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# MONETARY POLICY ALTERNATIVES

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Prepared for the Federal Open Market Committee

By the staff Board of Governors of the Federal Reserve System

July 2, 1993

MONETARY POLICY ALTERNATIVES

Recent Developments

(1) Over the intermeeting period, the degree of reserve pressure remained unchanged and the federal funds rate averaged quite close to its intended level of 3 percent.<sup>1</sup> Other short-term rates were little changed on balance. Money market rates were pushed up early in the period on media reports indicating that the FOMC had shown an increased willingness to tighten policy at its May meeting. This concern particularly pressed on market sentiment after the publication of surprisingly robust employment figures for May. Subsequent data, however, suggested slower inflation and a hesitancy to spending, fostering the view that policy, while tilted toward restraint, was unlikely to tighten soon. With the outlook for the economy somewhat weaker, and in light of progress in the Congress on a package of deficit cuts, investors apparently revised down their expectations for credit demands well into the future, pulling longer-term interest rates down 15 to 40 basis points. Long-term Treasury yields reached the lowest levels in more than 20 years, as did fixed-rate mortgage rates. Bolstered by these rate declines, major equity indexes rose 1 to 3 percent.

(2) Despite the outlook for weaker credit demands in the United States, the dollar's weighted average exchange value has risen about 2-3/4 percent on balance since the May FOMC meeting. Appreciations of 4-1/2 percent against the mark and somewhat less against other European currencies more than offset a 2-3/4 percent depreciation

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1. To accommodate an upswing in its seasonal component, the allowance for adjustment and seasonal borrowing was doubled to \$200 million in two increments of \$25 million and one of \$50 million. Except at quarter-end, there was little borrowing other than seasonal at the discount window.

against the yen. Weakness in the mark generally reflected a further deterioration of the economic outlook in Germany that strengthened expectations of lower German interest rates; on July 1 the Bundesbank reduced its discount rate by 1/2 percentage point and its Lombard rate by 1/4 percentage point. With this action largely anticipated, German 3-month interest rates were about unchanged over the period, but intermediate- and longer-term rates fell somewhat. The mark was weak enough in the European Exchange Rate Mechanism to allow several other ERM countries to lower official lending rates by more than in Germany. Despite a momentary setback engendered by the fall of the Miyazawa government, the yen continued to strengthen on the basis of huge Japanese trade and current account surpluses and market perceptions that the United States and Japan's other G-7 partners favored yen appreciation. Japanese short-term interest rates were about unchanged, while long-term rates declined about 25 basis points. The Desk intervened to buy dollars against yen on several occasions in late May and early June, for total yen sales of \$1.1 billion equivalent, split evenly between the System and Treasury.

(3) From April to June, M2 rose at a 7 percent rate, about 1-1/4 percentage points more than expected in the previous bluebook. The bulk of this increase was recorded in its M1 component, which posted growth rates of 27-1/2 percent in May and 7-1/2 percent in June.<sup>2</sup> The growth in liquid deposits owed in part to the latest wave of mortgage prepayments, which set a record in May and are expected to remain high in June. Additionally, with individual nonwithheld tax payments

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2. The rapid runup in M1 pushed total reserves up at a 21 percent rate over the April-to-June period. With currency growing at a 11 percent pace over those two months, the monetary base expanded at a 12-1/2 percent rate.

well below last year's pace, there was less buildup in liquid deposits to meet tax liabilities in April and, consequently, less runoff in May. Seasonal factors, expecting a more abrupt swing, transformed the modest drawdowns in late April and May into seasonally adjusted strength in May. These identifiable special factors probably account for a considerable portion of the two-month growth, suggesting that the underlying trend to the aggregate has remained subdued, though perhaps a little less so than over the first four months of the year. Capital market instruments have retained their allure, with inflows to stock and bond funds in May remaining near their record April pace and anecdotal reports suggesting continued strength in June. In June, M2 remained below the lower bound of its target cone.

(4) From the fourth quarter through June, M2 growth on balance was about in line with staff projections at the time of the February FOMC meeting, despite what now appears to be lower growth of nominal income. Special factors have apparently contributed more to M2 growth than had been expected; in particular, the bulge in mortgage refinancing activity, touched off by the late-winter rally in the bond market, boosted M2 in the second quarter. Underlying demand for M2 relative to income during the first half appears to have remained weak. M2 velocity is estimated to have increased at a 2-3/4 percent rate in the second quarter and a 4-1/2 percent rate in the first half.

(5) M3 increased at a 4-3/4 percent rate over the April-to-June period, about 3/4 percentage point faster than was projected at the time of the May meeting. The strength in M3, which increased at a 9-1/4 percent rate in May but was about unchanged in June, was mostly accounted for by its M2 component. From the fourth quarter to June, M3 has contracted slightly, leaving it below the 1/2 percent lower bound of its

growth cone. The decline in M3 over the first half was about that anticipated by the staff in February. While bank credit growth was a little stronger than foreseen, banks relied to an unexpected extent on nondeposit sources of funds; bank capital probably provided a large volume of funds, as banks likely retained a substantial proportion of robust earnings and continued to issue new equity shares and subordinated debt at a brisk pace.

(6) Bank credit grew at a 9 percent rate in May and appears to have about maintained that pace in June. This pickup includes a substantial rise in bank lending, which has averaged about 9 percent over the past two months after having declined at a 2 percent rate over the preceding months of the year. The rise in total loans was widespread, with all the major components of bank loans posting higher growth rates in the second quarter. This improved performance seems mainly to evidence some stirring in loan demand, as well as the increased willingness to lend, as shown in survey responses.

(7) The strengthening in bank credit was part of a pickup in the growth of overall domestic nonfinancial debt in recent months. April growth is now seen as 5-3/4 percent and probably moved higher still in May. With tax receipts on the skimpy side and the Treasury seeking to build its cash balance, federal debt grew at a double-digit pace in April and May. Nonfederal debt growth also increased. Continuing rapid issuance by state and local governments to take advantage of low rates, while mostly to refinance older issues, has probably raised some new cash as well. Meanwhile, the string of increases in consumer credit provides some evidence that consumers have become more willing to take on debt. However, gross issuance of corporate bonds slowed a bit in the second quarter as it appears that internal funds remained about

sufficient to fund the spending of the nonfinancial corporate sector. From the fourth quarter of 1992 through May, domestic nonfinancial debt expanded at a 5 percent rate, placing it near the lower end of its 4-1/2 percent to 8-1/2 percent monitoring range; this growth was about in line with projections early in the year.

**MONEY, CREDIT, AND RESERVE AGGREGATES**  
(Seasonally adjusted annual rates of growth)

	Apr.	May	June <sup>1</sup>	QIV to June <sup>1,2</sup>
<u>Money and credit aggregates</u>				
M1	9.0	27.6	7.5	9.6
M2	0.7	10.8	3.0	0.9
M3	2.4	9.3	0.1	-0.2
Domestic nonfinancial debt	5.8	6.5	--	5.1
Federal	10.9	10.9	--	10.1
Nonfederal	4.0	5.0	--	3.4
Bank credit	5.0	8.9	9.5	4.4
<u>Reserve measures</u>				
Nonborrowed reserves <sup>3</sup>	1.1	35.5	4.0	10.9
Total reserves	0.7	36.5	5.2	11.0
Monetary base	7.6	13.8	11.2	10.0
Memo: (Millions of dollars)				
Adjustment plus seasonal borrowing	73	121	177	--
Excess reserves	1096	996	939	--

1. Reserve figures for June assume that, after a bulge on the June 30 statement date, adjustment and seasonal borrowing averages \$200 million over the remainder of the current maintenance period. Excess reserves are assumed to average \$1.4 billion for the maintenance period as a whole.

2. QIV to May for debt aggregates.

3. Includes "other extended credit" from the Federal Reserve.

NOTE: Monthly reserve measures, including excess reserves and borrowing, are calculated by prorating averages for two-week reserve maintenance periods that overlap months. Reserve data incorporate adjustments for discontinuities associated with changes in reserve requirements.

### Alternative Long-Run Strategies

(8) The table on the following page shows three alternative monetary policy strategies and the associated implications for inflation, output, and resource utilization. Strategy I, the baseline, is a judgmental extension of the Greenbook forecast for 1993 and 1994. It is characterized by very gradual decreases in both inflation (2.7 percent by the end of the simulation) and unemployment (6 percent). Under the tighter strategy, denoted by II, the Committee is assumed to put greater emphasis on its price stability objective, bringing inflation below 2 percent near the end of the period. In the easier strategy, denoted by III, the Committee is assumed to put more weight on reducing unemployment over the next few years.<sup>3</sup>

(9) The stance of monetary policy in each of the scenarios is indexed by the federal funds rate path and the growth rate of M2. There is considerable uncertainty about the rate of M2 growth associated with a given funds rate path and nominal income. The paths for money growth were determined judgmentally, relying in part on a variety of models of M2 demand. In the extended forecast, M2 remains subdued for a while as the depository sector continues to downsize somewhat relative to other sectors supplying credit and as investors continue to enlarge their holdings of capital market instruments. Eventually, however, these adjustments are completed, and the expansion of M2 comes into better alignment with growth in nominal GDP--albeit at a higher level of velocity.

(10) All of the strategies assume that fiscal policy remains moderately restrictive throughout the period, as the structural fiscal

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3. The alternatives around the baseline were derived using the staff model of the U.S. economy linked to the multi-country model.

deficit declines from 4-1/4 percent of GDP in 1993 to less than 3 percent by 1998. Such a decline is in line with the Administration's budget proposal and with the bills moving through the Congress.<sup>4</sup>

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
			(QIV to QIV percent change)				
CPI							
I (baseline)	3.1	3.3	3.1	2.9	2.8	2.7	2.7
II (tighter)		3.3	3	2.6	2.3	1.9	1.7
III (easier)		3.3	3.2	3.2	3.4	3.6	3.7
Nominal GDP							
I	5.7	4.8	5	4.9	4.8	4.7	4.2
II		4.8	4.7	4.2	3.9	3.8	3.4
III		4.8	5.2	5.8	6	5.4	4.2
Real GDP							
I	3.1	2	2.6	2.6	2.6	2.6	2.2
II		2	2.3	2.1	2.2	2.5	2.5
III		2	2.8	3.3	3.2	2.3	1.1
			(fourth-quarter level, percent)				
Unemployment Rate							
I	7.3	6.9	6.8	6.5	6.3	6.1	6
II		6.9	6.9	6.8	6.8	6.7	6.5
III		6.9	6.7	6.2	5.6	5.5	5.8
			(QIV to QIV percent change)				
M2							
I	1.8	1	2	2-1/4	3-3/4	5-1/4	5-1/2
II		1/2	2	1-3/4	2-3/4	4	4-3/4
III		1-1/2	2-1/4	1-1/2	4-3/4	6-1/4	6
			(fourth-quarter level, percent)				
Federal Funds Rate							
I	3	3	3-3/8	4-1/4	4-1/2	4-1/2	4-1/2
II		4	4	4	4	4	4
III		2	2-1/2	4-1/2	6	6	6

On the supply side of the economy, potential real GDP is assumed to grow a little more than 2 percent per year. The various scenarios incorporate the staff's judgment that the natural rate of unemployment will remain around 6 percent. In the extension of the baseline and in the

<sup>4</sup>. No allowance is made for the major restructuring of the health care system being contemplated by the Administration.

alternative strategies, the response of inflation to variations in the unemployment rate around the natural rate is in line with historical experience. That is, a 1 percentage point unemployment gap sustained for one year lowers inflation by about 1/2 percentage point.<sup>5</sup> Thus, we have made no allowance past the Greenbook forecast for adverse shifts in the short-run inflation/output tradeoff that might result from such things as added regulation, trade protection, or increases in taxes to pay for health care.

(11) The baseline policy entails some continuing slack in resource utilization over the simulation period. Current real long-term rates are still relatively high, especially in light of the fiscal policy assumed by the staff, and they decline somewhat over the simulation period, which brings output to potential. Real short-term rates, on the other hand, appear too low to be sustained, and in the baseline these rates rise, though to a level below that incorporated in market rates. As a result of persisting slack, inflation edges down gradually to 2.7 percent by the end of the simulation period.

(12) The stronger anti-inflation stance of Strategy II is implemented by increasing the funds rate to 4 percent by the fourth quarter of 1993 and holding it there, while accepting the resulting reduction in money growth. Real short-term rates rise promptly under this scenario and remain elevated, keeping real long-term rates high. The tighter stance of policy prevents the unemployment rate from falling appreciably, and the higher level of slack maintains noticeable downward pressure on inflation. Ultimately, the nominal long rate falls below that in the baseline strategy, as inflation expectations abate.

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5. The simulation does not incorporate any credibility effects of monetary policy announcements in this "sacrifice ratio."

(13) To achieve more rapid gains in employment, Strategy III cuts the nominal funds rate to 2 percent by the fourth quarter of this year and maintains a lower rate than the baseline in the following year. Money growth generally runs somewhat higher than in the baseline path. The unemployment rate drops through the natural rate half-way through the simulation period. As a result, no progress is made on reducing inflation, which indeed accelerates later in the period. To limit the overheating in the economy, the initial policy move must be quickly reversed and ultimately nominal short-term rates end up the highest under this strategy.

Long-Run Ranges

(14) Presented below are the staff's projections for money and debt growth in 1993 and 1994, along with actual growth through June and the ranges for 1993 adopted by the Committee in February. (Appendix A gives projections for M2+.)

Money and Debt Growth  
(Percent change, annual rate)

	<u>Current ranges</u>	<u>Q4:1992 to June</u>	<u>Staff projections</u>	
			<u>1993</u>	<u>1994</u>
M2	2 to 6	1	1	2
M3	1/2 to 4-1/2	-1/4	0	1
Debt	4-1/2 to 8-1/2	5-1/4 <sup>1</sup>	5	5
M1		9-1/2	8-1/2	7-1/2
<i>Memo:</i>				
Nominal GDP		4-3/4 <sup>2</sup>	4-3/4	5

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1. Q4:1992 to May.
  2. Q4:1992 to Q2:1993.

(15) M2 growth consistent with Greenbook income and interest rates is projected to average about 1 percent from June through the fourth quarter, leaving the increase for 1993 at 1 percent, below the current 2 to 6 percent annual range. Income is projected to grow at the same rate in the second half of this year as in the first. Moreover, interest rates also are expected to have about the same influence on M2 growth over the second half as the first. In the Greenbook projection, longer-term rates drift down further as inflation worries recede, short-term rates remain on a lower trajectory than anticipated by the market, and fiscal restraint in the deficit-reduction package is implemented. A lower level of longer-term rates should make shifts into longer-term debt instruments a bit less attractive, once the transitory effects of capital gains wane. However, rates on NOW and other very liquid deposits have not yet fully adjusted to lower money market rates, and further

declines in these rates will damp M2 demand. With mortgage refinancing projected to decline from record levels, temporary factors will be depressing M2 growth over the second half of the year.<sup>6</sup> With improving balance sheets of borrowers and lenders, underlying M2 growth is expected to strengthen a bit. Nevertheless, credit demands are projected to remain focused on longer-term markets, limiting institutions' needs to bid for retail deposits. On balance, the velocity of M2 is expected to rise 3 percent during the second half, slower than the 4-1/2 percent rise over the first two quarters. (See charts on following pages for actual and projected velocity for the monetary aggregates and debt.)

(16) M3 is projected to expand at a very subdued pace over the second half of 1993; even subdued expansion, however, would represent a strengthening from the declines registered through June. The aggregate is projected to be flat for the year, leaving it 1/2 percentage point beneath its range. The pickup in the second half of the year does not reflect greater asset growth at depositories; in fact, bank credit expansion is expected to flag some from the first-half pace, and thrift credit is likely to be weaker than in the first half, damped late in the year by a resumption of RTC resolution activity. But banks may rely more on deposits and less on other sources of funding than earlier this year, having built capital to high levels.

(17) Debt of domestic nonfinancial sectors is expected to expand a bit more slowly over the second half of the year than in the first, as federal borrowing falls back from its rapid first-half pace. Growth of the debt of nonfederal sectors picks up slightly further as

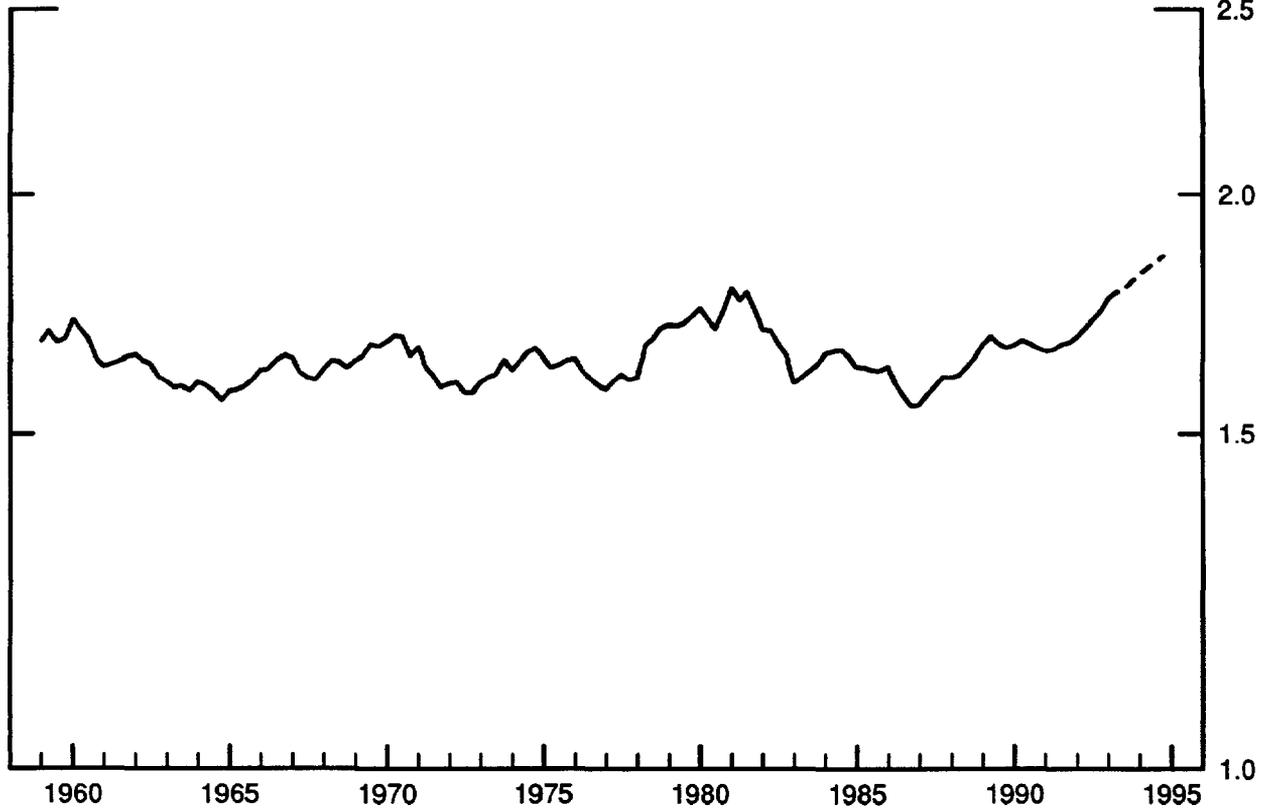
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6. The effects of a projected run-off of deposit balances related to prepayments of mortgage securities are expected to be only partially offset by a reversal of the distortion of seasonal factors that had depressed seasonally adjusted M2 growth early in the year.

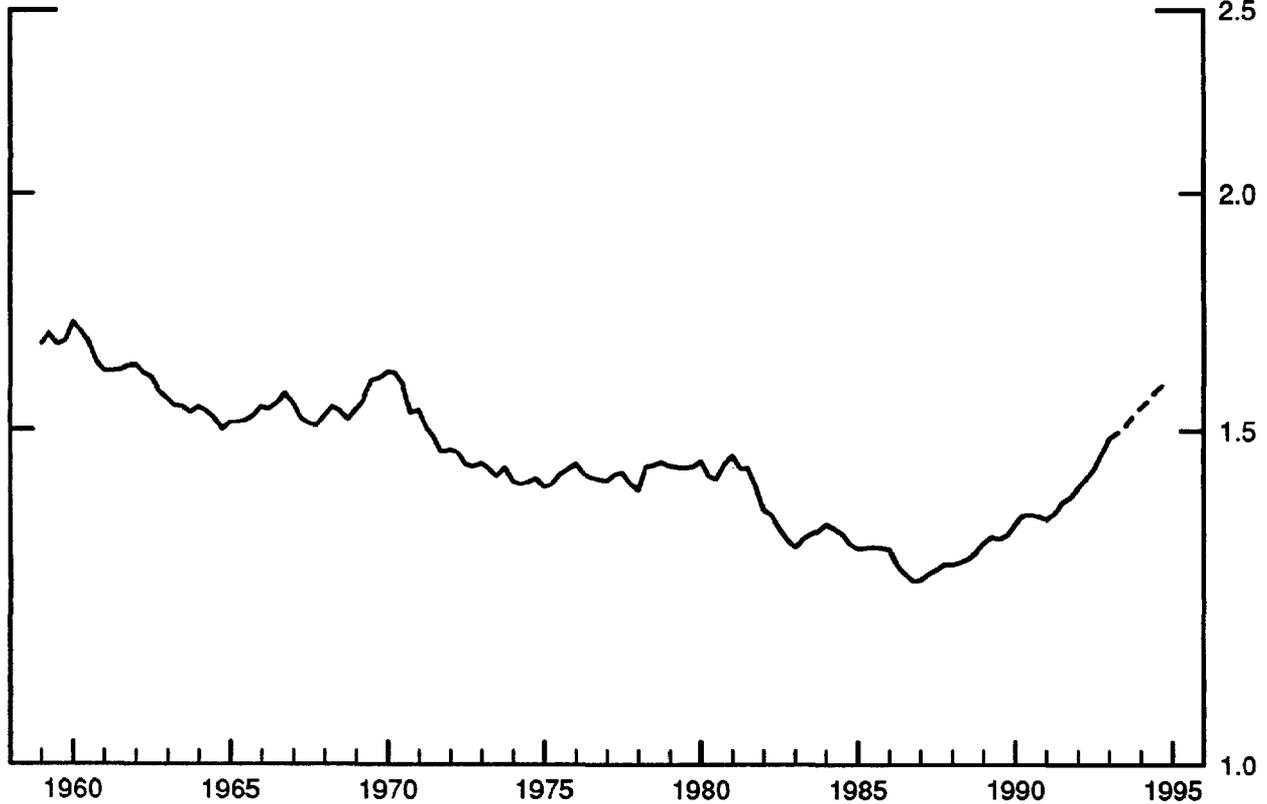
Chart 1

### ACTUAL AND PROJECTED VELOCITY OF M2 AND M3\*

M2 VELOCITY



M3 VELOCITY

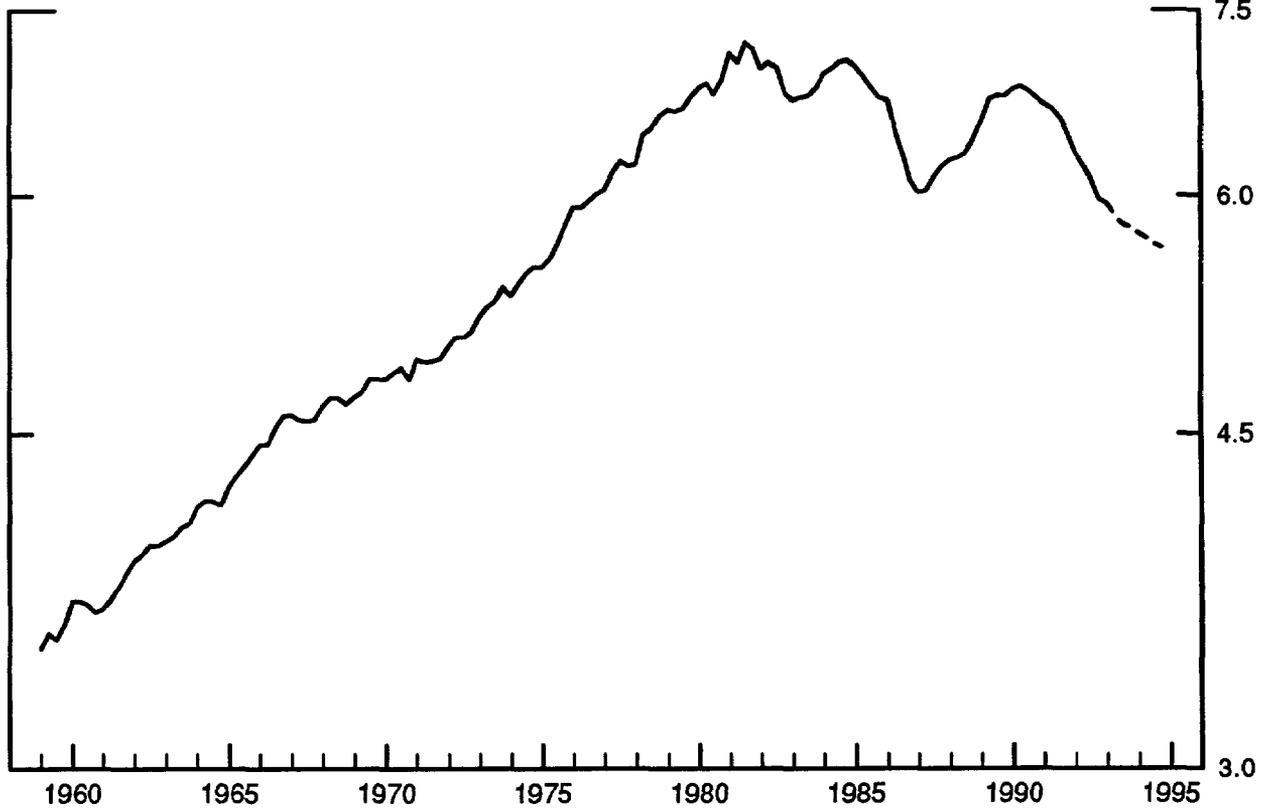


\* Projections are based on staff forecasts of GDP and money.

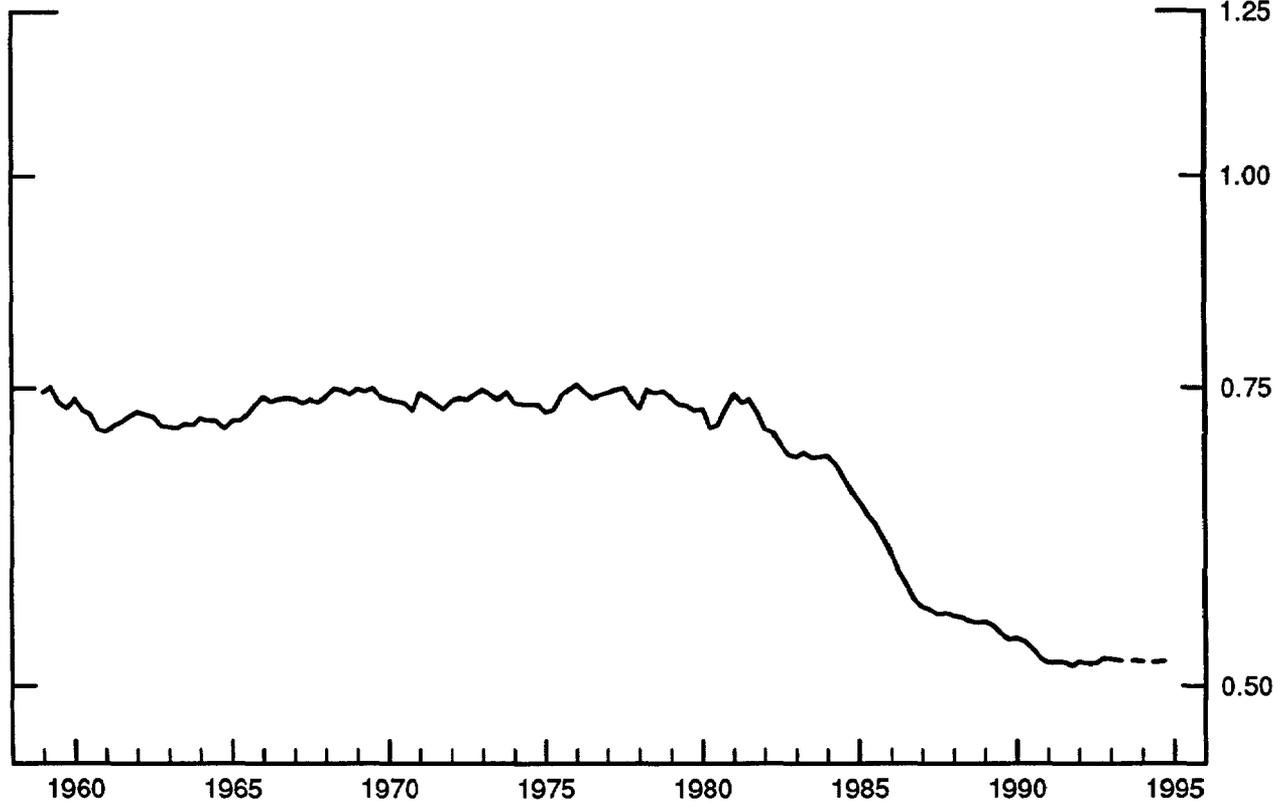
Chart 2

ACTUAL AND PROJECTED VELOCITY OF M1 AND DEBT\*

M1 VELOCITY



DOMESTIC NONFINANCIAL DEBT VELOCITY



\* Projections are based on staff forecasts of GDP, money, and debt.

borrowers and lenders become more comfortable with their financial situations. Growth of domestic nonfinancial sector debt should come in at 5 percent for the year, about 1/2 percentage point above the lower end of its range and slightly less than anticipated at the time of the February meeting. Federal debt expansion is expected to decelerate to 9 percent this year, while growth of nonfederal debt is projected at 3-3/4 percent--up from last year's 3 percent rate.

(18) The basic forces influencing the growth of money and credit in 1994 are likely to differ only a little from those prevailing in 1993. Nominal GDP growth is projected to expand at about this year's pace, balance sheet constraints to ease slightly further, and long-term rates continue to drift down. Consequently, nonfederal debt is expected to strengthen slightly further next year, though staying below the pace of private-sector spending. Federal borrowing, however, should slow, reflecting the cyclical and structural forces narrowing the deficit. Total domestic nonfinancial debt growth is projected to remain at about this year's 5 percent rate. Bank credit is likely to accelerate slightly along with nonfederal debt, to a 4 percent pace. In the thrift sector, the shrinkage in credit may accelerate as new funding for the RTC permits more resolution activity. With financing needs of depository institutions remaining modest, M3 growth is projected to move up only to 1 percent in 1994. Bidding for retail deposits by depositories should again be quite muted, given their limited needs for funds, and the still-steep yield curve likely will continue to attract deposit balances into bond funds. M2 is projected to accelerate only to a 2 percent rate in 1994, and its velocity would rise at a 3 percent rate, in comparison to the 3-3/4 percent rise projected for this year.

Ranges for 1993

(19) Presented below are three alternative sets of ranges for money and debt growth in 1993. Despite the reduced emphasis on monetary aggregates as guides to policy, the choice of ranges can convey information about what money and credit growth would be consistent with the economic outcomes envisioned by the Committee and can be used to signal the Committee's longer-term intentions. Alternative I retains the current ranges, while alternative II lowers the ranges for M2 by a full percentage point and those for M3 and debt by 1/2 percentage point. Alternative III would make more substantial reductions from the current ranges to encompass the staff forecast.

Alternative Money and Debt Ranges for 1993  
(Percent)

	<u>Alt. I</u> <u>(current</u> <u>ranges)</u>	<u>Alt. II</u>	<u>Alt. III</u>	<u>Memo:</u> <u>Staff</u> <u>projection</u>
M2	2 to 6	1 to 5	0 to 4	1
M3	1/2 to 4-1/2	0 to 4	-1 to 3	0
Debt	4-1/2 to 8-1/2	4 to 8	3-1/2 to 7-1/2	5

(20) The staff projections for M2 and M3 growth this year are below the lower boundaries of their current ranges. A downward revision of the ranges, as in alternative II or III, could be viewed as a recognition that velocity shifts are apparently more intense than had seemed likely in February. The lower ranges of alternative III might better convey the Committee's expectations for money and credit and limit the risk that money might fall short of the ranges even with expected nominal income growth. From another perspective, a reduction of the ranges for 1993 also might signal a willingness of the Committee to accept lower money and nominal income growth than had been projected in February, perhaps in an effort to lean against potential inflation pressures.

Since money growth has been so anemic thus far this year, the upper ends of these ranges would permit considerable strengthening of the monetary aggregates: M2 could grow at a 10 percent rate from June to December and still be within the upper end of the alternative III range.

(21) Alternative I ranges might be chosen if contrary to the staff's prediction, the Committee expected the extraordinary shift in demand for M2 to abate soon, causing M2 velocity to level out. A higher track for M3 might be appropriate if bank and thrift credit do not fall back to the extent that the staff envisions or if the unusual use of non-M3 funding were expected to subside. The current ranges also might be retained were the Committee concerned that the weak performance of M2 and M3 had been associated with unacceptably sluggish economic growth and would continue to be in the future.<sup>7</sup>

**Ranges for 1994**

(22) Shown below are options for preliminary ranges for money and debt growth in 1994. They are the same as those shown for 1993.

Alternative Money and Debt Ranges for 1994  
(Percent)

	<u>Alt. I</u>	<u>Alt. II</u>	<u>Alt. III</u>	<u>Staff projection</u>
M2	2 to 6	1 to 5	0 to 4	2
M3	1/2 to 4-1/2	0 to 4	-1 to 3	1
Debt	4-1/2 to 8-1/2	4 to 8	3-1/2 to 7-1/2	5

(23) Many of the arguments for the alternatives in 1993 carry over into the choice of ranges for 1994. In particular, lower ranges might give a more realistic view of expected money growth. In addition,

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7. In the judgment of the staff, short-term interest rates would need to decline about 1-1/2 percentage points fairly promptly to move M2 and M3 up to the bottom of their current ranges for this year by December.

if uncertainty about the future behavior of velocity is seen as motivating retention of the current ranges for 1993, those same ranges might be proposed for 1994 on the strength of the same considerations. Alternatively, next year's ranges could be lowered, even if the current ranges for 1993 were retained, to signal the Committee's intention to continue on a disinflation path. A lower range for 1993 would seem to argue for the same or possibly an even lower range in 1994.

Short-Run Policy Alternatives

(24) Three policy alternatives are given below for Committee consideration. Under alternative B, federal funds would remain in a trading range around 3 percent, in association with an initial allowance for adjustment plus seasonal borrowing of \$250 million, an increase of \$50 million from the current allowance to accommodate the normal pattern in seasonal borrowing at this time of the year. Under alternative A, the funds rate would be reduced to the area of 2-1/2 percent, either by choosing a \$225 million borrowing allowance or by cutting the discount rate 1/2 percentage point, to 2-1/2 percent, while retaining a \$250 million borrowing allowance. Under alternative C, which could be implemented through a \$275 million borrowing allowance, the funds rate would vary around 3-1/2 percent.

(25) Although market participants believe that the next monetary policy action is more likely to be a tightening than an easing, they do not expect any move to occur over the coming intermeeting period. Consequently, market interest rates would not respond initially to the implementation of alternative B. Rates would tend to remain near current levels or edge lower over subsequent weeks should data on economic activity and prices prove to be about in line with the staff projection and should the Congress continue to make progress on passage of a deficit reduction package. Interest rates would back up across the maturity spectrum, however, if adverse information on price pressures generates expectations of a near-term tightening of monetary policy, or if a major snag occurs in the process of deficit reduction. The exchange value of the dollar is expected to fluctuate around recently established levels; staff forecasts for continued monetary policy easing

abroad are broadly consistent with expectations already embedded in interest and exchange rates.

(26) The immediate tightening of reserve market conditions under alternative C is not built into financial market quotes and would induce a rise in short-term market interest rates that about matched the 1/2 percentage point increase in the federal funds rate. In response to higher funding costs, banks likely would boost the prime rate, perhaps by the same amount. (In light of the currently wide spread of the prime rate over banks' cost of funds and their professed greater willingness to make loans, banks will be less inclined to raise the prime in reaction to an increase in the federal funds rate of only 1/4 percentage point.) Longer-term market rates also would likely rise, though by considerably less than short-term rates, as the policy action worked to relieve the market's residual inflation concerns and to put a damper on household and business spending and credit demands. Buoyed by more attractive relative interest returns in the United States, the dollar would tend to strengthen on foreign exchange markets.

(27) The easing of reserve conditions embodied in alternative A would represent an unexpected direction for policy, especially in light of the market's understanding of the Committee's recent policy predilection. The Federal Reserve would be seen as putting more emphasis on supporting economic growth, perhaps in light of the recent weaker economic data and the possible restraining effects of the fiscal package. Market participants would expect short-term rate declines to be reversed eventually, but still would anticipate that rates would trade around lower levels over the coming year than currently built into the term structure. Consequently, the downward adjustment of short- and intermediate-term market rates would be close to the 1/2 percentage

point drop in the federal funds rate. As usual, bond yields would not fall by nearly as much, partly because investors might become a little more worried about future inflation. The exchange value of the dollar would be depressed. Implementing this alternative would reduce financial intermediaries' costs of funds, encouraging them to relax their terms and conditions for business and consumer loans.

(28) Expected growth rates of the monetary aggregates from June to September under the three alternatives are shown in the table below, together with anticipated growth from the fourth-quarter base through September. (More detailed data are presented in the table and charts on the following pages.) Under all the alternatives, the broader aggregates are expected to grow from June to September, but at markedly slower rates than over the second quarter. The deceleration of M2 predominantly reflects some unwinding of the second-quarter bulge in mortgage refinancings. This effect, which derives largely from the associated prepayments of mortgage-backed securities, is projected to retard M2 growth by about 1 percentage point over the next three months, after having augmented it by 1-1/2 percentage points over the previous three. M3 expansion is anticipated to be held back by a slowing in bank credit from its rapid rate in the second quarter to a pace more consistent with the attractiveness of capital market alternatives to borrowers. Under all the alternatives, the broader aggregates would remain below the lower bounds of their annual ranges through September, with M2 somewhat, and M3 a bit, below the bottom edges of their parallel bands.

	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. C</u>
Growth from June to September			
M2	1-1/2	1	1/2
M3	1/2	1/4	0
M1	6-3/4	5-3/4	4-3/4
Implied growth from Q4:1992 to September			
M2	1-1/4	1	3/4
M3	0	0	-1/4
M1	8-3/4	8-1/2	8-1/4

(29) Projected M2 growth over the third quarter diverges relatively little across the three alternatives, ranging from 1/2 percentage point under alternative C to 1-1/2 percentage point under alternative A. The similar growth rates reflect the diminished sensitivity on balance of M2 demand to short-term market interest rates in recent years, as capital market instruments have become closer substitutes for M2 balances in household portfolios. If, for example, short-term market rates are reduced, M2 is boosted as deposit rates fall by less. This effect, which attracts funds from money market instruments, is partly offset by shifts into capital market instruments, whose realized returns are boosted temporarily by capital gains and whose yields over time drop by less than deposit rates. Given this damped interest rate response, even if the money market conditions of alternative A continued through year-end, M2 growth over the year would still be only 1-1/4 percent, noticeably below the 2 percent lower bound of the Committee's current annual range. By contrast, M1 seems to have retained its greater sensitivity to changes in the funds rate that emerged after the nationwide introduction of NOW accounts in the early 1980s. Projected growth of this narrow aggregate from June to September ranges from 4-3/4 percent under

Alternative Levels and Growth Rates for Key Monetary Aggregates

	M2			M3			M1		
	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C
Levels in Billions									
1993 May	3506.1	3506.1	3506.1	4170.8	4170.8	4170.8	1067.2	1067.2	1067.2
Jun	3514.7	3514.7	3514.7	4171.0	4171.0	4171.0	1073.9	1073.9	1073.9
Jul	3519.7	3518.8	3517.9	4173.8	4173.1	4172.4	1079.2	1078.6	1078.1
Aug	3524.1	3521.2	3518.2	4174.2	4172.4	4170.7	1085.2	1083.6	1082.1
Sep	3529.1	3523.8	3518.5	4175.9	4172.8	4169.6	1092.1	1089.4	1086.8
Monthly Growth Rates									
1993 May	10.8	10.8	10.8	9.3	9.3	9.3	27.6	27.6	27.6
Jun	2.9	2.9	2.9	0.1	0.1	0.1	7.5	7.5	7.5
Jul	1.7	1.4	1.1	0.8	0.6	0.4	5.9	5.3	4.7
Aug	1.5	0.8	0.1	0.1	-0.2	-0.5	6.7	5.6	4.5
Sep	1.7	0.9	0.1	0.5	0.1	-0.3	7.6	6.4	5.2
Quarterly Ave. Growth Rates									
1992 Q4	2.7	2.7	2.7	-0.2	-0.2	-0.2	16.8	16.8	16.8
1993 Q1	-2.0	-2.0	-2.0	-3.8	-3.8	-3.8	6.6	6.6	6.6
Q2	2.3	2.3	2.3	2.4	2.4	2.4	10.6	10.6	10.6
Q3	2.9	2.6	2.3	1.4	1.2	1.0	9.1	8.5	7.9
Dec 92 to Mar 93	-2.8	-2.8	-2.8	-3.5	-3.5	-3.5	3.4	3.4	3.4
Mar 93 to Jun 93	4.8	4.8	4.8	3.9	3.9	3.9	14.9	14.9	14.9
Jun 93 to Sep 93	1.6	1.0	0.4	0.5	0.2	-0.1	6.8	5.8	4.8
Q4 91 to Q4 92	1.8	1.8	1.8	0.3	0.3	0.3	14.3	14.3	14.3
Q4 92 to Q4 93	1.3	1.1	0.8	0.1	0.0	-0.1	8.9	8.5	8.1
Q4 92 to Mar 93	-2.0	-2.0	-2.0	-3.2	-3.2	-3.2	5.4	5.4	5.4
Q4 92 to Jun 93	0.9	0.9	0.9	-0.2	-0.2	-0.2	9.6	9.6	9.6
Q4 92 to Sep 93	1.2	1.0	0.8	0.0	-0.1	-0.2	8.8	8.5	8.2
1993 Target Ranges	2.0 to 6.0			0.5 to 4.5					

Chart 3

# ACTUAL AND TARGETED M2

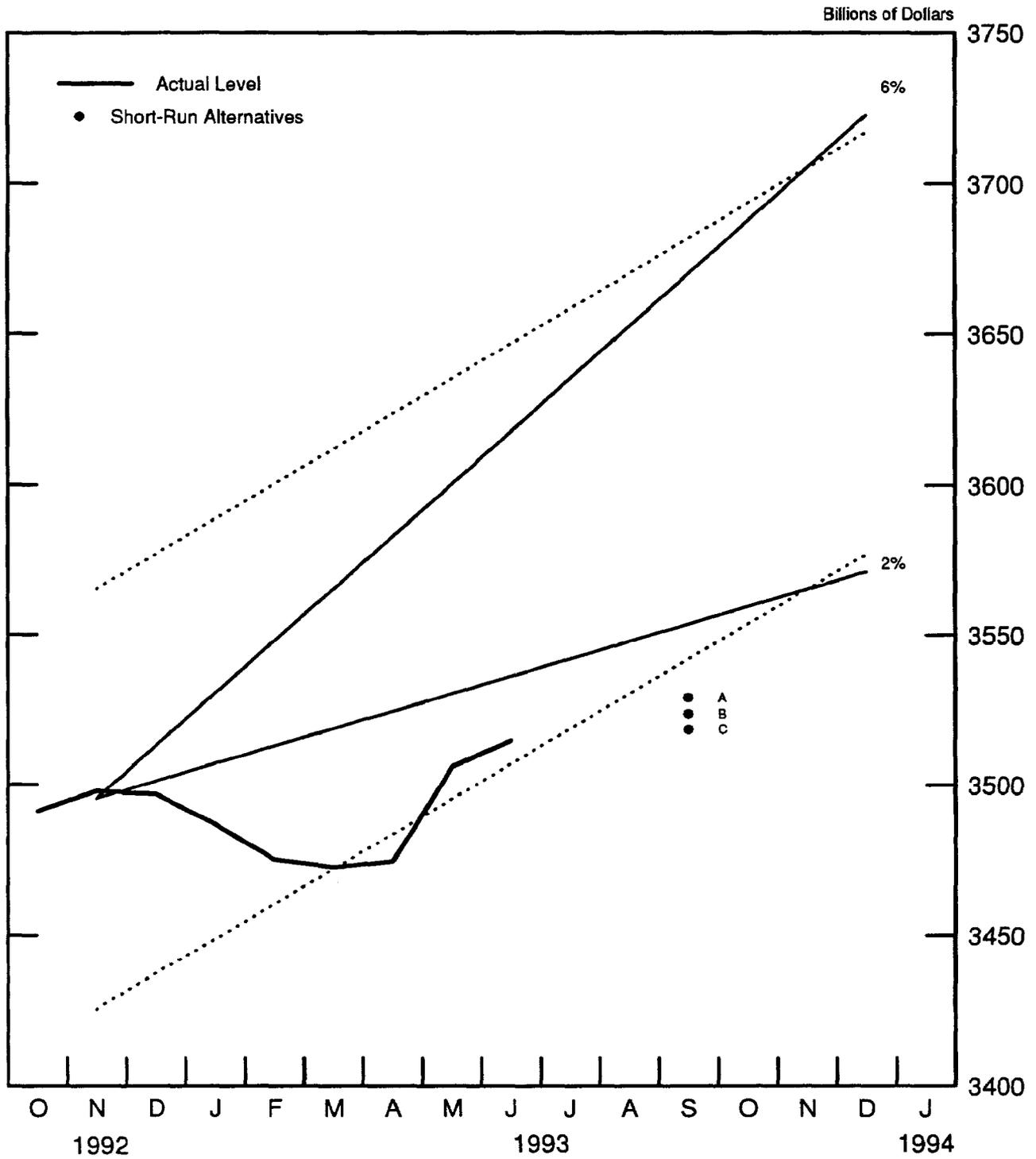


Chart 4

# ACTUAL AND TARGETED M3

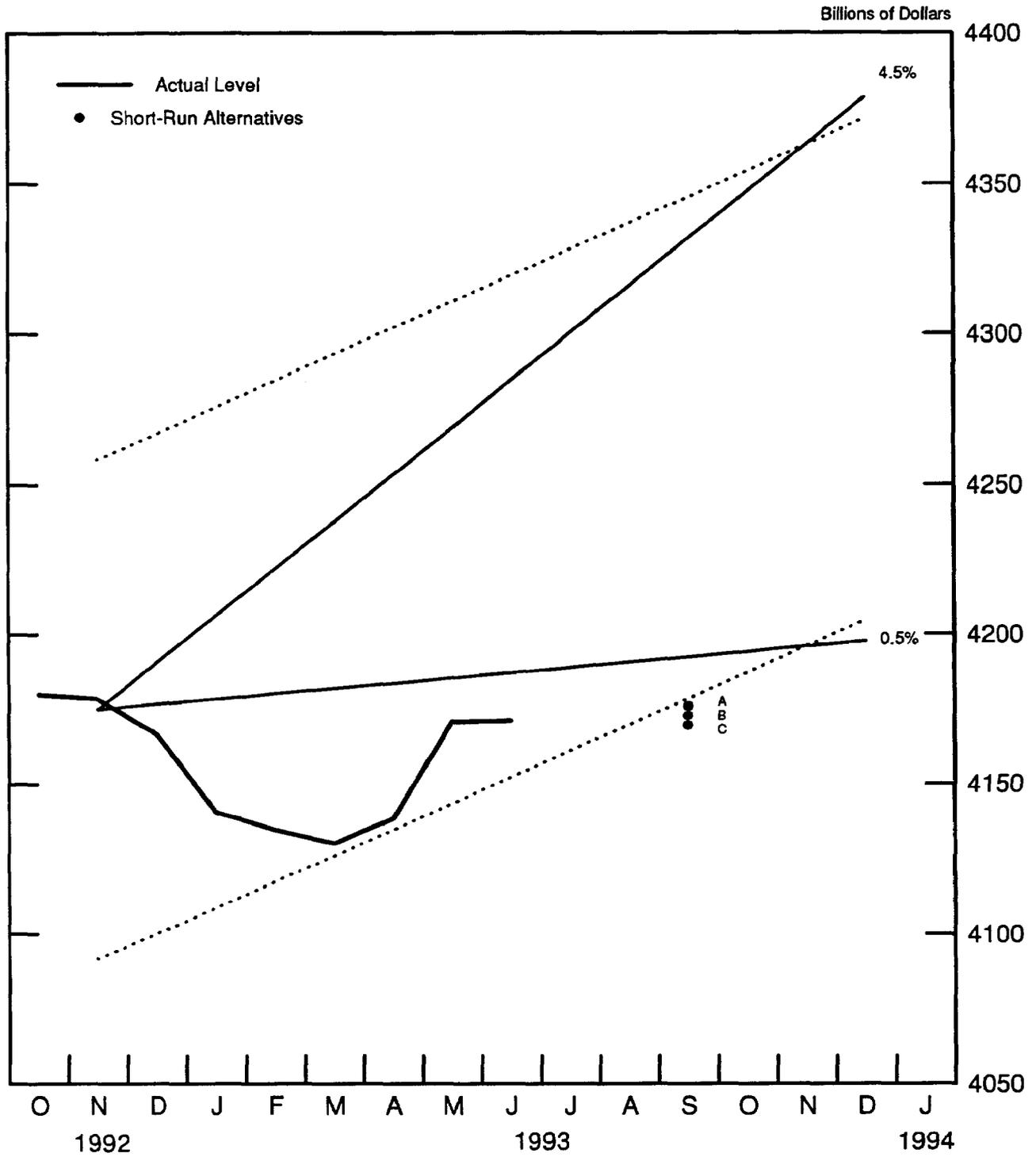


Chart 5

# M1

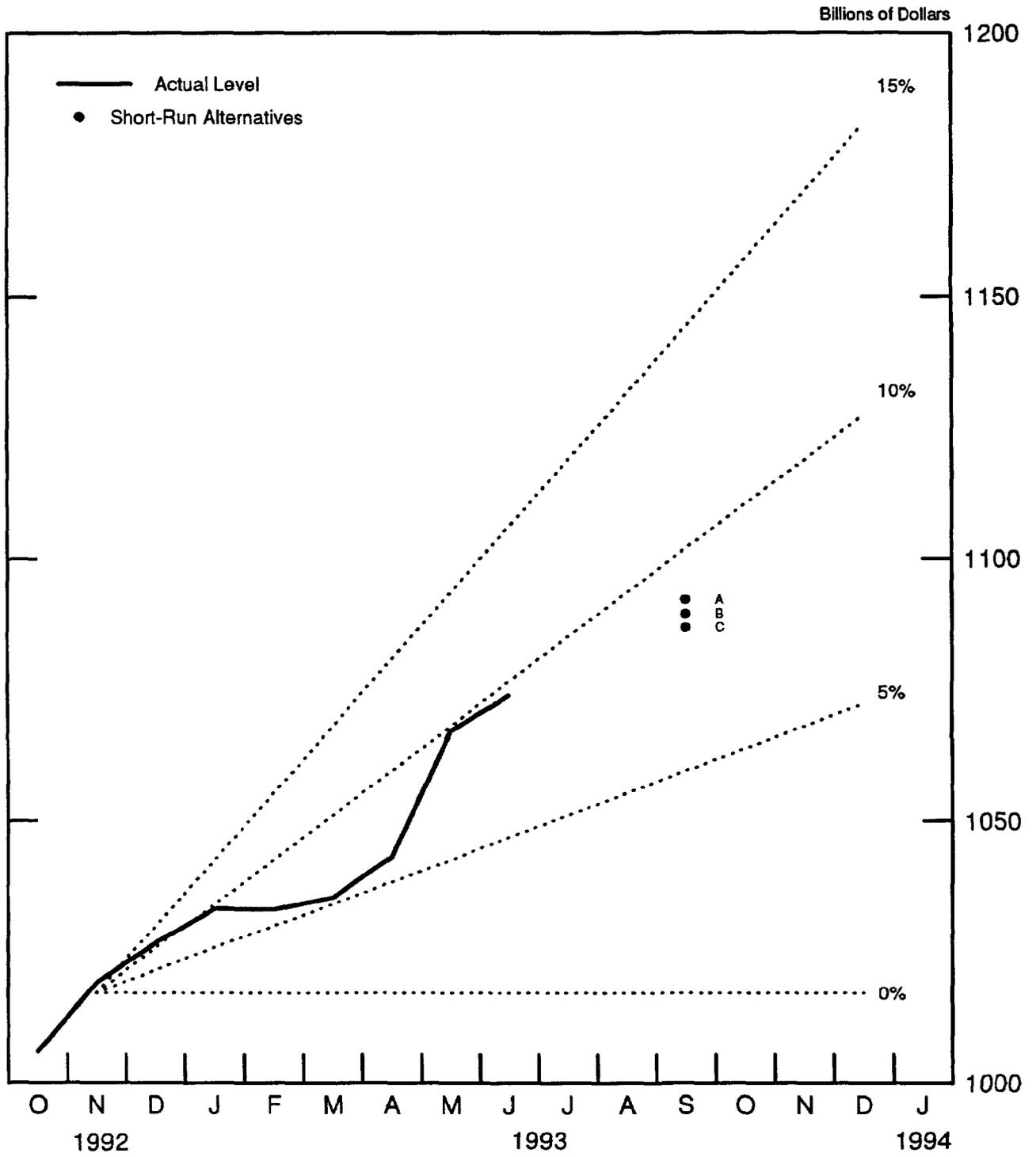
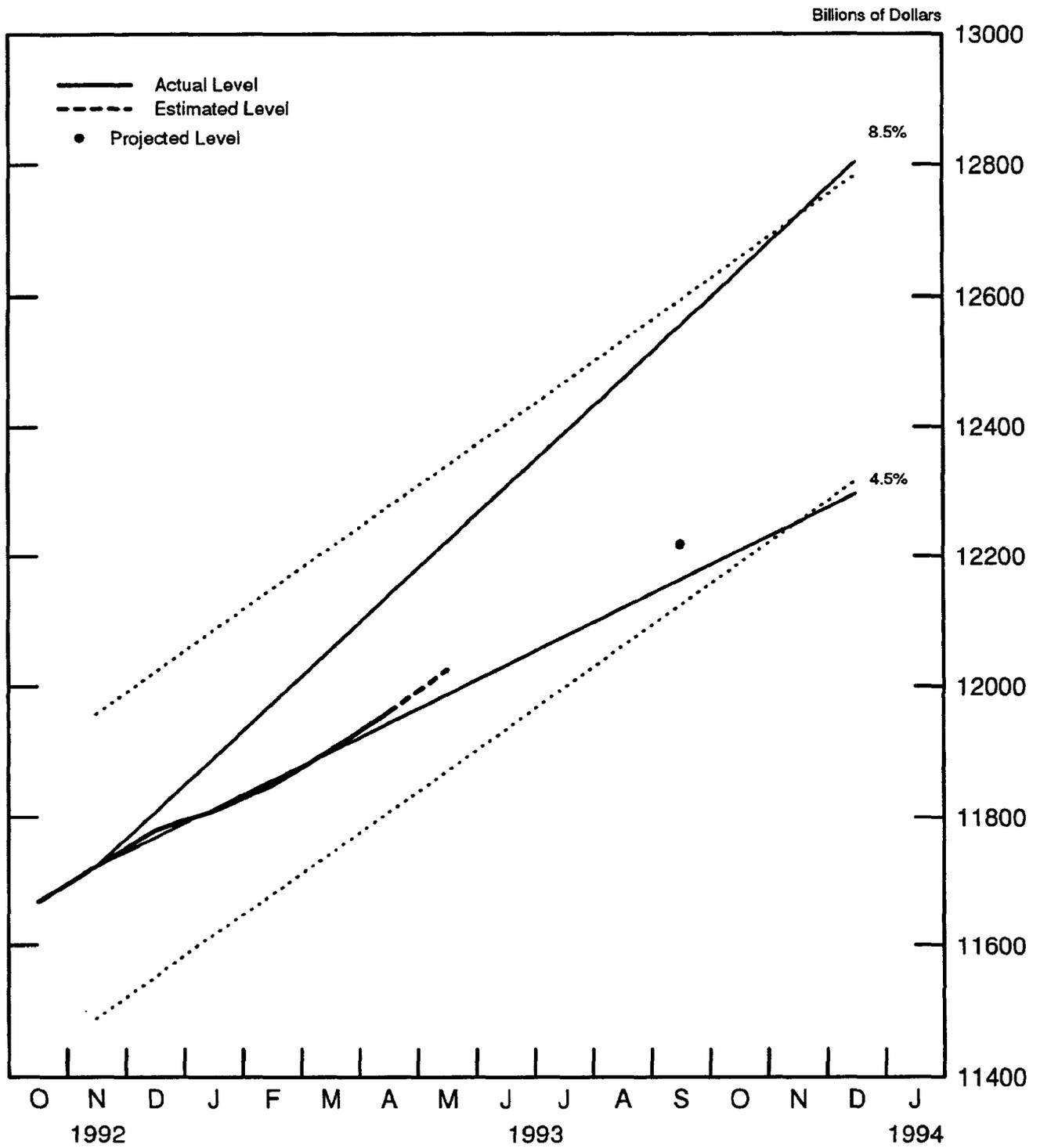


Chart 6  
DEBT



alternative C to 6-3/4 percent under alternative A.<sup>8</sup> From the fourth quarter of 1992 through December, projected M1 growth would range from 8 to 9 percent across the three policy alternatives.

(30) Across the three policy alternatives, M3 is expected to grow from 0 to 1/2 percent over the third quarter. Bank credit expansion is foreseen to abate from its elevated pace of May and June, curtailing funding needs of depositories; moreover, these needs will continue to be met from nondeposit sources, including retained earnings and issuance of equity and subordinated debt. The contraction of thrift credit and funding requirements probably will be sustained. For the year, M3 would be little changed under all the alternatives.

(31) The debt of domestic nonfinancial sectors is anticipated to expand at a 4-3/4 percent rate over the four months ending in September, bringing its growth rate from the fourth quarter about 1/2 percentage point above the 4-1/2 percent lower bound of its monitoring range. The growth of nonfederal debt is expected to strengthen to a 4 percent rate over this interval, but federal debt, after sizable growth in June, is poised to slow in the third quarter, as the Treasury meets a portion of its funding needs by drawing down its bloated cash balance.

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8. Total reserves and the monetary base are projected to grow from June to September at 5-3/4 and 8-1/4 percent rates, respectively, under alternative B.

Directive Language

(32) Presented below are draft paragraphs relating to the ranges for 1993 and 1994. For 1993, Option 1 would reaffirm the current ranges, while Option 2 would cover a decision to reduce those ranges. Within Option 1, language is suggested in brackets if the Committee wanted to indicate that money growth could be around the lower ends of the ranges.

(33) With regard to the tentative 1994 ranges, Option A would cover a Committee decision to extend to next year whatever 1993 ranges the Committee adopts at this meeting, while Option B proposes wording for changes from the 1993 ranges.

Paragraphs for 1993 and 1994 Ranges

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output.

Alternatives for 1993

Option 1--Reaffirm Ranges

In furtherance of these objectives, the Committee REAFFIRMED at THIS its meeting THE RANGES IT HAD ESTABLISHED in February established ranges for growth of M2 and M3 of 2 to 6 percent and 1/2 to 4-1/2 percent respectively, measured from the fourth quarter of 1992 to the fourth quarter of 1993. The Committee expects that developments contributing to unusual velocity increases are likely to persist during the year., [AND IN THAT EVENT M2 AND M3 GROWTH AROUND THE LOWER ENDS OF THEIR RANGES WOULD BE CONSISTENT WITH ITS BROAD POLICY OBJECTIVES.] The monitoring range for growth of total domestic

nonfinancial debt ALSO was MAINTAINED set at 4-1/2 to 8-1/2 percent [WAS LOWERED TO \_\_\_ TO \_\_\_ PERCENT] for the year.

Option 2--Reduce Ranges

IN FURTHERANCE OF THESE OBJECTIVES, THE COMMITTEE AT THIS MEETING LOWERED THE RANGES IT HAD ESTABLISHED IN FEBRUARY FOR GROWTH OF M2 AND M3 TO \_\_\_ TO \_\_\_ PERCENT AND \_\_\_ TO \_\_\_ PERCENT RESPECTIVELY, MEASURED FROM THE FOURTH QUARTER OF 1992 TO THE FOURTH QUARTER OF 1993. THE COMMITTEE ANTICIPATED THAT DEVELOPMENTS CONTRIBUTING TO UNUSUAL VELOCITY INCREASES WOULD PERSIST OVER THE BALANCE OF THE YEAR AND THAT MONEY GROWTH WITHIN THESE LOWER RANGES WOULD BE CONSISTENT WITH ITS BROAD POLICY OBJECTIVES. The monitoring range for growth of total domestic nonfinancial debt was MAINTAINED set at 4-1/2 to 8-1/2 percent [(ALSO) WAS LOWERED TO \_\_\_ TO \_\_\_ PERCENT] for the year.

Alternatives for 1994

Option A--Retain 1993 Ranges

FOR 1994, THE COMMITTEE AGREED ON A TENTATIVE BASIS TO RETAIN THE 1993 RANGES (AS REVISED AT THIS MEETING) FOR GROWTH OF THE MONETARY AGGREGATES AND DEBT, MEASURED FROM THE FOURTH QUARTER OF 1993 TO THE FOURTH QUARTER OF 1994. The behavior of the monetary aggregates will continue to be evaluated in the light of progress toward price level stability, movements in their velocities, and developments in the economy and financial markets.

Option B--Change 1993 Ranges

FOR 1994, THE COMMITTEE AGREED ON TENTATIVE RANGES FOR MONETARY GROWTH, MEASURED FROM THE FOURTH QUARTER OF 1993 TO

THE FOURTH QUARTER OF 1994, OF \_\_\_ TO \_\_\_ PERCENT FOR M2 AND \_\_\_ TO \_\_\_ PERCENT FOR M3. THE COMMITTEE PROVISIONALLY SET THE MONITORING RANGE FOR GROWTH OF TOTAL DOMESTIC NONFINANCIAL DEBT AT \_\_\_ TO \_\_\_ PERCENT FOR 1994. The behavior of the monetary aggregates will continue to be evaluated in the light of progress toward price level stability, movements in their velocities, and developments in the economy and financial markets.

(34) The draft operational paragraph would continue the practice first adopted at the March meeting of not indicating specific growth rates for M2 and M3 over the shorter run.

OPERATIONAL PARAGRAPH

In the implementation of policy for the immediate future, the Committee seeks to DECREASE SOMEWHAT/maintain/INCREASE SOMEWHAT the existing degree of pressure on reserve positions. In the context of the Committee's long-run objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary developments, slightly (SOMEWHAT) greater reserve restraint would (MIGHT) or slightly (SOMEWHAT) lesser reserve restraint (WOULD) might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with appreciable MODEST growth in the broader monetary aggregates over the THIRD second quarter.

APPENDIX A  
PROJECTIONS FOR M2+

The table below presents staff projections for growth of M2+ (M2 plus bond and stock mutual funds) over 1993 and 1994 consistent with Greenbook forecasts of income and interest rates.<sup>1</sup> The projections of 3-3/4 percent M2+ growth in 1993 and 3-1/4 percent in 1994 represent a slowing from a 4-1/2 percent pace over 1992 and 4-1/4 percent this year through May. The slowdown in M2+ growth anticipated over the remainder of 1993 and during 1994 reflects the effects of the more gradual decline projected in long-term rates over coming quarters. This trajectory for rates implies a decline in realized capital gains, which are included directly in the value of the measured aggregate and indirectly affect the demand for it.

Growth of M2+  
(Percent)

	<u>Actual</u>		<u>Projections</u>	
	1992 (Q4/Q4)	Q4:1992 to May (annual rate)	1993 (Q4/Q4)	1994 (Q4/Q4)
M2+	4-1/2	4-1/4	3-3/4	3-1/4
M2	1-3/4	3/4	1	2

1. These forecasts are based on a recently developed staff model of M2+ demand. For the projections, the model results were spliced onto the actual results for the first half of the year. The model is presented in column 3 of table 2 of "The Empirical Properties of a Monetary Aggregate that Adds Bond and Stock Mutual Funds to M2," memorandum to the Federal Open Market Committee, June 25, 1993, by Athanasios Orphanides, Brian Reid, and David Small.

Appendix B

ADOPTED LONGER-RUN GROWTH RATE RANGES FOR THE MONETARY AND CREDIT AGGREGATES  
(percent annual rates; numbers in parentheses are actual growth rates as reported at end of policy period in February Monetary Policy Report to Congress)

	<u>M1</u>	<u>M2</u>	<u>M3</u>	<u>Domestic Non-financial Debt</u> <sup>1</sup>
QIV 1979 - QIV 1980	4 - 6.5 (7.3) <sup>2,4</sup>	6 - 9 (9.8)	6.5 - 9.5 (9.9)	6 - 9 (7.9)
QIV 1980 - QIV 1981	3.5 - 6 (2.3) <sup>2,4</sup>	6 - 9 (9.4)	6.5 - 9.5 (11.4)	6 - 9 (8.8) <sup>5</sup>
QIV 1981 - QIV 1982	2.5 - 5.5 (8.5) <sup>2</sup>	6 - 9 (9.2)	6.5 - 9.5 (10.1)	6 - 9 <sup>7</sup> (7.1) <sup>5</sup>
QIV 1982 - QIV 1983	5 - 9 <sup>7</sup> (7.2)	7 - 10 <sup>8</sup> (8.3)	6.5 - 9.5 (9.7)	8.5 - 11.5 (10.5)
QIV 1983 - QIV 1984	4 - 8 (5.2)	6 - 9 (7.7)	6 - 9 (10.5)	8 - 11 (13.4)
QIV 1984 - QIV 1985	3 - 8 <sup>9</sup> (12.7)	6 - 9 (8.6)	6 - 9.5 (7.4)	9 - 12 (13.5)
QIV 1985 - QIV 1986	3 - 8 (15.2)	6 - 9 (8.9)	6 - 9 (8.8)	8 - 11 (12.9)
QIV 1986 - QIV 1987	n.s. <sup>10</sup> (6.2)	5.5 - 8.5 (4.0)	5.5 - 8.5 (5.4)	8 - 11 (9.6)
QIV 1987 - QIV 1988	n.s. (4.3)	4 - 8 (5.3)	4 - 8 (6.2)	7 - 11 (8.7)
QIV 1988 - QIV 1989	n.s. (0.6)	3 - 7 (4.6)	3.5 - 7.5 (3.3)	6.5 - 10.5 (8.1)
QIV 1989 - QIV 1990	n.s. (4.2)	3 - 7 (3.9)	1 - 5 <sup>11</sup> (1.8)	5 - 9 (6.9)
QIV 1990 - QIV 1991	n.s. (8.0)	2.5 - 6.5 (2.8)	1 - 5 (1.2)	4.5 - 8.5 (4.5)
QIV 1991 - QIV 1992	n.s. (14.3)	2.5 - 6.5 (2.0)	1 - 5 (0.5)	4.5 - 8.5 (4.6)
QIV 1992 - QIV 1993	n.s. (9.8) <sup>12</sup>	2 - 6 (0.9) <sup>12</sup>	0.5 - 4.5 (-0.2) <sup>12</sup>	4.5 - 8.5 (5.1) <sup>13</sup>

n.s.--not specified.

1. Targets are for bank credit until 1983; from 1983 onward targets are for domestic nonfinancial sector debt.

2. The figures shown reflect target and actual growth of M1-B in 1980 and shift-adjusted M1-B in 1981. M1-B was relabeled M1 in January 1982. The targeted growth for M1-A was 3-1/2 to 6 percent in 1980 (actual growth was 5.0 percent); in 1981 targeted growth for shift-adjusted M1-A was 3 to 5-1/2 percent (actual growth was 1.3 percent).

3. When these ranges were set, shifts into other checkable deposits in 1980 were expected to have only a limited effect on growth of M1-A and M1-B. As the year progressed, however, banks offered other checkable deposits more actively, and more funds than expected were directed to these accounts. Such shifts are estimated to have decreased M1-A growth and increased M1-B growth each by at least 1/2 percentage point more than had been anticipated.

(Footnotes are continued on next page)

4. Adjusted for the effects of shifts out of demand deposits and savings deposits into other checkable deposits. At the February FOMC meeting, the target ranges for observed M1-A and M1-B in 1981 on an unadjusted basis, expected to be consistent with the adjusted ranges, were -4-1/2 to -2 and 6 to 8-1/2 percent, respectively. Actual M1-B growth (not shift adjusted) was 5.0 percent.
5. Adjusted for shifts of assets from domestic banking offices to International Banking Facilities.
6. Range for bank credit is annualized growth from the December 1981-January 1982 average level through the fourth quarter of 1982.
7. Base period, adopted at the July 1983 FOMC meeting, is QII'83. At the February 1983 meeting the FOMC had adopted a QIV'82 to QIV'83 target range for M1 of 4 to 8 percent.
8. Base period is the February-March 1983 average.
9. Base period, adopted at the July 1985 FOMC meeting, is QII'85. At the February 1985 meeting the FOMC had adopted a QIV'84 to QIV'85 target range for M1 of 4 to 7 percent.
10. No range for M1 has been specified since the February 1987 FOMC meeting because of uncertainties about its underlying relationship to the behavior of the economy and its sensitivity to economic and financial circumstances.
11. At the February 1990 meeting the FOMC specified a range of 2-1/2 to 6-1/2 percent. This range was lowered to 1 to 5 percent at the July 1990 meeting.
12. Annualized growth rate from the fourth-quarter to June.
13. Annualized growth rate from the fourth-quarter to May.

6/30/93 (MARP)

## SELECTED INTEREST RATES

(percent)

	Short-Term								Long-Term							
	federal funds	Treasury bills secondary market			CDs secondary market	comm. paper	money market mutual fund	bank prime loan	U.S. government constant maturity yields			corporate A-utility recently offered	municipal Bond Buyer	conventional home mortgages		
		3-month	6-month	1-year	3-month	1-month			3-year	10-year	30-year			secondary market	primary market	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
92 -- High	4.20	4.05	4.22	4.51	4.32	5.02	4.51	6.50	6.32	7.65	8.07	8.99	6.87	9.22	9.03	6.22
-- Low	2.86	2.69	2.82	2.91	3.07	3.17	2.74	6.00	4.24	6.30	7.29	8.06	6.12	7.86	7.84	4.97
93 -- High	3.24	3.10	3.26	3.48	3.28	3.39	2.92	6.00	5.06	6.73	7.46	8.28	6.44	8.30	8.14	5.36
-- Low	2.87	2.82	2.94	3.07	3.06	3.07	2.59	6.00	4.24	5.87	6.74	7.47	5.69	7.42	7.34	4.59
Monthly																
Jul 92	3.25	3.21	3.28	3.45	3.37	3.43	3.25	6.02	4.91	6.84	7.60	8.38	6.32	8.25	8.13	5.51
Aug 92	3.30	3.13	3.21	3.33	3.31	3.38	3.07	6.00	4.72	6.59	7.39	8.16	6.31	8.04	7.98	5.27
Sep 92	3.22	2.91	2.96	3.06	3.13	3.25	2.91	6.00	4.42	6.42	7.34	8.11	6.40	7.98	7.92	5.11
Oct 92	3.10	2.86	3.04	3.17	3.26	3.22	2.79	6.00	4.64	6.59	7.53	8.40	6.59	8.25	8.09	5.06
Nov 92	3.09	3.13	3.34	3.52	3.58	3.25	2.83	6.00	5.14	6.87	7.61	8.51	6.56	8.48	8.31	5.26
Dec 92	2.92	3.22	3.36	3.55	3.48	3.71	2.82	6.00	5.21	6.77	7.44	8.27	6.43	8.34	8.22	5.45
Jan 93	3.02	3.00	3.14	3.35	3.19	3.21	2.83	6.00	4.93	6.60	7.34	8.13	6.40	8.16	8.02	5.23
Feb 93	3.03	2.93	3.07	3.25	3.12	3.14	2.72	6.00	4.58	6.26	7.09	7.80	6.12	7.78	7.68	4.98
Mar 93	3.07	2.95	3.05	3.20	3.11	3.15	2.66	6.00	4.40	5.98	6.82	7.61	5.85	7.70	7.50	4.79
Apr 93	2.96	2.87	2.97	3.11	3.09	3.13	2.65	6.00	4.30	5.97	6.85	7.66	5.99	7.59	7.47	4.71
May 93	3.00	2.96	3.07	3.23	3.10	3.11	2.62	6.00	4.40	6.04	6.92	7.75	5.92	7.62	7.47	4.65
Jun 93	3.04	3.07	3.20	3.39	3.21	3.19	--	6.00	4.53	5.96	6.81	7.59	5.87	7.54	7.42	4.64
Weekly																
Mar 10 93	3.02	2.98	3.08	3.23	3.12	3.14	2.67	6.00	4.38	5.89	6.74	7.62	5.83	7.68	7.47	4.78
Mar 17 93	3.04	2.98	3.09	3.25	3.12	3.17	2.66	6.00	4.52	6.06	6.85	7.58	5.90	7.61	7.57	4.82
Mar 24 93	2.93	2.94	3.04	3.17	3.10	3.14	2.65	6.00	4.36	5.94	6.80	7.73	5.99	7.80	7.50	4.75
Mar 31 93	3.18	2.92	3.02	3.17	3.12	3.18	2.66	6.00	4.42	6.04	6.90	7.86	6.07	7.74	7.53	4.75
Apr 7 93	3.11	2.91	3.00	3.17	3.12	3.16	2.67	6.00	4.42	6.10	7.00	7.64	6.06	7.63	7.57	4.81
Apr 14 93	2.93	2.87	2.99	3.10	3.09	3.15	2.64	6.00	4.27	5.93	6.80	7.55	5.91	7.57	7.45	4.70
Apr 21 93	2.91	2.82	2.94	3.07	3.09	3.12	2.63	6.00	4.24	5.87	6.75	7.59	5.95	7.43	7.38	4.64
Apr 28 93	2.87	2.88	2.96	3.09	3.07	3.10	2.61	6.00	4.27	5.95	6.84	7.76	5.98	7.56	7.43	4.67
May 5 93	2.98	2.89	2.97	3.12	3.07	3.09	2.62	6.00	4.26	5.97	6.86	7.67	5.88	7.51	7.42	4.66
May 12 93	2.90	2.88	2.98	3.11	3.06	3.07	2.59	6.00	4.25	5.91	6.83	7.74	5.90	7.65	7.42	4.63
May 19 93	3.01	2.97	3.07	3.23	3.11	3.11	2.60	6.00	4.43	6.08	6.98	7.84	5.97	7.66	7.52	4.64
May 26 93	3.07	3.02	3.15	3.32	3.14	3.13	2.59	6.00	4.55	6.14	6.99	7.77	5.94	7.64	7.50	4.65
Jun 2 93	3.09	3.06	3.21	3.43	3.19	3.16	2.62	6.00	4.59	6.10	6.92	7.69	5.91	7.68	7.47	4.66
Jun 9 93	2.96	3.10	3.26	3.48	3.24	3.19	2.62	6.00	4.64	6.07	6.89	7.59	5.92	7.56	7.48	4.67
Jun 16 93	3.01	3.06	3.19	3.37	3.20	3.19	2.62	6.00	4.54	5.99	6.83	7.58	5.86	7.50	7.38	4.64
Jun 23 93	3.00	3.07	3.18	3.36	3.19	3.19	2.62	6.00	4.51	5.93	6.79	7.48	5.79	7.42	7.34	4.59
Daily																
Jun 18 93	2.91	3.06	3.18	3.36	3.19	3.18	--	6.00	4.53	5.97	6.82	--	--	--	--	--
Jun 24 93	3.02	3.10	3.20	3.38	3.21	3.21	--	6.00	4.49	5.88	6.74	--	--	--	--	--
Jun 25 93	2.96	3.08	3.18	3.37	3.22	3.21	--	6.00	4.45	5.84	6.71	--	--	--	--	--

NOTE: Weekly data for columns 1 through 11 are statement week averages. Data in column 7 are taken from Donoghue's Money Fund Report. Columns 12, 13 and 14 are 1-day quotes for Friday, Thursday or Friday, respectively, following the end of the statement week. Column 13 is the Bond Buyer revenue index. Column 14 is the FNMA purchase yield, plus loan servicing fee, on 30-day mandatory delivery commitments. 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 and Credit Aggregate Measures

Seasonally adjusted

JULY 2, 1993

Period	Money stock measures and liquid assets						Bank credit	Domestic nonfinancial debt <sup>1</sup>		
	M1	M2	nontransactions components		M3	L	total loans and investments <sup>1</sup>	U S government <sup>2</sup>	other <sup>2</sup>	total <sup>2</sup>
			In M2	In M3 only						
	1	2	3	4	5	6	7	8	9	10
<b>Annual growth rates(%):</b>										
<b>Annually (Q4 to Q4)</b>										
1990	4.3	4.0	3.9	-6.5	1.8	2.0	5.6	10.3	5.9	6.8
1991	8.0	2.8	1.1	-6.2	1.1	0.3	3.4	11.0	2.5	4.4
1992	14.3	1.8	-2.6	-6.6	0.3	1.4	3.8	10.7	2.9	4.8
<b>Quarterly Average</b>										
1992-3rd QTR.	11.6	0.8	-3.2	-3.5	0.1	1.1	3.5	10.7	3.0	4.9
1992-4th QTR.	16.8	2.7	-2.8	-14.4	-0.2	2.0	4.1	6.0	3.7	4.3
1993-1st QTR.	6.6	-2.0	-5.5	-13.2	-3.8	-2.1	1.0	8.6	2.9	4.4
1993-2nd QTR. pe	10½	2¼	-1¼	2¼	2½					
<b>Monthly</b>										
1992-JUNE	0.5	-1.9	-2.8	-7.2	-2.8	0.9	3.2	14.6	2.1	5.3
JULY	13.5	0.5	-4.4	-4.4	-0.3	-0.6	1.7	9.9	3.0	4.8
AUG.	15.2	3.0	-1.6	1.7	2.8	3.2	6.5	9.5	3.8	5.2
SEP.	18.0	2.7	-3.2	-6.1	1.2	2.7	6.3	5.0	3.7	4.0
OCT.	19.1	3.9	-2.3	-24.4	-0.9	1.2	3.4	-1.0	4.1	2.8
NOV.	15.7	2.3	-3.2	-13.9	-0.4	3.2	2.7	10.6	3.9	5.6
DEC.	8.8	-0.3	-4.1	-19.2	-3.4	-0.9	2.1	16.3	2.0	5.7
1993-JAN.	7.8	-3.4	-8.1	-28.0	-7.4	-5.7	-2.0	2.9	3.2	3.1
FEB.	-0.2	-4.0	-5.6	10.3	-1.7	-1.4	1.6	5.3	3.4	3.9
MAR.	2.7	-0.9	-2.4	-3.5	-1.3	-0.7	5.1	15.0	2.2	5.5
APR.	9.0	0.7	-2.9	11.7	2.4	3.6	5.0	10.9	4.0	5.8
MAY	27.6	10.8	3.7	1.1	9.3		8.9			
JUNE pe	8	3	1	-16	0					
<b>Levels (\$Billions):</b>										
<b>Monthly</b>										
1993-JAN.	1033.3	3487.0	2453.6	654.0	4140.9	5028.2	2934.3	3076.3	8733.8	11810.0
FEB.	1033.1	3475.3	2442.1	659.6	4134.9	5022.5	2938.2	3090.0	8758.5	11848.6
MAR.	1035.4	3472.7	2437.3	657.7	4130.4	5019.7	2950.6	3128.5	8774.7	11903.2
APR.	1043.2	3474.7	2431.5	664.1	4138.7	5034.6	2962.8	3156.8	8804.0	11960.8
MAY	1067.2	3506.1	2438.9	664.7	4170.8		2984.7			
<b>Weekly</b>										
1993-MAY										
3	1055.0	3487.2	2432.2	668.7	4155.9					
10	1065.2	3505.9	2440.8	670.9	4176.8					
17	1068.2	3508.8	2440.6	666.7	4175.5					
24	1065.4	3506.3	2440.8	663.5	4169.8					
31	1074.5	3509.4	2434.9	656.1	4165.5					
JUNE										
7	1072.6	3518.8	2446.2	657.0	4175.9					
14 p	1070.8	3516.9	2446.1	656.7	4173.6					
21 p	1075.6	3515.9	2440.3	656.3	4172.2					

1. Adjusted for breaks caused by reclassifications.

2. Debt data are on a monthly average basis, derived by averaging end-of-month levels of adjacent months, and have been adjusted to remove discontinuities.

p preliminary  
pe preliminary estimate

## Components of Money Stock and Related Measures

JULY 2, 1993

Seasonally adjusted unless otherwise noted

Period	Currency	Demand deposits	Other checkable deposits	Overnight RPs and Euro-dollars NSA <sup>1</sup>	Savings deposits <sup>2</sup>	Small denomination time deposits <sup>3</sup>	Money market mutual funds		Large denomination time deposits <sup>4</sup>	Term RP's NSA <sup>1</sup>	Term Euro-dollars NSA <sup>1</sup>	Savings bonds	Short-term Treasury securities	Commercial paper <sup>1</sup>	Bankers acceptances
							general purpose and broker/dealer <sup>5</sup>	Institutions only							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Levels (\$Billions):</b>															
<b>Annually (4th Qtr.)</b>															
1990	245.4	277.7	293.1	78.8	919.8	1171.6	348.2	131.5	496.8	93.6	68.0	125.2	329.9	356.2	36.3
1991	265.8	287.0	329.6	73.4	1028.8	1081.0	362.9	175.6	432.3	74.7	60.7	137.0	319.4	336.3	24.4
1992	290.0	338.8	380.2	74.7	1179.0	882.8	344.1	207.5	361.9	80.6	47.0	154.5	330.6	369.6	20.4
<b>Monthly</b>															
1992-MAY	275.1	314.7	354.7	69.5	1119.6	969.6	354.9	202.2	395.9	76.4	52.8	143.5	329.4	336.4	22.0
JUNE	276.6	312.3	355.9	72.5	1126.0	955.7	353.5	206.3	389.3	76.4	51.9	144.6	330.1	348.1	22.0
JULY	279.5	317.5	358.6	72.8	1134.5	941.5	350.4	212.5	382.5	75.1	51.1	145.8	324.8	351.2	21.7
AUG.	282.4	322.5	362.8	76.2	1145.7	926.9	348.9	220.9	378.1	75.8	51.4	147.4	322.9	355.7	21.1
SEP.	286.3	329.0	366.7	73.8	1158.9	912.7	343.9	220.7	373.7	77.6	49.4	149.3	321.0	363.4	20.7
OCT.	288.0	336.0	373.7	75.0	1170.5	896.5	346.3	210.9	367.0	79.7	48.1	151.9	321.8	368.0	20.5
NOV.	289.8	339.5	381.6	75.1	1180.4	881.7	343.7	209.2	361.3	81.5	47.2	154.7	330.1	372.4	20.3
DEC.	292.3	340.9	385.2	73.9	1186.0	870.2	342.3	202.3	357.5	80.7	45.6	156.8	340.0	368.4	20.4
<b>1993-</b>															
JAN.	294.8	341.9	388.6	72.3	1184.4	860.9	339.6	197.7	350.7	79.9	43.5	158.9	347.1	360.7	20.6
FEB.	296.9	341.9	386.4	72.9	1182.4	855.0	333.6	201.9	346.3	82.2	46.7	161.1	350.5	355.9	20.1
MAR.	299.0	342.0	386.4	73.2	1178.8	850.1	333.1	200.9	340.5	85.8	50.0	162.7	347.0	360.3	19.2
APR.	301.4	347.3	386.4	71.1	1181.6	843.7	331.7	200.4	343.3	88.4	49.7	163.9	347.3	365.5	19.2
MAY	304.0	359.2	395.8	68.3	1193.7	837.8	336.5	202.8	343.6	88.0	50.8				

1. Net of money market mutual fund holdings of these items.
2. Includes money market deposit accounts.
3. Includes retail repurchase agreements. All IRA and Keogh accounts at commercial banks and thrift institutions are subtracted from small time deposits.
4. Excludes IRA and Keogh accounts.
5. Net of large denomination time deposits held by money market mutual funds, depository institutions, U.S. government, and foreign banks and official institutions.

p preliminary

**NET CHANGES IN SYSTEM HOLDINGS OF SECURITIES<sup>1</sup>**  
Millions of dollars, not seasonally adjusted

July 2, 1993

Period	Treasury bills			Treasury coupons					Federal agencies redemptions (-)	Net change outright holdings total <sup>4</sup>	Net RPs <sup>5</sup>	
	Net purchases <sup>2</sup>	Redemptions (-)	Net change	Net purchases <sup>3</sup>				Redemptions (-)				Net Change
				within 1 year	1-5	5-10	over 10					
1990	17,448	4,400	13,048	425	50	-100	---	---	375	183	13,240	11,128
1991	20,038	1,000	19,038	3,043	6,583	1,280	375	---	11,282	292	27,726	-1,614
1992	13,086	1,600	11,486	1,096	13,118	2,818	2,333	---	19,365	632	30,219	-13,215
1992 ---Q1	-1,000	1,600	-2,600	---	2,452	---	---	---	2,452	85	-233	-14,636
---Q2	4,415	---	4,415	285	2,193	597	655	---	3,730	250	7,896	1,137
---Q3	867	---	867	350	3,900	945	731	---	5,927	176	6,617	14,195
---Q4	8,805	---	8,805	461	4,572	1,276	947	---	7,256	121	15,939	-13,912
1993 ---Q1	---	---	---	279	1,441	716	705	---	3,141	289	2,851	-461
---Q2	7,749	---	7,749	244	2,490	1,147	1,110	---	4,990	91	12,648	7,055
1992 July	---	---	---	---	---	---	---	---	---	85	-85	-914
August	271	---	271	---	400	195	---	---	595	54	812	5,371
September	595	---	595	350	3,500	750	731	---	5,332	37	5,890	9,739
October	4,072	---	4,072	---	200	---	---	---	200	---	4,272	-19,267
November	1,064	---	1,064	461	4,172	1,176	947	---	6,756	---	7,820	2,425
December	3,669	---	3,669	---	200	100	---	---	300	121	3,848	2,929
1993 January	---	---	---	---	---	---	---	---	---	103	-103	-6,128
February	---	---	---	---	---	---	---	---	---	85	-85	4,788
March	---	---	---	279	1,441	716	705	---	3,141	101	3,039	879
April	121	---	121	244	2,490	1,147	1,110	---	4,990	28	5,083	-5,514
May	349	---	349	---	---	---	---	---	---	41	308	4,112
June	7,280	---	7,280	---	---	---	---	---	---	22	7,258	8,458
Weekly												
March 17	---	---	---	---	---	---	---	---	---	---	---	-1,152
24	---	---	---	279	1,441	716	705	---	3,141	---	3,141	-766
31	---	---	---	---	---	---	---	---	---	41	-41	6,344
April 7	---	---	---	---	---	---	---	---	---	---	---	-52
14	---	---	---	---	---	---	---	---	---	28	-28	5,327
21	121	---	121	244	2,490	1,147	1,110	---	4,990	---	5,111	-6,724
28	---	---	---	---	---	---	---	---	---	---	---	-3,968
May 5	---	---	---	---	---	---	---	---	---	---	---	-78
12	---	---	---	---	---	---	---	---	---	---	---	7,936
19	75	---	75	---	---	---	---	---	---	---	75	-7,824
26	142	---	142	---	---	---	---	---	---	41	101	13,471
June 2	228	---	228	---	---	---	---	---	---	---	228	-7,245
9	5,664	---	5,664	---	---	---	---	---	---	---	5,664	-5,464
16	819	---	819	---	---	---	---	---	---	---	819	1,458
23	420	---	420	---	---	---	---	---	---	---	420	9,629
30	280	---	280	---	---	---	---	---	---	22	258	592
Memo: LEVEL (bil. \$) <sup>6</sup>												
June 30			151.8	191.0	70.7	21.6	30.1		313.4		318.2	-6.2

1. Change from end-of-period to end-of-period.

2. Outright transactions in market and with foreign accounts.

3. Outright transactions in market and with foreign accounts, and short-term notes acquired in exchange for maturing bills. Excludes maturity shifts and rollovers of maturing issues.

4. Reflects net change in redemptions (-) of Treasury and agency securities.

5. Includes change in RPs (+), matched sale-purchase transactions (-), and matched purchase sale transactions (+).

6. The levels of agency issues were as follows:

within 1 year	1-5	5-10	over 10	total
2.0	2.2	0.7	0.1	5.0

June 30