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<sup>1</sup> 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).

<sup>2</sup> A two-step process was used. An advanced optical 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

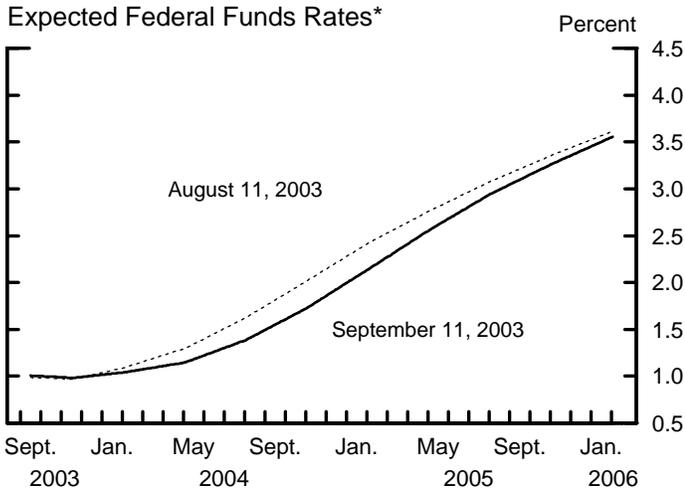
### Recent Developments

(1) The FOMC's decision to leave its target for the federal funds rate and assessment of risks unchanged at the August meeting was widely anticipated, but rates on money market futures for the second half of next year moved 5 to 10 basis points lower as market participants apparently took particular note of the statement that "policy accommodation can be maintained for a considerable period."<sup>1</sup> Over subsequent weeks, economic data releases pointed to a substantial strengthening in aggregate demand, and these futures rates moved appreciably higher. In recent days, however, those increases were more than reversed when upwardly revised productivity data, continued weakness in employment, and comments by Federal Reserve officials strengthened market participants' conviction that the stance of policy would be left unchanged for some time. On net over the intermeeting period, near-term interest rate futures were about unchanged and suggest that investors anticipate that the intended federal funds rate will be held at 1 percent through the middle of next year. Further out the curve, futures rates declined as much as 30 basis points and now imply an expectation of about 2½ percentage points of tightening from mid-2004 to end-2005 (Chart 1).

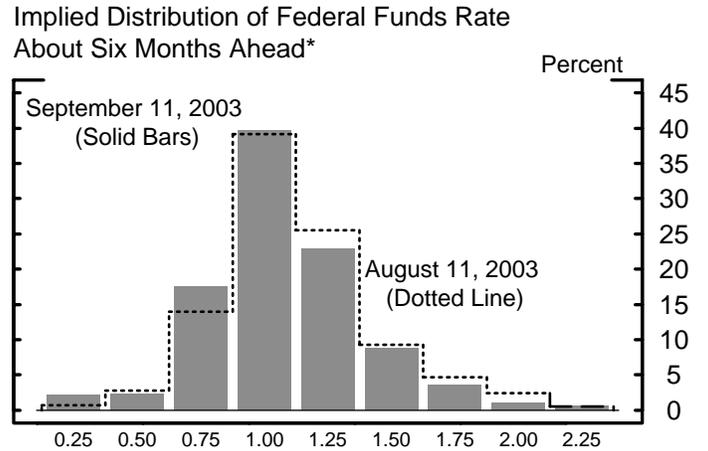
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<sup>1</sup> The effective federal funds rate averaged 1.04 percent over the intermeeting period. The widespread power outage that began on August 14 caused significant dislocations to the distribution of reserves. Discount window borrowing on the first day of the outage rose to its highest level since the days following the September 11 terrorist attacks, but federal funds still traded briefly above the primary credit rate for the first time since the introduction of the new lending programs on January 9. The Desk purchased \$1.2 billion of Treasury bills from foreign official institutions and \$1.4 billion of Treasury coupon securities in the market. The outstanding amount of long-term RPs increased \$5 billion to \$18 billion.

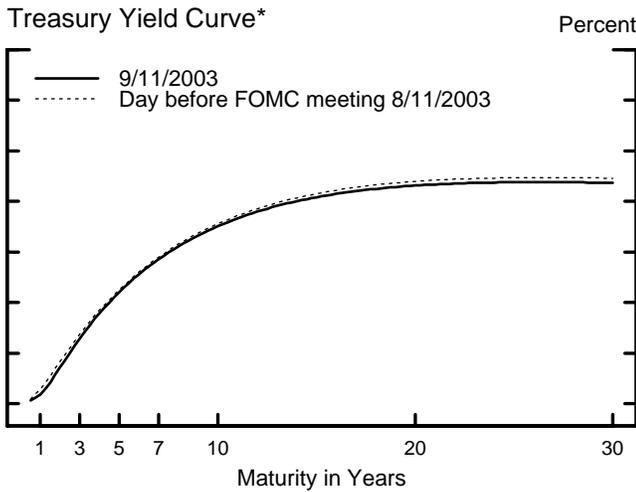
# Chart 1 Interest Rate Developments



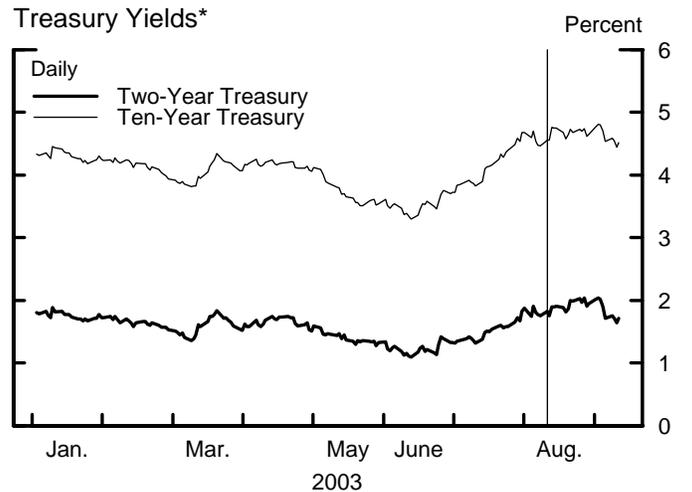
\*Estimates from federal funds and eurodollar futures, with an allowance for term premia and other adjustments.



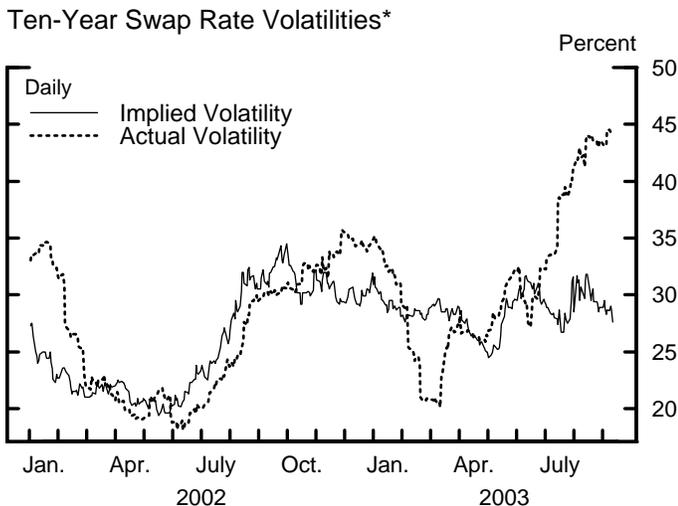
\*Based on the distribution of the three-month eurodollar rate five months ahead (adjusted for a risk premium), as implied by options on eurodollar futures contracts.



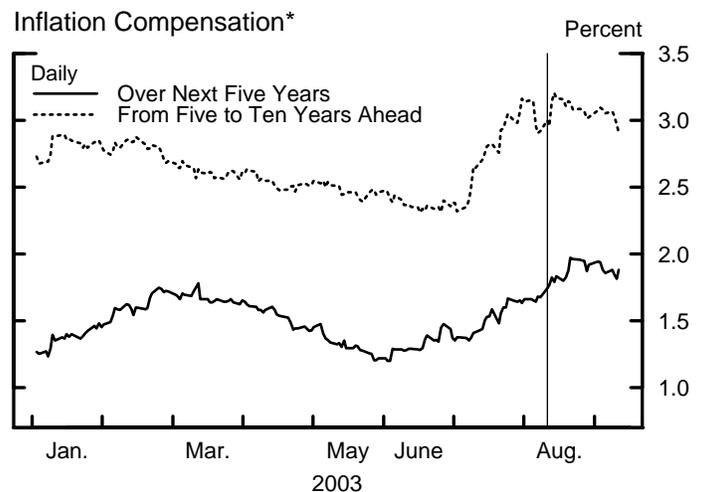
\*Smoothed yield curve estimated from off-the-run Treasury coupon securities.



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



\*Implied volatility derived from swaptions. Actual volatility based on ten-year swap rate.



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

Note: Vertical lines indicate August 11, 2003. Last daily observations are for September 11, 2003 .

(2) Intermediate and longer-term interest rates were volatile over the period, but, on net, the flattening of the near-term path of policy expectations was associated with declines in Treasury coupon yields of 5 to 10 basis points.<sup>2</sup> The yield on ten-year Treasury indexed debt fell the same amount as its nominal counterpart, implying that inflation compensation held steady, as did survey measures of longer-term inflation expectations. In the corporate bond market, yields on most investment-grade securities moved in line with those on Treasury securities, but investors' more optimistic economic outlook reportedly contributed to a substantial decline in speculative-grade yields (Chart 2). Broad stock price indexes rose 3½ to 4½ percent, boosted by the improved economic growth prospects and the associated upwardly revised earnings expectations.

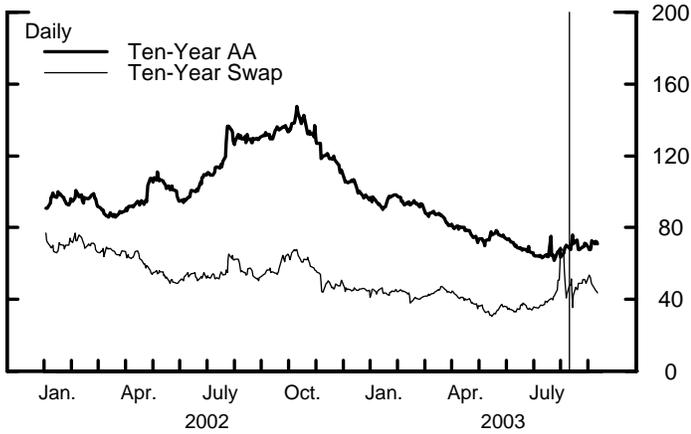
(3) The trade-weighted value of the dollar against major foreign currencies changed little on balance over the intermeeting period, as depreciation of around 1 percent against the yen and the Canadian dollar was offset by appreciation against most European currencies. The yen rallied in reaction to the release of stronger-than-expected data for Japanese GDP. Further upward pressure on the yen later in the period prompted heavy and repeated intervention in foreign exchange markets by Japanese authorities.<sup>3</sup> The Canadian dollar firmed despite a reduction of 25 basis

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<sup>2</sup> Trading conditions in fixed-income markets had largely returned to normal by mid-August, although fails-to-deliver, while down considerably in recent weeks, remain elevated on certain securities. The volatility of longer-term yields over the intermeeting period seemed to owe in part to variations in mortgage-related hedging demands. As one example, the announcement by Fannie Mae in mid-August that the duration of its assets exceeded the duration of its liabilities by more than market participants had expected was accompanied by sizable increases in Treasury and swap yields, likely reflecting investors' expectations that the agency's efforts to rebalance its holdings would limit demand for longer-dated instruments.

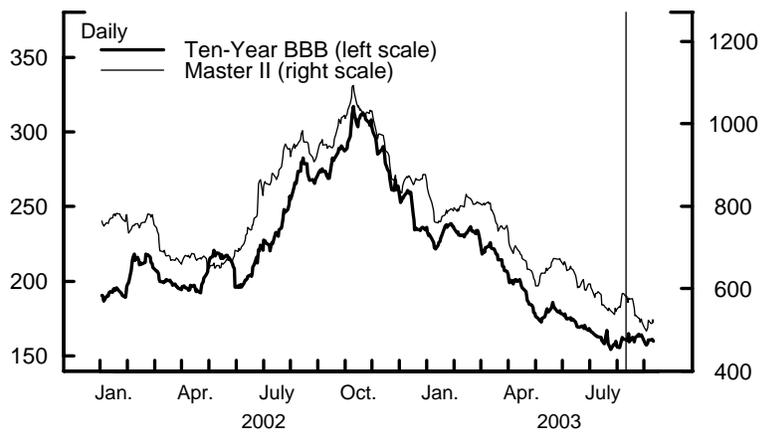
## Chart 2 Financial Market Indicators

Higher-Tier Spreads\*



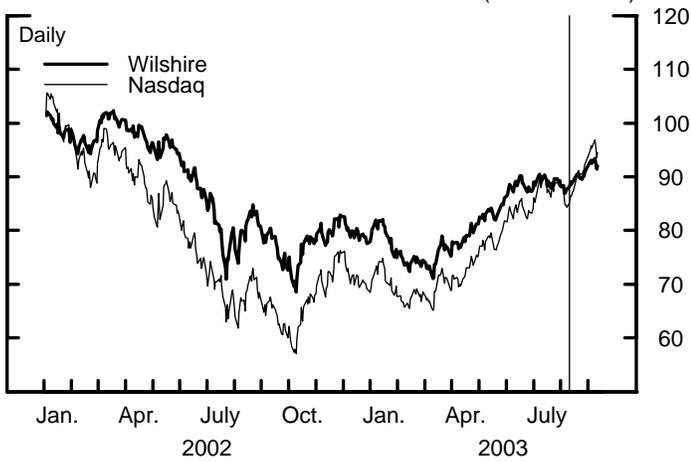
\*Measured relative to the off-the-run Treasury yield curve.

Lower-Tier Spreads\*

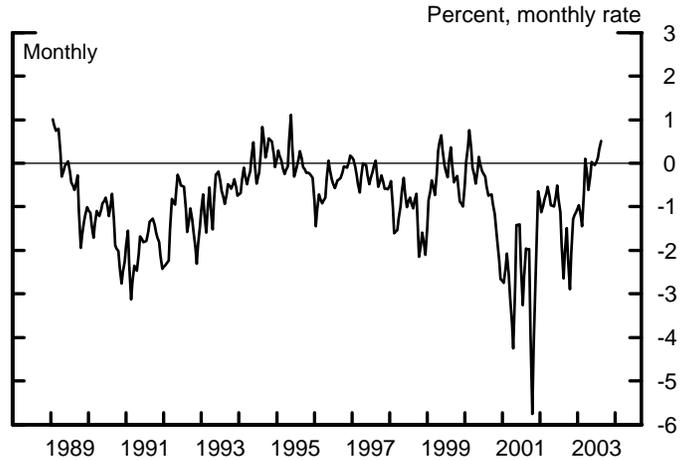


\*Measured relative to the off-the-run Treasury yield curve.

Stock Prices

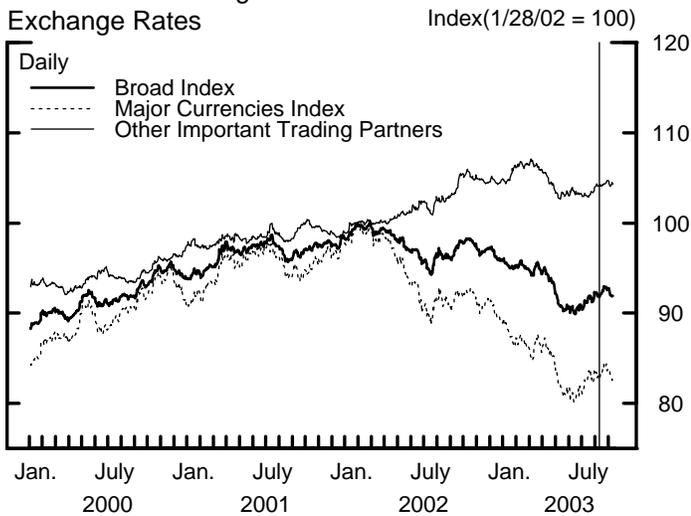


S&P 500 EPS Revisions Index

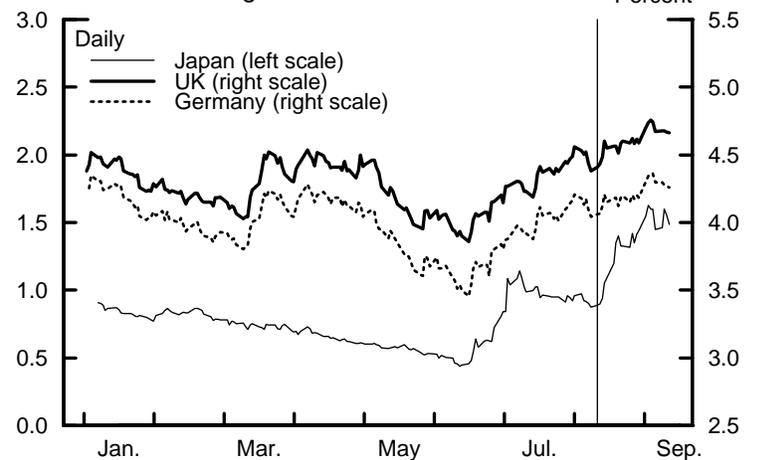


Note. Index is a weighted average of the percent change in the consensus forecasts of current-year and following-year EPS.

Nominal Trade-Weighted Dollar  
Exchange Rates



Ten-Year Foreign Government Bond Yields



Note: Vertical lines indicate August 11, 2003. Last daily observations are for September 11, 2003.

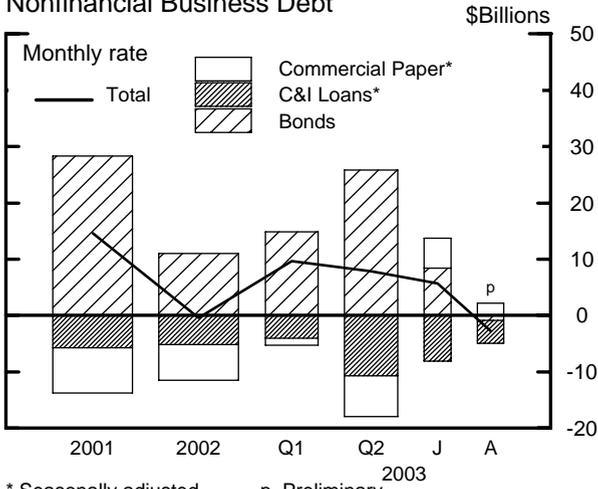
points in the Bank of Canada's target for the overnight rate, in part because the statement accompanying the policy action signaled a more optimistic outlook for the economy than had been expected. Incoming European data, although not as strong as in the United States, were also read as indicating a brighter economic outlook. The generally more positive sentiment about global recovery helped push stock prices and bond yields higher in most industrial countries. Japanese equities rose 10¼ percent and euro-area share prices increased 4½ percent. Ten-year government bond yields moved up 20 basis points in the euro area but surged 60 basis points in Japan, putting the bellwether JGB yield 105 basis points above its low in June.

(4) The dollar posted little net change against the currencies of other important trading partners over the intermeeting period. Financial market conditions in emerging Asian economies mostly improved in response to a stronger global economic outlook and to accumulating evidence of a strong rebound in many of the economies that had earlier been afflicted by SARS. Stock prices increased between 7 and 14 percent in Thailand, Taiwan, Korea, Hong Kong, and Indonesia; bond spreads edged a bit lower; and currencies were generally up somewhat or little changed against the dollar. Latin American markets were mixed. The Mexican peso depreciated 2½ percent against the dollar, as falling inflation and concerns about economic growth fostered expectations that the Bank of Mexico will ease monetary policy in the near term. Mexican stock prices moved higher, and debt spreads changed little. In contrast, optimism about political and economic prospects in Brazil boosted local markets. The *real* appreciated 3 percent against the dollar, Brazilian equity prices gained about 20 percent, and Brazil's EMBI+ spread declined 130 basis points.

(5) The backup in interest rates earlier this summer has tended to restrain borrowing by domestic businesses and households (Chart 3). With spending on fixed

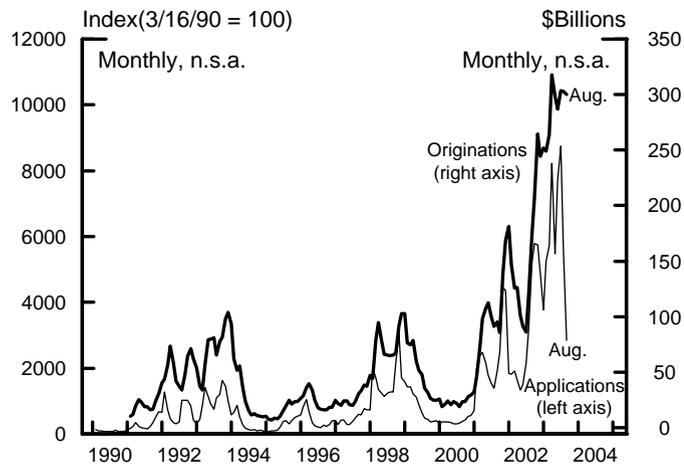
### Chart 3 Debt and Money Growth

Changes in Components of Nonfinancial Business Debt



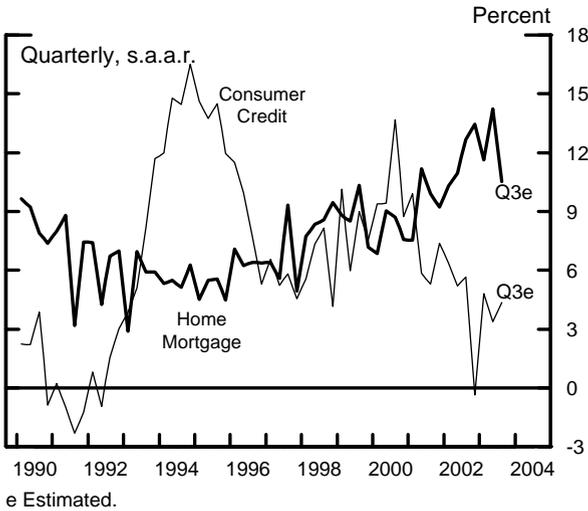
\* Seasonally adjusted. p Preliminary.  
Note. C&I loans are adjusted for the estimated effects of FIN 46.

Mortgage Refinancing Activity



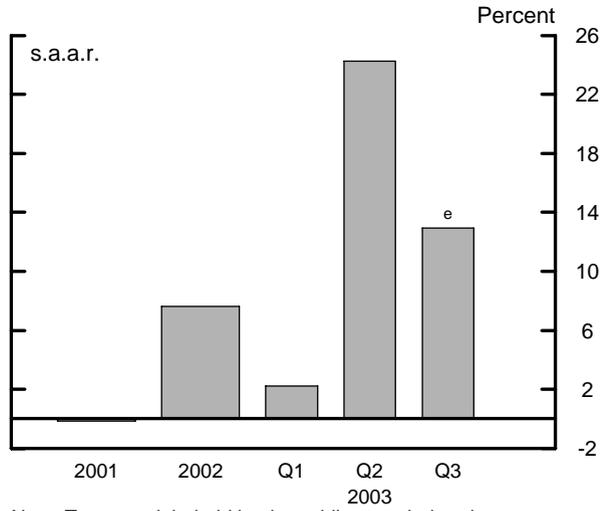
Source. Staff estimates.

Growth of Household Debt



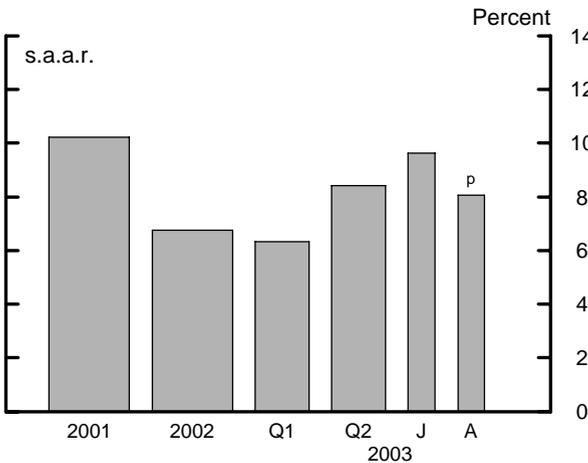
e Estimated.

Growth of Federal Debt



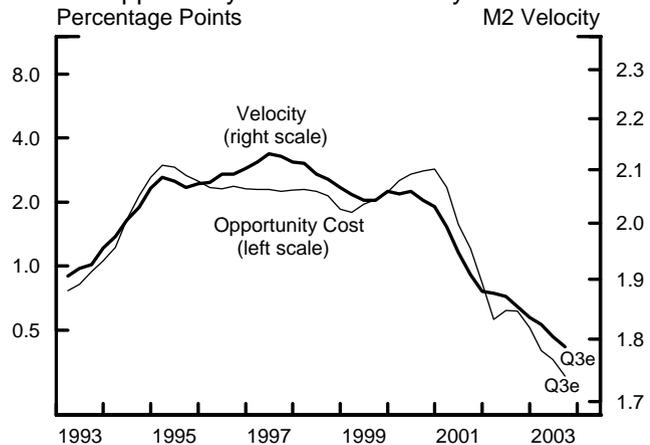
Note. Treasury debt held by the public at period-end.  
e Estimated.

Growth of M2



p Preliminary.

M2 Opportunity Cost\* and Velocity



\*Two-quarter moving average.

capital still subdued, inventories apparently running off, and profits strengthening, credit demands of nonfinancial firms remain modest. The debt of nonfinancial businesses is on track to grow at a 3½ percent rate in the third quarter. While this rate is only half that posted in the second quarter, that earlier performance had been boosted by borrowing by many firms beyond immediate funding needs to take advantage of the lowest bond yields in decades. Bond issuance slowed abruptly in July and August, and changes in shorter-term business credit were mixed, with commercial paper edging up and C&I loans posting further declines. As rates on residential mortgages rose, homeowners rushed to file applications for refinancing in early August, but the pace of such activity subsequently plunged. Mortgage debt growth was still buoyed by the earlier strength in refinancing applications, and overall household debt is expected to grow at a 9 percent rate in the third quarter. Federal debt is estimated to be expanding at a 13 percent pace in the current quarter, bringing the growth of domestic nonfinancial sector debt to a 7½ percent annual rate.

(6) M2 advanced at an 8 percent rate in August, somewhat slower than in July, perhaps partly reflecting the recent recovery in equity markets as well as a waning of the impetus from past declines in opportunity costs. This deceleration occurred despite the support of a number of temporary factors. First, the high level of mortgage refinancings buoyed liquid deposits as funds to be delivered to security holders were parked for a time in escrow accounts. Second, the power blackout at mid-month prevented some banks from shifting funds out of demand deposits, swelling balances for a few days. And lastly, some portion of child tax credit refund checks, mailed beginning in late July, were likely left at least temporarily in liquid assets.

## Policy Alternatives

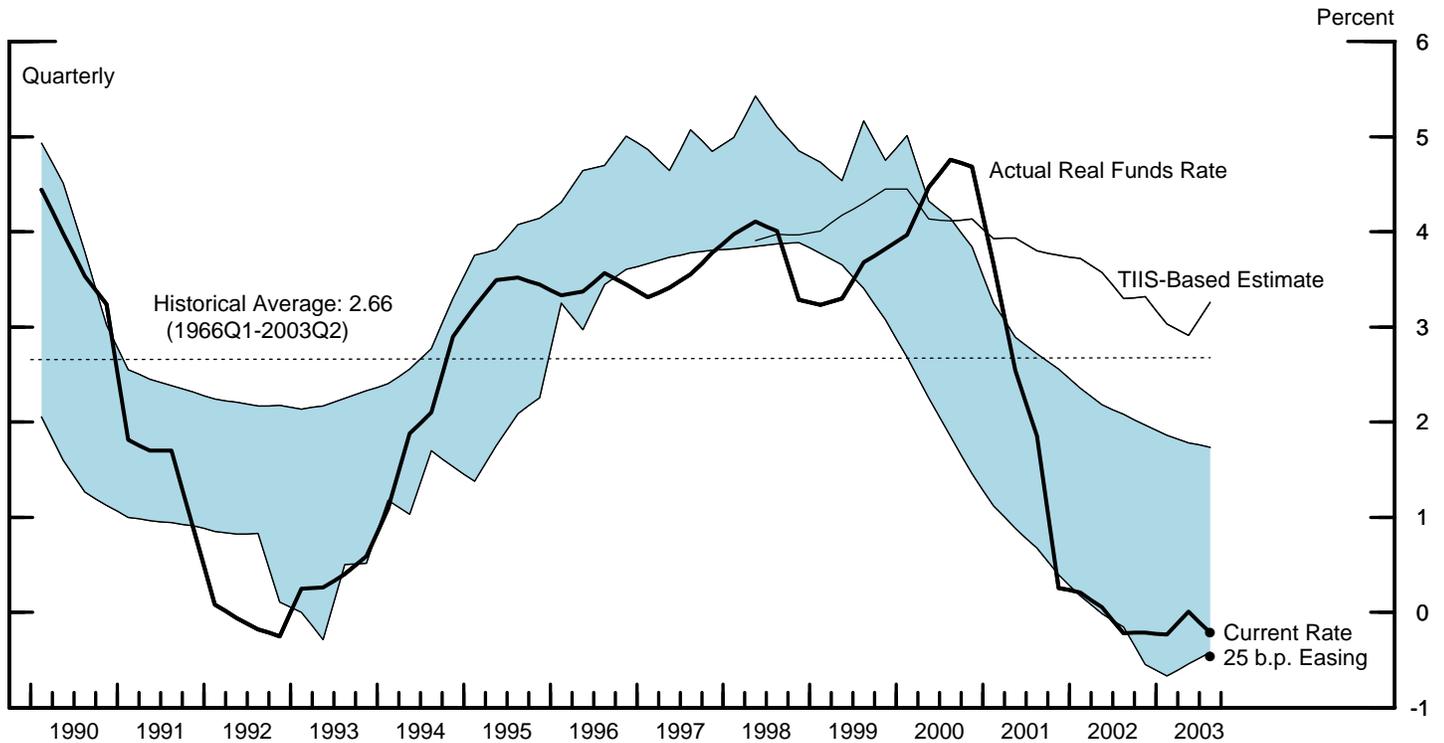
(7) The data released over the intermeeting period on spending and productivity surpassed expectations, leading the staff both to strengthen the Greenbook forecast for real GDP growth and to widen somewhat its estimate of the output gap in recent years and going forward. The Greenbook forecast continues to be predicated on the assumption that the FOMC holds the federal funds rate at 1 percent through the first half of 2005 before firming policy a bit. Longer-term interest rates are expected to decline modestly next year as investors gradually recognize that the Federal Reserve will not tighten monetary policy as soon or as much as is currently built into the yield curve. Equity prices again are projected to rise over time, albeit from a higher base than in the August Greenbook, providing investors with risk-adjusted returns in line with those on fixed-income instruments. The foreign exchange value of the dollar, once again, edges lower. With financial conditions, fiscal policy, and accelerator dynamics supportive of economic expansion, real GDP growth is projected to rise to a 4½ percent rate over the second half of 2003 and to 5 percent in 2004. In 2005, a shift in fiscal policy from considerable stimulus to slight restraint contributes to a moderation of growth to about 4 percent, a little above the estimated rate of expansion of potential output. This performance of real output is expected to pull the civilian unemployment rate down to about 5¼ percent by the end of the projection period. Because economic slack persists over the forecast interval, underlying inflation slips lower, with core PCE inflation edging below 1 percent in 2005.

(8) Although significant uncertainties about the outlook remain, the tenor of recent spending data presumably has bolstered Committee members' confidence that the economic expansion now under way will be sufficient to reduce the risk of an unwelcome decline in inflation. If so, the Committee might elect to **leave the stance**

**of policy unchanged** at this meeting. Indeed, the Committee might find both plausible and attractive the Greenbook projection that inflation remains fairly stable at around 1 percent, which may be seen as consistent with a working definition of price stability. Alternatively, the Committee might be concerned about risks that inflation could move higher either because it sees the current stance of policy as likely to foster a more substantial pickup in spending or because it views the outlook for structural productivity or for the sustainable level of resource utilization as less favorable than does the staff. Financial market quotes, which appear to be conditioned on an expectation of no further policy easing and some unwinding of current policy accommodation next year, might be read as indicating that investors expect the output gap to close rapidly. In these circumstances, the Committee might feel most comfortable assessing incoming data to determine whether further adjustments in fact will be necessary to return aggregate production to its potential at an acceptable pace.

(9) Should the Committee, by contrast, find the Greenbook assessment plausible but wish to make more rapid progress against economic slack or harbor concerns that 1 percent inflation is already too low, it might choose to **ease policy by 25 basis points** at this meeting. The Committee might be especially troubled that persistence of the already-protracted sluggishness in the labor market could undermine household confidence and spending and call into question the sustainability of the expansion. Although further easing would affect the economy only with a lag, such action would almost certainly help to boost aggregate demand and employment next year. Along those lines, a policy easing might be warranted to bring the actual real federal funds rate closer to, or even below, the lower end of the estimated range of its equilibrium values, as it was in late 2001 and much of 2002 (Chart 4). Even if the pace of output growth forecast in the Greenbook were seen not only as most likely but also as generally acceptable, the Committee might view the

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 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 2003Q3.

Equilibrium Real Funds Rate Estimates (Percent)

	<u>2002</u>	<u>2003Q1</u>	<u>2003Q2</u>	<u>2003Q3</u>
<b>Statistical Filter</b>				
- Two-sided:				
Based on historical data and the staff forecast	0.0	-0.1	0.0	0.1
<i>August Bluebook</i>	0.3	0.2	0.3	0.4
- One-sided:				
Based on historical data*	0.4	-0.7	-0.5	-0.4
<i>August Bluebook</i>	0.7	-0.3	-0.3	-0.2
<b>FRB/US Model</b>				
- Two-sided:				
Based on historical data and the staff forecast	2.1	1.9	1.8	1.7
<i>August Bluebook</i>	1.9	1.5	1.5	1.5
- One-sided:				
Based on historical data**	1.3	0.3	0.2	0.2
<i>August Bluebook</i>	1.3	0.3	0.1	0.1
<b>Treasury Inflation-Indexed Securities</b>				
	3.5	3.0	2.9	3.3
<i>August Bluebook</i>	3.5	3.0	2.9	3.2

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

cost of erring on the side of policy accommodation as small at this time given that inflation is low and inflation expectations are well anchored. If Committee members viewed the prevailing inflation rate as already close to the lower end of their preferred range, somewhat stronger economic expansion than in the staff forecast might even be seen as desirable to limit the risk of disinflation and possibly even to foster a higher inflation rate.

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

(10) Independent of the decision on the stance of policy at this meeting, the announcement will, as usual, be scrutinized closely by market participants for implications about the future course of policy. If the Committee decides to leave the stance of policy unchanged, it presumably will want to note the encouraging flow of incoming data over the intermeeting period, including the indications of a strengthening of final demands—particularly those for capital goods—as well as continued impressive productivity growth. In contrast, should the Committee elect to ease policy, it might point particularly to the ongoing sluggishness in labor market performance, strong productivity, and the potential implications of those factors for further disinflation.

(11) The Committee’s discussion of its communications policy that is scheduled for Monday evening might affect how it structures its assessment of risks. However, rather than prejudge the outcome of that session, it is assumed in this Bluebook that the current form of the risk assessment is retained, at least for this meeting. The next three paragraphs discuss possible adjustments to the assessment within the current framework.

(12) Even though the Greenbook output forecast has been revised up and data now seem to point fairly convincingly to a strengthening path of economic activity, the Committee might still judge that the “. . . *risks to the attainment of sustainable*

*economic growth over the next several quarters are balanced.*” In view of the upward revision to estimated growth of potential GDP, a considerable output gap remains likely for a time. If the Committee views the phrase “sustainable economic growth” as consistent with above-trend expansion over the next several quarters as that gap is closed rather than denoting the economy’s potential growth rate, then it may regard the odds of an undershooting or overshooting of its growth objective as about balanced. In contrast, if sustainable economic growth were read as meaning the rate of expansion of potential output, the Committee might be inclined to indicate that the risks were tilted to the upside. However, if the Committee reached that conclusion, it may want to make clear in the announcement that even if growth above potential were realized, policy tightening would not automatically be triggered in the near future.

(13) If the Committee still attached a significant probability to pronounced downward pressures on prices—a judgment that would tend to be reinforced by the current very low rate of inflation and the likelihood that considerable slack will persist—especially given the recent evidence of continued robust productivity growth—and saw such an outcome as especially costly, it might continue to indicate that “. . . *the probability, though minor, of an unwelcome fall in inflation exceeds that of a rise in inflation from its already low level.*” The Committee would presumably opt to state that the risks to its outlook for inflation over the next several quarters are balanced only if it saw the evident strengthening of aggregate demand in recent weeks as putting sufficient pressures on resources to have greatly reduced the chances of an unwelcome substantial fall in inflation.

(14) If the Committee were to decide to retain the judgments that it reached in August regarding the risks on output and inflation individually, it would seem to follow logically that the overall assessment again would be that the downside risks to inflation were likely to predominate for the foreseeable future. However, the

Committee might decide to alter its assessment of the output or inflation risks in view of the economic data and financial developments over the intermeeting period. The simplest situation would occur if the Committee concludes that the risks to inflation, as well as the risks to growth, are now balanced. In that case, the overall risks presumably would be seen as balanced. If, instead, the Committee determined not only that the risks to inflation were now balanced but the risks to output had shifted to the upside, then the overall risks would seem to be to the upside. But if the Committee concluded that the risks to inflation remained to the downside, even as the risks to sustainable growth had moved to the upside, the bottom-line assessment would be more complicated. Its decision on the overall balance—skewed to the upside, balanced, or skewed to the downside—would depend on its views both of the relative probabilities and of the economic costs attached to the various outcomes. In any case, regardless of the Federal Reserve’s intentions regarding the meaning of the risk assessment, a shift would likely be interpreted by investors as providing information about the next change in the stance of policy.

(15) Another issue for Committee consideration at this meeting relates to the indication in the announcement following the August meeting that *“In these circumstances, the Committee believes that policy accommodation can be maintained for a considerable period.”* The combination of developments over the intermeeting period—especially the juxtaposition of an apparent strengthening of aggregate demand with a seeming further acceleration in productivity that had the net effect of widening somewhat the staff’s projection of the output gap—might be viewed as warranting the reiteration of such a statement. However, the Committee might not be convinced that recent trends in productivity are likely to persist, and thus it may see a good possibility that policy will need to be firmed sooner than assumed in the Greenbook forecast, perhaps along the lines indicated by futures rates. The Committee presumably will want to

remove the statement from the announcement in advance of any policy tightening. However, dropping it at this point would likely prompt an adverse reaction in financial markets, including not the least a backup in interest rates. An alternative approach would be to condition the statement on economic developments. For example, the Committee could indicate that “. . . policy accommodation likely can be maintained for the considerable period that the Committee expects will be required to achieve satisfactory economic performance.” Rates could back up some even in this case if investors read the language as an effort by the Committee to take a step back from what had been regarded as an implicit commitment to hold the target rate at 1 percent for a lengthy period.

(16) Should the Committee wish to follow the same procedure as in August, it could vote on the directive and on language providing guidance to the drafters of 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 \_\_\_ ± 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 the risks to its outlook for sustainable economic growth over the next several quarters [ARE WEIGHTED TOWARD

THE DOWNSIDE] [are balanced] [ARE WEIGHTED TOWARD THE UPSIDE]; the risks to its outlook for inflation over the next several quarters [are weighted toward the downside] [ARE BALANCED] [ARE WEIGHTED TOWARD THE UPSIDE]; and, taken together, the balance of risks to its objectives [are weighted toward the downside] [ARE BALANCED] [ARE WEIGHTED TOWARD THE UPSIDE] in the foreseeable future.

### **Market Reaction**

(17) Market participants uniformly expect no change in the stance of monetary policy at this meeting, and only a few anticipate an alteration in the assessment of risks. Accordingly, a statement that the target federal funds rate was being left at 1 percent, that the risks to sustainable growth were balanced, that the probability of a fall in inflation still exceeded that of a rise, and that on balance this risk to inflation remained the dominant concern of the Committee would likely provoke little market reaction. Coupling an unchanged stance of policy with an assessment either that the risks to growth were now tilted to the upside or that the risks to inflation were now balanced could prompt an appreciable rise in market interest rates if that assessment led investors to conclude that a tightening was not far off.

(18) A decision to ease policy at this meeting would catch investors completely unawares. Short-term interest rates would likely fall by about the same amount as the reduction in the federal funds rate. Intermediate-term rates should also decline, but the effect on long-term yields is less certain. Nominal bond rates could tend to rise if investors took the move as additional evidence that the Federal Reserve was purposefully adopting policies to bring about higher inflation. In this case, the foreign exchange value of the dollar would most likely decline, but the effect on equity

prices is unclear. If, however, market participants thought instead that the move was intended to combat economic conditions that were weaker than they had previously appreciated, bond yields, the exchange value of the dollar, and equity prices all would be likely to decline.

### **Monetary and Credit Aggregates**

(19) Growth in M2 is projected to decelerate in coming months under the assumptions of the Greenbook forecast. With a flat funds rate, the effects of past monetary policy easings in buoying M2 are expected to ebb. In addition, the sharp drop-off in mortgage refinancing activity should show through to a slowing in the growth of liquid deposits. As a result, M2 growth averages about 4 percent from August through December, bringing growth for 2003 to around 7½ percent. Projected growth in this aggregate during 2004, at 5½ percent, remains a bit below expansion of nominal income, as opportunity costs are about flat and as the boost to liquid deposits associated with mortgage refinancings abates further. Thus, the four-year slide in M2 velocity is forecast to come to an end next year. M2 growth then slows further in 2005 as the advance in nominal income moderates and short-term interest rates begin to edge higher.

(20) The growth of domestic nonfinancial sector debt is also projected to decrease in coming months. The falloff importantly reflects a deceleration in household debt, as a decline in mortgage borrowing is only partly offset by a pickup in consumer credit. In 2004 and 2005, household borrowing continues significantly below its recent pace, but remains a little above the rate of expansion of nominal GDP. Despite somewhat stronger business investment, borrowing by firms remains relatively sluggish over the next several months, as the financing gap stays relatively narrow because of a further improvement in profits. However, business debt accelerates somewhat over the next two years as capital expenditures pick up and

growth in profits lags. Overall domestic nonfinancial sector debt is projected to expand 8¼ percent in 2003 and then to slow to 7 percent and 6 percent in 2004 and 2005, respectively.

**Alternative Growth Rates for M2**

		<b>25 bp Ease</b>	<b>No change</b>	<b>Greenbook Forecast</b>
<b>Monthly Growth Rates</b>				
	Apr-03	4.6	4.6	4.6
	May-03	17.8	17.8	17.8
	Jun-03	9.5	9.5	9.5
	Jul-03	9.6	9.6	9.6
	Aug-03	8.1	8.1	8.1
	Sep-03	6.5	6.3	6.3
	Oct-03	3.8	3.2	3.2
	Nov-03	3.8	3.0	3.0
	Dec-03	4.5	3.8	3.8
	Jan-04	5.2	4.6	4.6
	Feb-04	5.1	4.7	4.7
	Mar-04	5.3	4.9	4.9
<b>Quarterly Growth Rates</b>				
	2003 Q2	8.4	8.4	8.4
	2003 Q3	9.9	9.8	9.8
	2003 Q4	5.0	4.5	4.5
	2004 Q1	4.9	4.3	4.3
<b>Annual Growth Rates</b>				
	2002	6.8	6.8	6.8
	2003	7.6	7.5	7.5
	2004	5.8	5.5	5.5
<b>Growth From</b>	<b>To</b>			
2002 Q4	Aug-03	8.4	8.4	8.4
2002 Q4	Sep-03	8.3	8.3	8.3
Aug-03	Dec-03	4.7	4.1	4.1
Sep-03	Dec-03	4.1	3.3	3.3

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

**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
02 -- 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	2.04	3.60	4.80	5.61	1.84	2.48	7.48	5.50	6.44	4.06
03 -- Low	0.86	0.79	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																
Sep 02	1.75	1.67	1.66	1.64	1.76	1.73	1.98	3.01	4.16	4.97	1.74	2.30	7.40	5.10	6.09	4.29
Oct 02	1.75	1.62	1.61	1.59	1.73	1.72	1.92	3.02	4.25	5.13	1.86	2.44	7.73	5.16	6.11	4.27
Nov 02	1.34	1.26	1.25	1.30	1.39	1.34	1.94	3.13	4.33	5.16	1.99	2.49	7.62	5.25	6.07	4.16
Dec 02	1.24	1.20	1.21	1.27	1.34	1.31	1.84	3.09	4.31	5.12	1.90	2.46	7.45	5.20	6.05	4.12
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
Weekly																
Jul 11 03	0.97	0.90	0.90	0.96	1.04	1.01	1.38	2.59	3.88	4.86	1.20	2.03	6.42	5.00	5.52	3.55
Jul 18 03	1.03	0.85	0.91	0.96	1.05	1.01	1.49	2.80	4.08	5.02	1.27	2.04	6.57	5.10	5.67	3.58
Jul 25 03	1.02	0.89	0.93	0.98	1.05	1.02	1.58	3.03	4.32	5.19	1.44	2.18	6.75	5.20	5.94	3.67
Aug 1 03	1.03	0.94	0.97	1.02	1.07	1.02	1.75	3.27	4.59	5.42	1.61	2.36	6.97	5.42	6.14	3.68
Aug 8 03	0.95	0.92	0.96	1.04	1.08	1.03	1.80	3.24	4.55	5.43	1.56	2.34	6.98	5.42	6.34	3.80
Aug 15 03	1.08	0.94	0.96	1.05	1.08	1.03	1.86	3.34	4.67	5.52	1.54	2.35	7.07	5.50	6.24	3.75
Aug 22 03	1.09	0.96	0.97	1.05	1.08	1.04	1.91	3.38	4.66	5.45	1.48	2.27	7.02	5.41	6.28	3.84
Aug 29 03	1.01	0.99	1.00	1.06	1.09	1.02	1.98	3.47	4.68	5.43	1.52	2.30	6.97	5.40	6.32	3.88
Sep 5 03	1.00	0.97	0.97	1.05	1.10	1.04	1.92	3.47	4.71	5.48	1.55	2.33	6.96	5.41	6.44	3.98
Sep 12 03	--	0.95	0.96	1.03	1.08	1.02	1.71	3.22	4.52	5.37	1.37	2.21	--	--	6.16	3.87
Daily																
Aug 26 03	1.00	1.01	1.01	1.06	1.10	1.02	1.97	3.47	4.70	5.44	1.50	2.29	6.99	--	--	--
Aug 27 03	0.98	1.00	1.00	1.06	1.09	1.00	2.04	3.52	4.74	5.47	1.56	2.34	7.01	--	--	--
Aug 28 03	1.04	0.99	0.99	1.05	1.09	1.03	1.91	3.40	4.61	5.38	1.51	2.28	6.91	--	--	--
Aug 29 03	1.01	0.98	0.98	1.05	1.09	1.04	1.95	3.44	4.64	5.38	1.51	2.28	6.91	--	--	--
Sep 1 03	1.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sep 2 03	1.06	0.98	0.98	1.07	1.09	1.03	2.04	3.60	4.80	5.51	1.64	2.40	7.00	--	--	--
Sep 3 03	0.96	0.98	0.97	1.04	1.10	1.03	2.02	3.58	4.80	5.53	1.63	2.39	7.00	--	--	--
Sep 4 03	0.98	0.96	0.97	1.05	1.10	1.04	1.91	3.46	4.71	5.50	1.56	2.34	6.98	--	--	--
Sep 5 03	0.96	0.95	0.96	1.03	1.09	1.05	1.71	3.25	4.54	5.37	1.37	2.20	6.87	--	--	--
Sep 8 03	0.99	0.95	0.97	1.05	1.07	1.03	1.75	3.29	4.58	5.41	1.40	2.23	6.89	--	--	--
Sep 9 03	0.95	0.95	0.96	1.03	1.08	1.02	1.71	3.25	4.55	5.40	1.39	2.22	6.90	--	--	--
Sep 10 03	0.95	0.94	0.96	1.02	1.08	1.02	1.65	3.14	4.45	5.31	1.32	2.17	6.83	--	--	--
Sep 11 03	--	0.92	0.96	1.03	1.08	--	1.71	3.21	4.51	5.36	1.31	2.22	--	--	--	--

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.

## Money Aggregates

Seasonally adjusted

September 15, 2003

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)					
2000	-1.7	6.1	8.5	17.3	9.2
2001	6.8	10.2	11.2	18.5	12.7
2002	3.2	6.8	7.7	5.5	6.4
Quarterly(average)					
2002-Q3	3.0	8.8	10.4	3.6	7.2
Q4	4.9	7.0	7.6	9.5	7.8
2003-Q1	7.5	6.4	6.0	3.9	5.6
Q2	9.2	8.4	8.2	1.8	6.3
Monthly					
2002-Aug.	-11.2	8.1	13.3	13.3	9.7
Sep.	6.8	5.4	5.1	7.2	6.0
Oct.	11.5	8.0	7.1	-12.0	1.6
Nov.	-0.4	8.3	10.7	38.1	17.7
Dec.	8.2	3.2	1.9	17.9	7.9
2003-Jan.	2.6	5.9	6.8	-12.7	0.0
Feb.	20.2	10.9	8.5	-2.8	6.5
Mar.	3.5	2.5	2.3	6.4	3.7
Apr.	0.4	4.6	5.8	-2.2	2.5
May	20.3	17.8	17.1	2.2	12.9
June	13.3	9.5	8.5	8.2	9.1
July	5.3	9.6	10.8	49.5*	22.0*
Aug. p	8.1	8.1	8.1	-7.0	3.3
<b>Levels (\$billions):</b>					
Monthly					
2003-Apr.	1237.4	5908.5	4671.2	2704.9	8613.5
May	1258.3	5996.2	4737.9	2709.9	8706.1
June	1272.2	6043.6	4771.4	2728.5	8772.1
July	1277.8	6092.1	4814.3	2841.1†	8933.2†
Aug. p	1286.4	6133.0	4846.6	2824.5†	8957.5†
Weekly					
2003-Aug. 4	1301.5	6121.0	4819.5	2851.6†	8972.7†
11	1279.8	6134.4	4854.6	2853.2†	8987.6†
18	1307.6	6178.4	4870.8	2809.9†	8988.3†
25p	1282.7	6113.1	4830.4	2814.0†	8927.1†
Sep. 1p	1277.5	6120.9	4843.3	2801.2†	8922.1†

p preliminary

\* FIN 46-adjusted growth rates for non-M2 M3 and M3 in July are 13.0 and 10.7, respectively. FIN 46 has had no material impact on M2 as yet.

† Beginning July 7, includes \$83 billion due to FIN 46 effects.

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

Strictly Confidential  
Class II FOMC

September 11, 2003

	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							
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
2002	21,421	---	21,421	12,720	12,748	5,074	2,280	---	32,822	---	54,242	-5,366	517	-4,850
2002 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
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
2003 Jan	---	---	---	---	---	---	---	---	---	---	---	1,342	-3,581	-2,239
Feb	4,161	---	4,161	478	2,127	769	---	---	3,374	---	7,534	1,736	-2,262	-526
Mar	1,863	---	1,863	1,318	710	522	50	---	2,600	---	4,463	-2,254	520	-1,734
Apr	3,543	---	3,543	1,422	733	---	---	---	2,155	---	5,699	-265	816	551
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
2003 Jun 18	326	---	326	---	---	---	---	---	---	---	326	-754	---	-754
Jun 25	79	---	79	---	---	---	---	---	---	---	79	1,892	---	1,892
Jul 2	366	---	366	---	---	---	---	---	---	---	366	1,979	---	1,979
Jul 9	104	---	104	---	---	---	---	---	---	---	104	-430	---	-430
Jul 16	245	---	245	---	---	---	---	---	---	---	245	-1,330	-1,000	-2,330
Jul 23	142	---	142	---	---	---	---	---	---	---	142	1,747	---	1,747
Jul 30	34	---	34	---	---	---	---	---	---	---	34	-632	-3,000	-3,632
Aug 6	166	---	166	---	---	---	---	---	---	---	166	4,612	-2,000	2,612
Aug 13	250	---	250	---	---	---	---	---	---	---	250	-5,438	---	-5,438
Aug 20	235	---	235	---	---	---	---	---	---	---	235	11,850	4,000	15,850
Aug 27	152	---	152	---	---	---	---	---	---	---	152	-11,581	3,000	-8,581
Sep 3	257	---	257	---	---	---	---	---	---	---	257	8,022	1,000	9,022
Sep 10	235	---	235	---	---	1,232	150	---	1,382	---	1,617	-9,930	-1,000	-10,930
2003 Sep 11	69	---	69	---	---	---	---	---	---	---	69	3,355	-2,000	1,355
Intermeeting Period														
Aug 12-Sep 11	1,197	---	1,197	---	---	1,232	150	---	1,382	---	2,579	-1,278	5,000	3,722
Memo: LEVEL (bil. \$)														
Sep 11			241.1	107.8	178.0	51.7	77.1		414.6	0.0	655.7	-13.9	18.0	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 reverse RPs.  
6. Original maturity of 15 days or less.  
7. Original maturity of 16 to 90 days.