Prefatory Note

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Please note that this document may contain occasional gaps in the text. These gaps are the result of a redaction process that removed information obtained on a confidential basis. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

¹ In some cases, original copies needed to be photocopied before being scanned into electronic format. All scanned images were deskewed (to remove the effects of printer- and scanner-introduced tilting) and lightly cleaned (to remove dark spots caused by staple holes, hole punches, and other blemishes caused after initial printing).

² A two-step process was used. An advanced optimal character recognition computer program (OCR) first created electronic text from the document image. Where the OCR results were inconclusive, staff checked and corrected the text as necessary. Please note that the numbers and text in charts and tables were not reliably recognized by the OCR process and were not checked or corrected by staff.

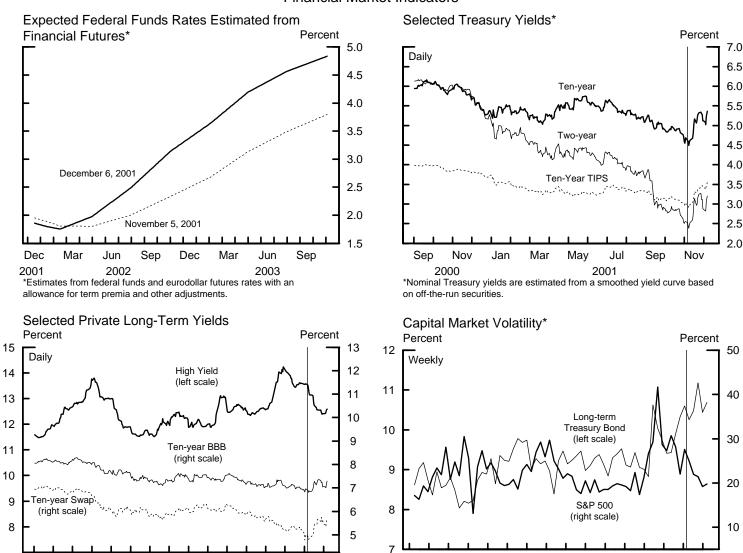
MONETARY POLICY ALTERNATIVES

Recent Developments

- (1) In advance of the November FOMC meeting, investors were uncertain whether the Committee would choose to ease policy 25 or 50 basis points, but they seemed sure that the Committee would continue to view the risks to the outlook as weighted toward economic weakness. In the event, the announcement of the 50 basis point rate cut—along with the expected statement of unbalanced risks—led market participants to mark down short- and intermediate-term interest rates and to boost equity prices, while leaving longer-term rates about unchanged.¹ Subsequent economic data came in on the high side of expectations on balance, and with military operations in Afghanistan making substantial progress, investors appeared to become more optimistic about economic prospects and increasingly willing to take on risk. Futures market quotes indicate that investors place high odds on a further 25 basis point easing move at this meeting; the federal funds rate is apparently expected to rise thereafter, reaching about 4¾ percent by the end of 2003—a level about 100 basis points higher than was expected at the time of the November meeting (Chart 1).
- (2) Reflecting these changed economic and policy expectations, as well as the ebbing of flight-to-safety demands, yields on Treasury coupon securities have climbed 65 to 80 basis points, with the largest increases posted at intermediate

¹ The federal funds rate has averaged very close to its intended level of 2 percent over the intermeeting period. The Desk purchased \$8.6 billion of Treasury securities in outright operations over the period, including \$3.3 billion of Treasury bills (\$1.3 billion of which was from foreign official institutions) and \$5.3 billion of coupon securities. To accommodate the seasonal increase in currency demands, the outstanding volume of long-term System RPs was raised \$5 billion to \$28 billion.

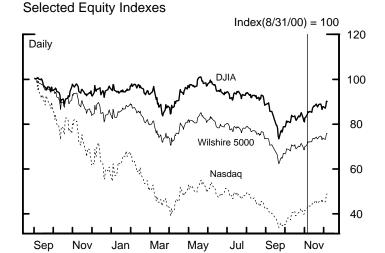
Chart 1
Financial Market Indicators



Sep

Nov

2000



Nov

2000

2000

Jan

Mar

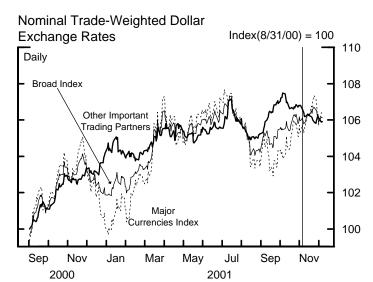
May

Sep

Nov

Jul

2001



May

Jul

2001

Mar

Jan

*Implied volatilities calculated from options.

Sep

Nov

2001

maturities (see the box on "Financial Market Conditions" on the next page).² Yields on Treasury inflation-indexed securities have moved up about 35 to 55 basis points, suggesting that much of the increase in nominal yields owed to their real components. With concerns about the economic outlook diminishing, yields on investment-grade corporate bonds have increased considerably less than those on comparable Treasuries, while yields on speculative-grade bonds have declined substantially, bringing risk spreads on such bonds back to the levels of early September. The failure of Enron Corporation, a major wholesale energy trading firm, put some pressure on the securities of firms in similar and related businesses, as well as on those of banks thought to have substantial exposures to Enron. Although liquidity in energy markets was reportedly reduced and price movements were volatile at times, effects in financial markets more generally were muted. Broad stock price indexes have increased roughly 6 percent over the period, while the Nasdaq has risen more than 14 percent.

(3) The trade-weighted index of the dollar's exchange value against other major currencies has risen slightly on balance over the intermeeting period. A mid indications of flagging activity, the European Central Bank, the Bank of England, and the Bank of Canada lowered their policy rates 50 basis points. Central bank action, along with better U.S. data, contributed to the perception that a widespread economic rebound was in train, pushing up yields on long-term government bonds abroad, although the increases have been less than in the United States. Stock prices have risen about 6½ percent on average in Europe and 7¾ percent in Canada. Once again, Japan was an exception as economic news proved disappointing: Government bond yields have edged higher, and broad stock indexes are flat on net. Comments from

² The political battle over the size and content of a possible stimulus package did not seem to have a significant effect on the Treasury market over the period.

Financial Market Conditions

Over the intermeeting period, interest rates have been especially volatile and appear to have been unusually sensitive to economic news and statements by officials. In part, this may owe to the uncertainty surrounding the current economic outlook as market participants seek out clues as to whether an economic rebound is at hand. In the Treasury market, some of the backup in yields probably represented an unwinding of the abrupt declines that followed the announcement on October 31 of the suspension of issuance of thirty-year bonds. Overall, upward movements in long-term yields may have been amplified to some extent by investors' attempts to reduce the duration of their portfolios as higher rates trimmed the prepayment risk of mortgage-backed securities.

Market reports suggest that the Treasury market has been less liquid than typical, perhaps contributing to the volatility in yields. Bid-asked spreads on Treasury securities widened at times, and the amounts bid or offered have been smaller than usual. Some market participants have reportedly closed out positions ahead of year-end and may have been reluctant to assume new positions amid the extensive volatility of asset prices. Some withdrawal from the market associated with year-end positioning also may have contributed to a recent rise in fails-to-deliver Treasury securities, although the elevated level of fails likely also reflects the low level of short-term interest rates.

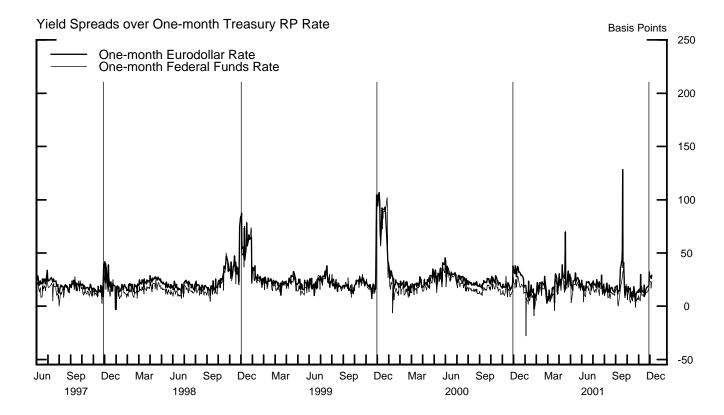
To date, year-end pressures in financing markets have generally been in the range observed in recent years. In the federal funds and eurodollar deposit markets, the rates at which banks can borrow funds over year-end have risen only slightly relative to the rate on Treasury repurchase agreements of similar maturity (Chart 2). Similarly, highly rated firms in the commercial paper market have had to pay only a small premium to borrow funds over year-end. Spreads for lower-rated issuers of commercial paper, which have been elevated since September, have increased noticeably for instruments spanning year-end.

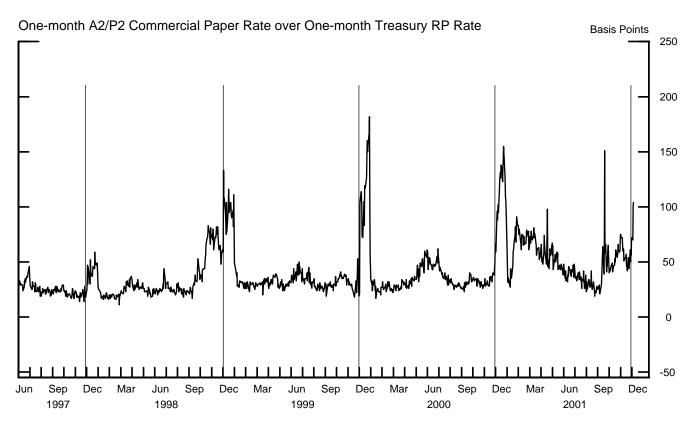
Japanese officials about possible intervention to weaken the yen and reports that the Bank of Japan may consider purchasing foreign currency bonds contributed to a $2\frac{1}{2}$ percent net increase in the yen-dollar exchange rate.

; U.S. monetary

authorities did not intervene.

Chart 2 Year-End Pressures

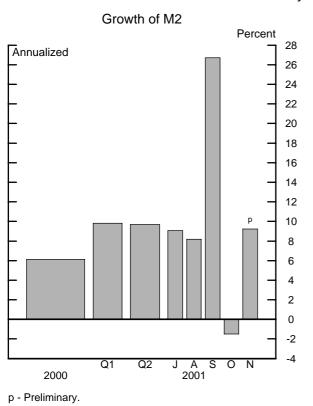


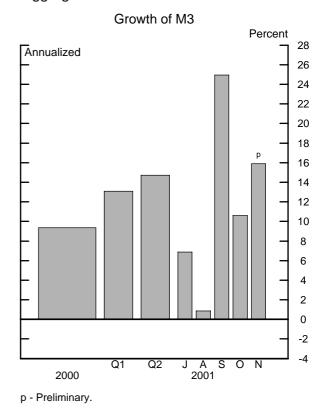


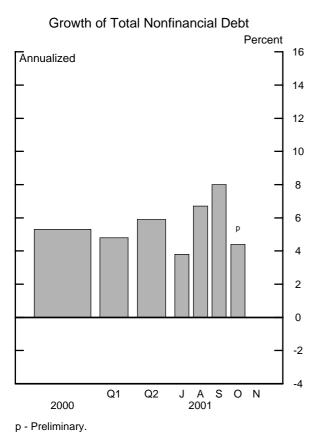
Note. Vertical lines represent the first day on which the rates shown encompass year-end. Last observation for commercial paper is on December 5, 2001.

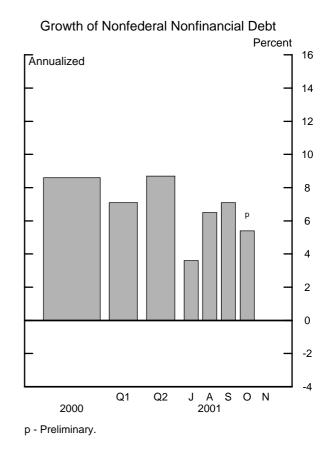
- (4) Deepening concerns over the Argentine government's chances of staving off default apparently have had little spillover to other emerging market economies, and the dollar's exchange value against the currencies of our other important trading partners has declined so mewhat over the intermeeting period. Argentine officials began to implement a debt exchange and, faced with mounting pressures on the nation's banks, announced a set of measures to limit withdrawals from the banking system and to restrict capital outflows. On balance, the yield spread of Argentina's debt over Treasuries has risen more than 900 basis points over the period. In contrast, in Mexico and Brazil, bond yield spreads over Treasuries have narrowed substantially. The Mexican peso has changed little on net against the dollar, but the Brazilian *real* has appreciated 6½ percent. Stock prices in Asian developing economies with significant technology-based export sectors have posted increases between 10 and 30 percent.
- (5) Nonfederal debt has expanded at about a 5¾ percent average pace in recent months (Chart 3). Despite declining investment spending, business debt growth appears to have picked up in October and November. Low yields on investment-grade bonds evidently have encouraged many firms to lock-in longer-term financing, while the recovery of the junk bond market from the effects of the terrorist attacks in September has allowed selected speculative-grade borrowers to issue as well. Firms appear to have used the proceeds to strengthen their balance sheets by paying down short-term debt and accumulating liquid assets. Household mortgage debt growth has remained fairly strong, as very low mortgage rates have supported robust housing and refinancing activity. The heavy volume of auto sales posted in October and November has likely boosted consumer credit growth some. With the funding of rebate checks completed, federal debt changed little (on a seasonally adjusted basis) in October and November. The cutback in federal debt issuance restrained growth in

Chart 3 Growth of Money and Debt Aggregates









total domestic nonfinancial debt to a 4½ percent pace in October from an average of about 6 percent in the prior few months.

(6) M2 growth, at a 9½ percent rate in November, remained robust but was below its average pace over September and October, owing in part to some further unwinding of the high level of business demand deposits that accumulated in the aftermath of the September terrorist attacks and that were not completely drawn down until late in October. Growth in M2 money funds slowed appreciably as reduced concerns about the economic outlook and increases in equity values likely led some investors to reallocate balances from money funds back into equities. Indeed, there were inflows into equity mutual funds in November following a sizable outflow in September and little net change in October. For the year, M2 is estimated to have expanded 10½ percent on a four-quarter basis, compared with projected growth of nominal income of only ½ percent. M2 growth was boosted largely by declines in opportunity costs, the heavy pace of mortgage refinancing, and the disenchantment of investors with the stock market. (An appendix contains a discussion of money and credit in 2001.)

MONEY AND CREDIT AGGREGATES

(Seasonally adjusted annual percentage rates of growth)

	Aug 2001	Sep 2001	Oct 2001	Nov 2001 (p)
Money and Credit Aggregates				
M2	8.2	26.7	-1.5	9.2
M3	0.8	25.0	10.6	15.9
Domestic nonfinancial debt	6.7	8.0	4.4	n.a.
Federal	7.6	12.3	0.0	n.a.
Nonfederal	6.5	7.1	5.4	n.a.
Bank credit	3.2	15.3	-6.0	6.6
Adjusted ¹	-0.6	13.3	-7.3	5.1
Memo:				
Monetary base	15.4	47.2	-19.1	-1.0
Adjusted for sweeps	15.1	44.5	-15.7	-0.5

^{1.} Adjusted to remove the effects of mark-to-market accounting rules (FIN 39 and FASB 115).

p -- preliminary

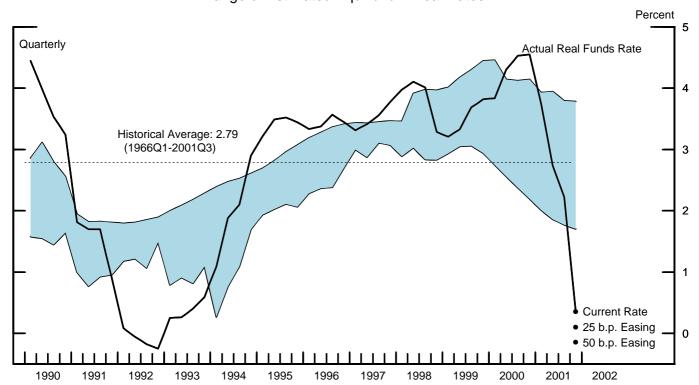
Short-run Policy Alternatives

- (7)On balance, economic data over the intermeeting period have tended to run somewhat firmer than had been expected by the staff at the time of the November meeting, and equity prices have risen. As a consequence, the Greenbook forecast for real activity has been strengthened slightly. Under the assumption that the Committee leaves the target funds rate unchanged through 2002 before firming policy during 2003, the staff projects that long-term interest rates will drift down a little, the foreign exchange value of the dollar will hold near its current level, and stock prices will stay about flat through next year and edge higher thereafter. The forecast again assumes the passage of legislation that will provide substantial additional fiscal stimulus starting in the first half of next year. Against this backdrop, real GDP is anticipated to flatten out early next year and then rebound to a growth rate somewhat above that of its potential over the remainder of the projection period. The near-term decline in output is expected to push the unemployment rate to about 6 percent next year, and unemployment then edges lower over 2003. The slack in resource utilization, declining energy costs, and reduced inflation expectations lead to some diminution of underlying inflation, with the increase in the core PCE index falling to about 1 percent in 2003 from its recent peak of about 2 percent.
- (8) Even though the prospect of further near-term deterioration in the economy is unappealing, the Committee may view this outcome as unavoidable given the lags in monetary policy. If the Committee saw good prospects of a relatively strong rebound in the economy beginning in the next few quarters, it might leave the stance of monetary policy **unchanged**. The unexpected strength of several indicators of consumption and investment could be read as supporting a view that economic weakness is abating and a turnaround in spending is in train. Indeed, the rise in equity prices and real interest rates of late likely provides evidence that market participants

have become more optimistic on that score. Such a turnaround would be supported by the monetary stimulus put in place—a substantial portion of which has occurred only recently—that has positioned the real federal funds rate well below the range of estimates of its equilibrium value (see Chart 4 and the table on the next page). In these circumstances, the Committee may wish to bide its time, awaiting data that will help it gauge the effects of policy actions to date as well as the resolution of uncertainty on the fiscal policy front.

- (9) Because market prices appear to incorporate high odds on a 25 basis point easing of monetary policy at this meeting, leaving the target federal funds rate at 2 percent would prompt an appreciable increase in money market interest rates. Longer-term yields could rise somewhat as well; the extent of the backup, however, would probably be limited as long as the Committee, as expected by investors, reiterated its assessment that the balance of risks is weighted toward economic weakness. However, long-term yields would likely rise by more, and the dollar could firm, if the Committee's announcement suggested some optimism about economic prospects despite its formal assessment of the balance of risks and, especially, if the Committee shifted to a statement that the risks were balanced. Equity prices might drop initially, but, again, any sense conveyed in the announcement of good odds that the economy would begin to recover before long would probably limit the decline.
- (10) The Committee might choose to ease policy **25 basis points** if it viewed the recent positive news on spending as quite tentative and not providing sufficient assurance that a rebound is in store before long. Moreover, the Committee might be worried about the possibility of specific shocks that could derail the recovery. Consumer sentiment could decline further in the event of additional terrorist actions or if the current military conflict proves more difficult and protracted than expected. And, equity prices may be seen as embedding unrealistically high expectations for

Chart 4
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 five estimates of the equilibrium real federal funds rate. Real federal funds rates employ four-quarter lagged core PCE inflation as a proxy for inflation expectations, with the staff projection used for 2001Q4.

Equilibrium Funds Rate Estimates

Percent

Method	<u>2000</u>	2001H1	2001Q3	2001Q4
Statistical Filter				
-Based on historical data* October Greenbook	2.7 2.6	2.4 2.4	2.3 2.3	2.2 2.3
-Based on historical data and the staff forecast October Greenbook	2.5 2.4	1.9 1.9	1.8 1.8	1.7 1.7
FRB/US Model				
-Based on historical data** October Greenbook	3.8 3.8	2.6 2.9	2.0 2.1	1.9 2. <i>1</i>

-Based on historical data and the staff forecast

Treasury Inflation-Indexed Securities

October Greenbook

October Greenbook

^{*} Also employs the staff forecast for 2001Q4 and 2002Q1.

^{**} Also employs the staff forecast for 2001Q4. Backward-looking moving averages, rather than centered moving averages, are used to estimate the persistent and transitory components of shocks to the model.

earnings as well as an unusually low equity risk premium. Should investor expectations be disappointed or the equity premium move back toward its historical norm, equity prices could reverse their recent gains, adding to the drag on household spending. In addition, the appearance of stalemate in the Congressional debate on a fiscal stimulus package may be seen as raising the odds that agreement will not be forthcoming. An alternative simulation in the Greenbook illustrated that, without additional fiscal stimulus, the economic recovery could be noticeably more anemic than envisioned in the baseline forecast. While these downside risks may not materialize, the Committee might view the cost of erring on the side of ease as low at this time given the degree of slack at present in resource utilization and the likelihood that inflation will remain subdued or drift down somewhat in the near term.

- (11) Because investors expect the Committee to ease 25 basis points and to retain its assessment that the risks are weighted toward economic weakness, financial market prices would likely change little in response to such a policy decision. Market participants probably would perceive the 25 basis point move, following three larger steps, as an indication that the easing cycle could be drawing to a close. If the Committee wanted to underscore that perception in markets, it could indicate that the risks were now balanced. In that event, market interest rates could rise as investors moved forward their prevailing expectations of policy tightening, but stock prices and the foreign exchange value of the dollar would be supported if the Federal Reserve's less pessimistic outlook led market participants to revise up their expectations for the rebound in economic activity.
- (12) The Committee might consider reducing the target federal funds rate **50** basis points at this meeting if it thought an unacceptably large opening of slack in the economy was likely. As discussed in the box "A Perfect Foresight' Policy" on page 11, a "perfect foresight" rule that uses all the information contained in the staff

outlook to determine a path for the funds rate that minimizes squared output and inflation gaps over the entire forecast period calls for considerable additional nearterm policy easing to counter the projected upward pressure on the unemployment rate. A further sizable easing may be justified not only on the grounds of generating better results than in the staff forecast, but also on the view that the forecast itself has overestimated effective policy stimulus or does not give sufficient weight to forces that will continue to hold back the economy. In particular, if inflation expectations are lower than is embedded in the baseline forecast, then the real short-term interest rate is higher and that will keep real long-term rates elevated and reduce inflation even further than in the staff forecast. Adjusting the nominal funds rate lower in response to the apparent drop in inflation expectations might be viewed as especially desirable if the Committee believed that substantial restraints to private domestic spending persist or that the downturn abroad is likely to be exacerbated by financial strains in certain foreign economies. Moreover, as discussed in a box in the November bluebook, the possibility that conventional monetary policy action ultimately could be constrained by the zero bound to nominal interest rates might incline the Committee to take prompter and more aggressive action now to stimulate economic activity. The Committee might also view the 1 percent core PCE inflation rate projected to prevail toward the end of the forecast interval as too low to provide a comfortable buffer against hitting the zero bound to nominal interest rates in the event of a substantial adverse shock to the economy in the future.

(13) A 50 basis point policy easing at this meeting would be larger than is embedded in financial market prices. Although short-term rates would decline sharply, the response of long-term yields, stock prices, and the dollar would depend in part on whether investors saw the extent of the move as suggesting, on the one hand,

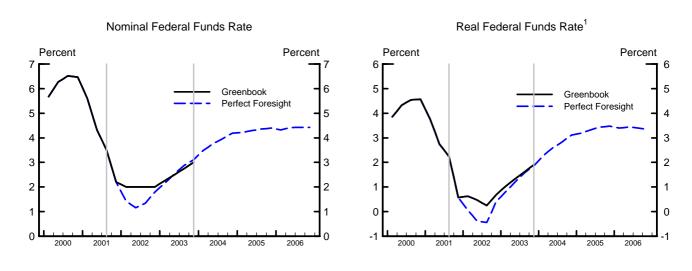
A "Perfect Foresight" Policy

Examining the policy dubbed "perfect foresight" in the June bluebook may provide some perspective on the Committee's decision at this meeting. Under this policy, the policymaker is assumed to choose a path for the federal funds rate with complete knowledge of all the forces shaping the outlook. The experiment extends the Greenbook outlook through 2006 using the FRB/US model with certain judgmental adjustments to the model that preserve the central features underlying the staff outlook. In particular, the rate of increase in potential output is a little over 3 percent after 2003, a slight rise from this year and next. The degree of labor market slack consistent with stable inflation (the effective NAIRU) holds at about 5½ percent. Growth abroad strengthens to 3¾ percent by 2003, and the dollar is assumed to depreciate at a 3 percent annual rate in real terms after 2003, keeping the ratio of the current account deficit to GDP about flat. Lastly, the fiscal assumptions in the extension hold the unified budget surplus at about 1 percent of nominal GDP, up from about zero in 2003.

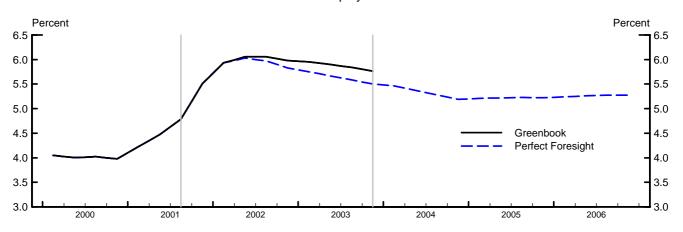
The solid line in the upper left panel of Chart 5 shows the path for the federal funds rate assumed in the Greenbook out to 2003. The dotted line plots the federal funds rate that would be chosen by a policymaker assumed to have perfect foresight starting at the beginning of next year. Effectively, this assumes that the policymaker is certain that the model accurately describes the economy and that the baseline correctly captures all of the forces impinging on the economy. The funds rate path is chosen to minimize the sum of squared deviations of output from its estimated potential and inflation from an assumed long-run target of 1 percent, with a small penalty applied to changing the funds rate. The policymaker is assumed to view both the output and inflation gaps with equal distaste, and the penalty on interest-rate changes was selected to deliver policy predictions that make the funds rate about as volatile as it has been over the past ten years. This rule calls for additional aggressive easing by holding the funds rate lower for longer than either the Greenbook assumption or the expectations now implicit in market prices. However, given this ease early in the forecast period, a perfect-foresight policy has to firm earlier and more abruptly than the path assumed in the Greenbook and to run substantially tighter for longer in the latter part of the simulation period to achieve the longer-run inflation objective.

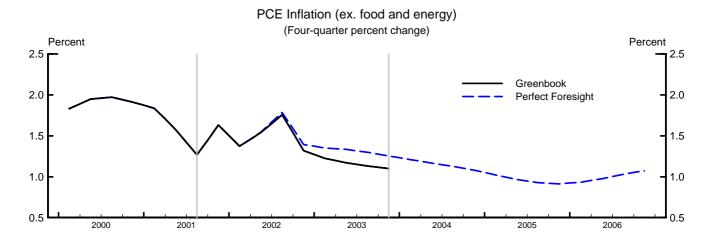
that the economy was considerably weaker than they had perceived or, on the other, that the Committee was intent on restoring strong growth more quickly and with more certainty than previously appreciated. In the first case, bond yields, equity

Chart 5
Perfect Foresight Policy



Civilian Unemployment Rate





^{1.} The real federal funds rate is calculated as the quarterly nominal funds rate minus the four-quarter percent change in the PCE chain-weight price index excluding food and energy.

prices, and the exchange value of the dollar all could drop significantly, while, in the second, the decline in bond yields would be significantly smaller and stock prices and the dollar could rally.

- (14) Given the interest rate assumptions and nominal income projection of the Greenbook forecast, M2 growth is forecast to slow somewhat in coming months from its average pace over 2001, as the influence of previous easings on opportunity costs and the demand for M2 begins to ebb. Still, M2 growth is expected to remain relatively brisk: The record surge in mortgage refinancing that is now under way should buoy M2, and continued strong demands for U.S. currency abroad owing to unsettled conditions in some countries and, perhaps, a temporary surge in demands for U.S. banknotes around the time of the introduction of euro notes early next year could also spur that aggregate. On balance, M2 is expected to expand at a 73/4 percent annual rate over the November-to-March period. With M2 growth staying well above that of nominal income, velocity continues to drop in the first quarter, although the decline is expected to slow to a 61/4 percent annual rate.
- debt is expected to remain near the 6 percent pace of recent months. In the business sector, borrowing again should be concentrated heavily in the bond market, as firms take advantage of relatively low long-term interest rates. C&I loan growth and commercial paper issuance probably will stay weak, mainly reflecting the shift to longer-term funding, although continued firming of loan terms and standards and investor resistance to relatively low-grade commercial paper could also play a role. In the household sector, the refinancing boom should augment the expansion of mortgage debt over the next few months, while consumer credit is likely to edge higher on net, owing in part to a drop-off in growth of expenditures on consumer

durables. With federal debt again expanding, total domestic nonfinancial sector debt is projected to rise at a 5 percent annual rate from October through March.

Alternative Growth Rates for Key Monetary and Credit Aggregates

		M2			M2	М3	Debt
		Alt. B	Alt. A	Alt. A'	Greenbool	k Forecas	t*
Monthly Growt	h Rates						
Apr-2001		10.1	10.1	10.1	10.1	19.1	5.2
May-2001		5.3	5.3	5.3	5.3	13.7	6.6
Jun-2001		9.9	9.9	9.9	9.9	13.0	6.1
Jul-2001		9.1	9.1	9.1	9.1	6.9	3.8
Aug-2001		8.2	8.2	8.2	8.2	0.8	6.7
Sep-2001		26.7	26.7	26.7	26.7	25.0	8.0
Oct-2001		-1.5	-1.5	-1.5	-1.5	10.6	4.4
Nov-2001		9.2	9.2	9.2	9.2	15.9	4.6
Dec-2001		8.5	8.7	8.9	8.5	10.5	5.8
Jan-2002		8.3	8.9	9.5	8.3	9.5	3.2
Feb-2002		8.0	8.8	9.6	8.0	9.0	4.4
Mar-2002		6.2	7.0	7.7	6.2	7.6	6.8
Quarterly Ave	rages						
2000 Q2		6.3	6.3	6.3	6.3	9.0	6.1
2000 Q3		5.6	5.6	5.6	5.6	9.1	5.0
2000 Q4		6.0	6.0	6.0	6.0	7.3	4.4
2001 Q1		9.8	9.8	9.8	9.8	13.1	4.8
2001 Q2		9.7	9.7	9.7	9.7	14.7	5.9
2001 Q3		10.7	10.7	10.7	10.7	9.7	5.8
2001 Q4		9.3	9.4	9.4	9.3	14.0	5.7
2002 Q1		8.2	8.7	9.2	8.2	10.2	4.6
Growth Rate From	То						
Dec-2000	Oct-2001	10.6	10.6	10.6	10.6	13.4	5.7
Dec-2000	Nov-2001	10.5	10.5	10.5	10.5	13.4	5.6
Oct-2001	Mar-2002	8.1	8.6	9.1	8.1	10.7	5.0
Nov-2001	Mar-2002	7.8	8.4	9.0	7.8	9.3	5.1
1101 2001	1101 2002	,.0	0.1	3.0	7.0	7.5	3.1
2000 Q4	Oct-2001	10.3	10.3	10.3	10.3	13.3	5.7
2000 Q4	Nov-2001	10.3	10.3	10.3	10.3	13.7	5.6
2001 Q4	Mar-2002	7.9	8.5	9.0	7.9	9.7	5.0
1999 Q4	2000 Q4	6.1	6.1	6.1	6.1	9.4	5.3
2000 Q4	2001 Q4	10.3	10.3	10.3	10.3	13.5	5.6

^{*} This forecast is consistent with nominal GDP and interest rates in the Greenbook forecast.

Directive and Balance-of-Risks Language

(16) 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 ___2 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 [ARE BALANCED WITH RESPECT TO PROSPECTS FOR BOTH GOALS] [ARE WEIGHTED MAINLY TOWARD CONDITIONS THAT MAY GENERATE HEIGHTENED INFLATION PRESSURES] [continue to be weighted mainly toward conditions that may generate economic weakness] in the foreseeable future.

Appendix: Review of Debt and Money Growth in 2001

The economic contraction and decline in interest rates this year left a noticeable imprint on the composition of financial flows. In general, credit flows shifted toward bonds and mortgages, as borrowers took advantage of lower long-term interest rates. A decline in capital expenditures and inventory financing needs led to a sharp slowing in overall business borrowing, but lower interest rates helped to keep household credit expansion brisk. Federal debt contracted at a much slower pace than in 2000, as the federal government resumed net borrowing in the second half of the year in response to a reemergence of unified budget deficits. The decline in short-term interest rates resulting from the easing of monetary policy, combined with increased safe-haven demand for liquid assets that likely reflected investors' disenchantment with the stock market, contributed to rapid growth of the broad monetary aggregates in 2001.

Domestic Nonfinancial Sector Debt

Despite anemic expansion in nominal income, the aggregate debt of domestic nonfinancial sectors expanded 5½ percent in 2001, a bit faster than in the previous year. Nonfederal debt grew briskly over the first half of the year, but slowed somewhat in the second half as the economy contracted. On balance, nonfederal debt decelerated to about 7¼ percent in 2001 from 8½ percent last year. By contrast, federal debt continued to shrink earlier in the year, but then resumed growing in the second half, as the budget swung into deficit owing to a deterioration in tax receipts. For the year as a whole, the federal government paid down only 1½ percent of its debt, all of it during the first half, compared with 6¾ percent last year.

Overall business borrowing slowed substantially from its strong pace of the previous several years. The financing gap contracted considerably as a drop in capital expenditures outpaced a shrinkage in internal funds that stemmed from weaker profits. The composition of business borrowing shifted toward longer-term markets. Nonfinancial firms, especially those rated investment grade, took advantage of attractive longer-term interest rates and issued a large volume of bonds, using the proceeds to strengthen their balance sheets by paying down bank loans and commercial paper and by boosting liquid assets. The commercial paper market suffered severe setbacks in 2001, and the level of commercial paper outstanding fell sharply over the year. Early on, defaults of two California utilities and downgrades of

³ Annual growth figures are expressed as the change from the fourth quarter of the previous year to the fourth quarter of the current year using staff projections.

the debt of other firms caused spreads between lower- and higher-tier issuers to soar for a time. More recently, market disruptions in the wake of the September 11 terrorist attacks, considerable year-end pressures, and concerns stemming from the bankruptcy of Enron Corporation led spreads for lower-rated issuers to widen again. In the banking sector, worries about deteriorating credit quality in an environment of declining economic activity led to a further tightening of business lending standards and terms over the course of the year. Banks reported weaker demand for C&I loans, mainly owing to reduced business outlays on capital equipment and inventories and a slower pace of merger activity. These factors, along with the shift to financing through the bond market, caused C&I loans at commercial banks to shrink for the first calendar year since 1993.

Growth in commercial mortgage debt remained brisk in 2001, even though nonresidential construction spending fell. Issuance of commercial mortgage-backed securities, buoyed by low interest rates, remained fairly robust throughout 2001. With office vacancies on the rise and delinquency rates on commercial mortgages edging up from their recent historical lows, commercial banks, on net, firmed standards on commercial real estate loans.

In the household sector, strength in durable goods expenditures led to an acceleration of consumer credit in the first quarter. Growth in consumption spending slowed over the spring and summer, and the increase in consumer credit fell back sharply, resulting in a moderate gain for the year as a whole. By contrast, the low levels of mortgage rates spurred home mortgage debt to a rapid 10 percent advance in 2001.

With the expansion of overall household debt continuing to outrun that of disposable personal income, the household debt-service burden rose fairly steadily over the year, edging closer to the previous peak. At the same time, the ratio of household assets to disposable income moved lower through the third quarter of the year, reflecting the decline in equity prices. In this environment, measures of household credit quality deteriorated somewhat over the year. Delinquency rates rose on credit cards, home mortgages, and other consumer loans. Personal bankruptcy filings shot up to a record level early in the year, and remained well above their year-earlier levels; part of the increase, though, reflected a rush to file before the passage of bankruptcy reform legislation.

Despite the falling and volatile stock market, households continued net purchases of equity mutual funds during the first half of the year. But when equity prices dropped further during the summer, households responded by shifting investments from equities to bond and money funds, a pattern that became more pronounced when equity markets reopened following the terrorist attacks. Encouraged by a recovery in share prices beginning in October, households resumed accumulating equity mutual funds.

State and local government debt expanded fairly rapidly this year, following slow growth in 2000. Gross issuance of municipal bonds accelerated early on, as local governments took advantage of lower yields to refund outstanding debt. Spurred by falling interest rates and declining tax revenues, issuance of long-term bonds to finance new capital projects maintained a rapid clip over the course of the year. Credit quality in the municipal market appeared to be topping out late in the year, as tax receipts softened owing to the contracting economy.

The federal government continued to pay down sizable amounts of marketable debt over the first half of the year. By the middle of the summer, however, the tax cut, combined with the weakening in the economy, led to a deterioration in receipts, and the Treasury announced that it planned to resume borrowing over the rest of the year. Emergency spending in the wake of the terrorist attacks further boosted the Treasury's borrowing needs. Following a 6 percent rate of contraction in the first half, the federal nonfinancial debt grew at a 3½ percent pace over the second half of 2001.

Depository Credit

Growth of depository credit this year was well below that of total nonfinancial debt. Bank credit decelerated significantly over the course of the year as loan growth slowed sharply, although bank loans bulged temporarily after September 11 as businesses tapped backup lines of credit. Anemic loan growth at domestic commercial banks for the year as a whole was partially offset by robust acquisition of securities. The expansion of thrift credit is estimated to have slowed slightly from last year's pace despite the rapid growth in home mortgage debt.

The deceleration in bank loans in 2001 reflected a drop-off in loan demand from businesses and consumers as well as a tightening of banks' lending standards in response to growing concerns about worsening asset quality. The net percentage of domestic banks that tightened standards and terms on business loans, which had trended up substantially in 2000, began to decline over the first half of the year. However, in light of dimming economic prospects following the terrorist attacks, the

proportion of banks tightening business lending policies again increased. Commercial banks reported that the weaker demand for C&I loans over the course of the year owed mainly to a continued decline in customers' need to finance capital expenditures, mergers and acquisitions, and inventories. In the second half of the year, a moderate net percentage of banks also started to tighten credit conditions for household loans.

Monetary Aggregates

M2 expanded at a rapid 10½ percent pace this year, significantly above its 6 percent rate of growth in 2000. The fallout from the events of September 11 is estimated to have directly contributed only a bit to M2 growth in 2001. More significantly, sharp declines in short-term interest rates, resulting from the easing of monetary policy over the year, lowered the opportunity cost of holding M2 assets and helped induce a record decline in M2 velocity. In addition, households' preferences for liquidity and safety apparently intensified in response to elevated stock market volatility and reduced expectations for corporate earnings growth, further boosting M2 growth. The unprecedented level of mortgage refinancing activity and large currency shipments abroad also spurred this aggregate.

Reflecting in part a surge in its M2 component, M3 grew 13½ percent in 2001, far outpacing the 9½ percent rate of increase last year. Institutional money funds experienced exceptional inflows in response to the decline in short-term interest rates in 2001. By contrast, the flattening of bank credit resulted in a sharp deceleration in the issuance of managed liabilities, including large time deposits. With growth in nominal income slowing sharply, M3 velocity dropped for the seventh year in the row.

GROWTH OF THE CREDIT, MONETARY, AND RESERVE AGGREGATES $(\mbox{in percent})^1$

	1997	1998	1999	2000	2001 (p)
Domestic nonfinancial debt	5.4	6.9	6.7	5.3	5.6
Federal	0.8	-1.1	-2.5	-6.7	-1.4
Nonfederal	7.0	9.5	9.5	8.6	7.3
Depository credit	6.5	8.5	6.1	8.6	3.6
Bank credit ²	8.5	10.2	5.4	9.4	3.2
Thrift credit	0.7	3.3	8.5	6.0	4.7
M2	5.6	8.5	6.3	6.1	10.3
M3	9.1	11.0	7.7	9.4	13.5
Monetary base	5.9	7.2	12.5	1.4	8.3
Memo:					
Nominal gross domestic product	6.2	6.0	6.0	5.3	1.6
Components of the Monetary Aggregates					
Currency	7.5	8.3	11.1	4.2	9.0
Liquid deposits	4.3	8.9	5.9	3.3	17.8
Small time deposits	2.4	-1.3	-0.6	9.4	-5.1
Retail money market mutual funds	15.4	23.6	13.7	11.8	8.7
Institutional money market mutual funds	22.8	34.6	17.3	25.2	50.5
Large time deposits	18.7	11.0	7.7	13.6	3.0

^{1.} Growth rates are Q4 to Q4 averages based on seasonally adjusted data. Figures for 2001 are staff projections based on partial data.

2. Adjusted for the estimated effects of mark-to-market accounting rules.

