1.62	1.77	2.79	4.01	4.91	1.27	2.17	7.37	5.02	5.98	4.22
Monthly																
Oct 01	2.49	2.27	2.20	2.17	2.31	2.40	2.79	3.93	4.86	5.41	2.75	3.10	7.91	5.34	6.62	5.28
Nov 01	2.09	1.99	1.91	1.93	2.03	2.03	2.83	4.05	4.94	5.34	2.91	3.19	7.81	5.30	6.66	5.20
Dec 01	1.82	1.71	1.72	1.82	1.83	1.84	3.12	4.52	5.40	5.77	3.28	3.54	8.05	5.56	7.07	5.23
Jan 02	1.73	1.67	1.68	1.77	1.74	1.70	3.03	4.45	5.32	5.71	3.14	3.45	7.87	5.48	7.00	5.18
Feb 02	1.74	1.74	1.76	1.86	1.82	1.76	3.01	4.36	5.24	5.62	2.91	3.32	7.89	5.43	6.89	5.03
Mar 02	1.73	1.79	1.82	2.05	1.91	1.78	3.52	4.80	5.60	5.93	2.94	3.36	8.11	5.61	7.01	5.06
Apr 02	1.75	1.72	1.75	1.97	1.87	1.76	3.40	4.69	5.49	5.87	2.64	3.16	8.03	5.59	6.99	4.96
May 02	1.75	1.74	1.76	1.91	1.82	1.75	3.24	4.54	5.40	5.82	2.50	3.10	8.09	5.54	6.81	4.79
Jun 02	1.75	1.71	1.73	1.83	1.81	1.74	2.97	4.24	5.16	5.71	2.46	3.08	7.95	5.44	6.65	4.65
Jul 02	1.73	1.72	1.71	1.74	1.79	1.74	2.52	3.86	4.90	5.60	2.23	2.92	7.90	5.34	6.49	4.51
Aug 02	1.74	1.68	1.65	1.64	1.73	1.72	2.12	3.37	4.54	5.27	1.80	2.51	7.58	5.30	6.29	4.38
Sep 02	1.75	1.67	1.66	1.64	1.76	1.73	1.98	3.01	4.16	4.97	1.45	2.25	7.40	5.10	6.09	4.29
Weekly																
Aug 30 02	1.78	1.70	1.68	1.68	1.76	1.72	2.17	3.35	4.48	5.19	1.77	2.46	7.51	5.25	6.22	4.34
Sep 6 02	1.79	1.68	1.65	1.62	1.75	1.72	1.98	3.08	4.25	5.01	1.54	2.31	7.40	5.16	6.15	4.35
Sep 13 02	1.73	1.70	1.69	1.68	1.77	1.73	2.09	3.16	4.29	5.04	1.56	2.31	7.43	5.15	6.18	4.32
Sep 20 02	1.72	1.67	1.68	1.67	1.77	1.72	2.00	3.01	4.13	4.94	1.47	2.24	7.37	5.05	6.05	4.28
Sep 27 02	1.75	1.66	1.65	1.61	1.75	1.73	1.91	2.88	4.04	4.91	1.32	2.17	7.39	5.05	5.99	4.22
Oct 4 02	1.78	1.60	1.58	1.53	1.72	1.73	1.77	2.80	4.03	4.92	1.27	2.18	7.44	5.03	6.01	4.29
Oct 11 02	1.73	1.60	1.59	1.56	1.72	1.72	1.78	2.79	4.01	4.94	1.31	2.23	7.57	5.02	5.98	4.23
Oct 18 02	1.75	1.65	1.67	1.68	1.78	1.72	2.10	3.21	4.42	5.23	1.66	2.52	7.86	5.23	6.15	4.27
Oct 25 02	1.75	1.67	1.67	1.68	1.78	1.73	2.14	3.29	4.50	5.34	1.79	2.60	7.95	5.33	6.31	4.30
Nov 1 02	--	1.55	1.51	1.48	1.67	1.71	1.79	2.98	4.29	5.21	1.57	2.44	--	--	6.13	4.25
Daily																
Oct 15 02	1.88	1.65	1.68	1.69	1.76	1.72	2.12	3.17	4.37	5.18	1.58	2.45	7.81	--	--	--
Oct 16 02	1.73	1.66	1.66	1.67	1.77	1.72	2.06	3.16	4.37	5.20	1.63	2.49	7.83	--	--	--
Oct 17 02	1.74	1.65	1.67	1.69	1.79	1.72	2.13	3.26	4.47	5.27	1.71	2.56	7.89	--	--	--
Oct 18 02	1.71	1.65	1.67	1.68	1.78	1.73	2.10	3.23	4.45	5.28	1.73	2.56	7.90	--	--	--
Oct 21 02	1.73	1.68	1.71	1.72	1.77	1.71	2.22	3.35	4.53	5.34	1.78	2.60	7.94	--	--	--
Oct 22 02	1.71	1.71	1.69	1.71	1.80	1.75	2.22	3.36	4.56	5.36	1.84	2.64	7.98	--	--	--
Oct 23 02	1.76	1.69	1.68	1.69	1.78	1.71	2.19	3.34	4.54	5.38	1.81	2.63	7.99	--	--	--
Oct 24 02	1.80	1.64	1.65	1.66	1.79	1.72	2.09	3.24	4.46	5.33	1.76	2.59	7.93	--	--	--
Oct 25 02	1.82	1.63	1.64	1.62	1.77	1.76	2.00	3.17	4.41	5.28	1.74	2.56	7.90	--	--	--
Oct 28 02	1.79	1.59	1.59	1.55	1.73	1.73	1.90	3.10	4.39	5.28	1.66	2.52	7.91	--	--	--
Oct 29 02	1.75	1.58	1.51	1.46	1.69	1.74	1.80	2.96	4.27	5.19	1.54	2.41	7.82	--	--	--
Oct 30 02	1.72	1.56	1.51	1.46	1.63	1.65	1.75	2.96	4.28	5.21	1.55	2.42	7.82	--	--	--
Oct 31 02	-- <sup>p</sup>	1.48	1.44	1.43	1.61	--	1.69	2.90	4.23	5.18	1.54	2.40	--	--	--	--

NOTE: Weekly data for columns 1 through 13 are week-ending averages. 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.

p - preliminary data

MFMA

Exhibit 1  
**Money Aggregates**

Strictly Confidential (FR)-  
 Class II FOMC

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)					
1999	1.9	6.3	7.8	11.3	7.7
2000	-1.7	6.1	8.6	17.3	9.3
2001	6.8	10.3	11.3	18.5	12.8
Quarterly(average)					
2001-Q4	2.1	9.5	11.5	18.5	12.3
2002-Q1	5.8	5.5	5.4	3.5	4.8
Q2	-0.6	3.3	4.4	3.3	3.3
Q3	2.9	10.4	12.4	4.2	8.4
Monthly					
2001-Oct.	-39.1	-1.5	9.3	26.4	7.2
Nov.	3.1	10.4	12.4	21.3	13.8
Dec.	16.0	9.8	8.2	12.8	10.8
2002-Jan.	3.3	2.2	1.9	-8.4	-1.2
Feb.	1.9	6.9	8.3	4.3	6.1
Mar.	3.0	-1.3	-2.5	1.6	-0.4
Apr.	-11.2	-3.6	-1.6	1.7	-1.9
May	6.6	14.4	16.5	6.9	12.0
June	7.2	7.7	7.9	2.8	6.2
July	8.0	13.0	14.3	-1.3	8.4
Aug.	-13.7	9.5	15.7	13.5	10.7
Sep.	8.5	5.1	4.2	2.3	4.2
Oct. e	2.3	10.2	12.3	-20.4	0.5
<b>Levels (\$billions):</b>					
Monthly					
2002-May	1182.8	5542.4	4359.6	2588.2	8130.7
June	1189.9	5578.1	4388.2	2594.3	8172.4
July	1197.8	5638.4	4440.6	2591.5	8229.9
Aug.	1184.1	5682.9	4498.7	2620.7	8303.6
Sep.	1192.5	5707.0	4514.5	2625.7	8332.6
Weekly					
2002-Sep. 2	1208.1	5696.6	4488.5	2620.0	8316.6
9	1178.2	5696.4	4518.2	2621.4	8317.7
16	1181.3	5702.2	4520.9	2638.5	8340.7
23	1192.0	5712.2	4520.2	2628.1	8340.3
30	1212.7	5729.0	4516.3	2617.0	8345.9
Oct. 7	1176.4	5716.6	4540.2	2585.5	8302.2
14p	1195.1	5746.0	4550.9	2579.3	8325.3
21p	1199.8	5754.7	4555.0	2577.0	8331.7

p preliminary  
 e estimated

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

Strictly Confidential  
Class II FOMC

October 31, 2002

	Treasury Bills			Treasury Coupons						Federal Agency Redemptions (-)	Net change total outright holdings <sup>4</sup>	Net RPs <sup>5</sup>		
	Net Purchases <sup>2</sup>	Redemptions (-)	Net Change	Net Purchases <sup>3</sup>				Redemptions (-)	Net Change			Short-Term <sup>6</sup>	Long-Term <sup>7</sup>	Net Change
				< 1	1-5	5-10	Over 10							
1999	---	---	---	11,895	19,731	4,303	9,428	1,429	43,928	157	43,771	2,035	8,347	10,382
2000	8,676	24,522	-15,846	8,809	14,482	5,871	5,833	3,779	31,215	51	15,318	-2,163	7,133	4,970
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
2001 QIII	3,965	1,543	2,422	1,619	5,854	1,691	1,535	5,723	4,976	---	7,398	3,832	2,587	6,419
QIV	4,659	---	4,659	5,761	2,577	982	1,632	473	10,479	---	15,138	-4,223	10,847	6,624
2002 QI	6,827	---	6,827	4,349	6,153	971	1,927	---	13,401	---	20,228	-1,961	-2,191	-4,152
QII	8,227	---	8,227	5,535	2,580	2,471	210	---	10,796	---	19,023	-2,644	-4,563	-7,207
QIII	6,117	---	6,117	2,835	3,676	1,318	143	---	7,972	---	14,089	-3,067	-5,225	-8,291
2002 Feb	1,042	---	1,042	2,894	1,101	334	1,054	---	5,383	---	6,425	-3,647	-1,401	-5,048
Mar	3,013	---	3,013	1,455	2,181	637	291	---	4,564	---	7,577	-1,866	-276	-2,142
Apr	1,047	---	1,047	2,709	1,142	1,670	210	---	5,730	---	6,777	1,211	-3,714	-2,503
May	3,524	---	3,524	2,826	1,439	259	---	---	4,524	---	8,048	-2,091	133	-1,958
Jun	3,656	---	3,656	---	---	542	---	---	542	---	4,198	79	-833	-754
Jul	4,838	---	4,838	1,104	1,755	577	63	---	3,499	---	8,336	-2,434	-1,296	-3,730
Aug	529	---	529	445	1,921	690	80	---	3,136	---	3,665	-527	-4,645	-5,172
Sep	750	---	750	1,286	---	51	---	---	1,337	---	2,087	1,084	-1,026	59
2002 Aug 7	---	---	---	445	475	---	---	---	920	---	920	2,667	-1,000	1,667
Aug 14	64	---	64	---	---	---	---	---	---	---	64	-3,630	-1,000	-4,630
Aug 21	250	---	250	---	721	568	80	---	1,369	---	1,619	7,217	---	7,217
Aug 28	139	---	139	---	725	122	---	---	847	---	986	-5,686	---	-5,686
Sep 4	185	---	185	---	---	---	---	---	---	---	185	9,085	---	9,085
Sep 11	236	---	236	---	---	---	---	---	---	---	236	-6,152	---	-6,152
Sep 18	205	---	205	1,286	---	51	---	---	1,337	---	1,542	77	-1,000	-923
Sep 25	200	---	200	---	---	---	---	---	---	---	200	-4,432	---	-4,432
Oct 2	---	---	---	---	---	---	---	---	---	---	---	6,518	-1,000	5,518
Oct 9	---	---	---	---	---	---	---	---	---	---	---	-3,476	-3,000	-6,476
Oct 16	---	---	---	---	---	---	---	---	---	---	---	6,620	-1,000	5,620
Oct 23	---	---	---	---	---	---	---	---	---	---	---	-3,764	---	-3,764
Oct 30	---	---	---	---	---	---	---	---	---	---	---	4,339	---	4,339
2002 Oct 31	---	---	---	---	---	---	---	---	---	---	---	-4,801	---	-4,801
Intermeeting Period														
Sep 24-Oct 31	---	---	---	---	---	---	---	---	---	---	---	12,040	-5,000	7,040
Memo: LEVEL (bil. \$)														
Oct 31			226.4	92.6	176.2	51.5	81.7		402.0	0.0	402.0	-10.1	6.0	-4.1

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 matched sale-purchases.  
6. Original maturity of 15 days or less.  
7. Original maturity of 16 to 90 days.