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NOVEMBER 7, 1997

# MONETARY POLICY ALTERNATIVES

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

November 7, 1997

**MONETARY POLICY ALTERNATIVES**

**Recent Developments**

(1) Financial markets were turbulent at times in the second half of the intermeeting period. Against a backdrop of mounting stresses in Asian financial markets, equity prices dropped appreciably in the week ending October 24 and plunged worldwide the following Monday (Chart 1). The sell-off was accompanied by a sharp decline in interest rates on U.S. Treasury securities, as investors sought liquidity and safety, and by a substantial widening of spreads over Treasuries on emerging-market and, to a much lesser extent, U.S. corporate debt. Actual price volatility soared, as did implied volatility on bond and stock prices as inferred from options markets. Over the following days, however, increased demand for equities in the United States, including from individual investors, contributed to a rebound in U.S. and foreign equity markets and an unwinding of some of the previous flight to safety. Adding to the positive tone in financial markets, especially abroad, were international steps to stabilize Indonesian financial markets (paragraph 3). However, financial markets remain skittish, and U.S. equities sold off again today, sparked by renewed declines in Asian stock prices and unanticipated strength in U.S. employment and wages.<sup>1 2</sup>

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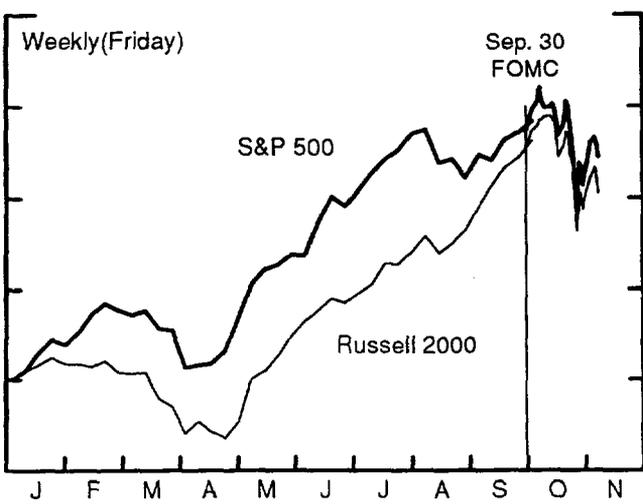
1. Trading volume was extremely heavy in U.S. bond and stock markets, with the number of equity shares changing hands setting records well above previous peaks. In general, U.S. trading, clearing, and settlement systems appear to have handled the surge in volume smoothly, although NASDAQ experienced some delays in handling orders.

2. Despite the tumult in capital markets, implementation of U.S. monetary policy was fairly routine over the intermeeting period. The Desk was particularly careful to ensure that nonborrowed reserves were provided in sufficient volume through open market operations to

(continued...)

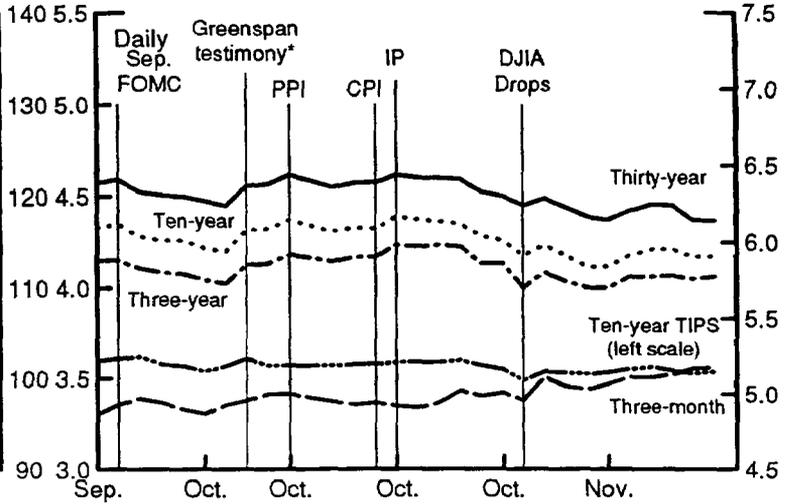
# Chart 1

Selected Stock Indexes



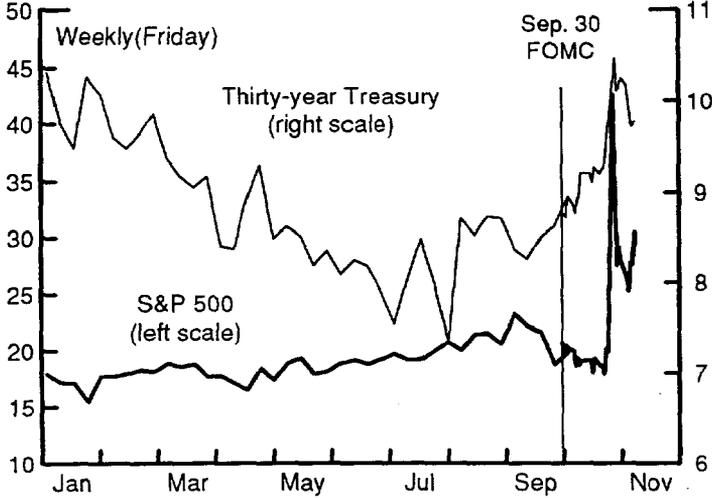
\* Index, Jan. 1997 = 100. Daily beginning September 30.

Selected Treasury Interest Rates



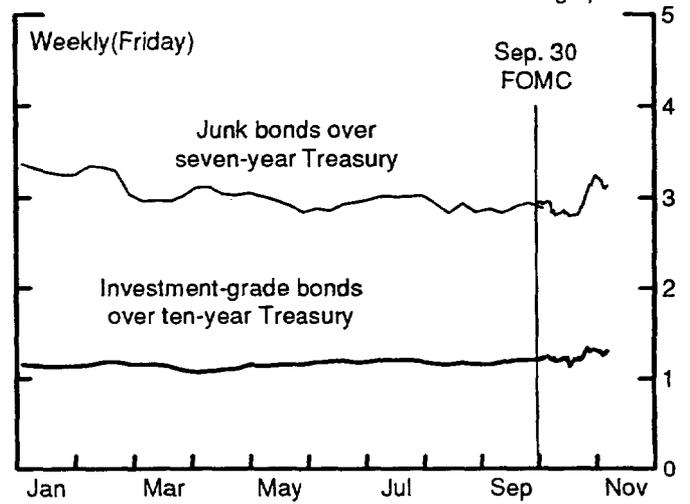
\* House Budget Committee

Implied Volatility from Options Contracts Index



Daily beginning September 30.

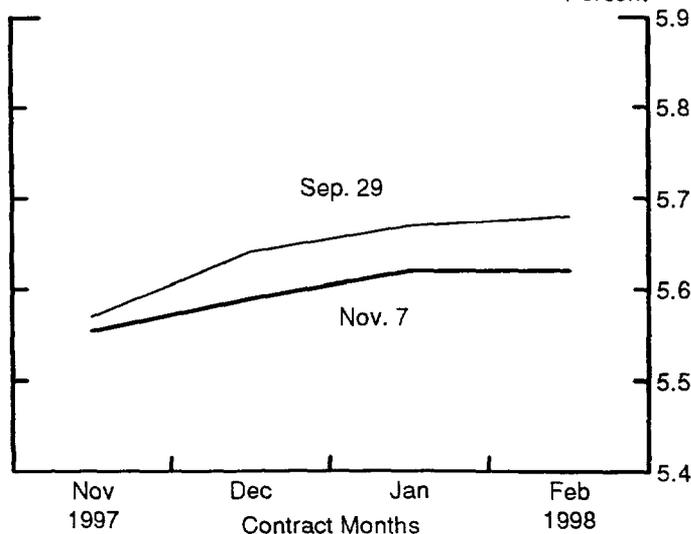
Interest Rate Spreads\*



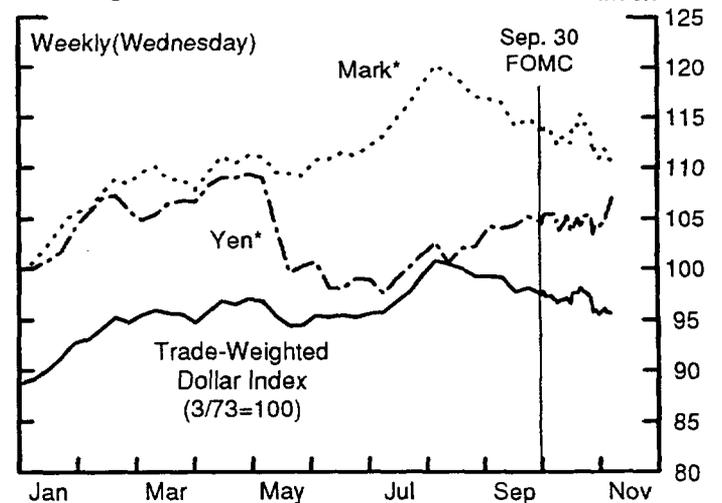
Daily beginning September 30.

\* Through November 6.

Federal Funds Futures



Exchange Rates



\* Index, Jan 1997=100. Daily beginning September 30.

(2) On balance, financial market developments during the intermeeting period seem to have left investors a little less confident about economic and financial prospects and with expectations of lower inflation. U.S. equity price indexes fell  $2\frac{1}{2}$  to  $5\frac{1}{2}$  percent over the intermeeting period, leaving major indexes 18 to 26 percent above their levels at the beginning of the year. Yield spreads on private securities relative to Treasuries rose around 15 to 25 basis points, but these spreads remain near the low end of the range of the past couple of years. Treasury coupon yields declined 10 to 25 basis points, with all of the decline registered after stock prices began to drop sharply.<sup>3</sup> With consumer inflation continuing to run lower than investors had anticipated and international financial developments reinforcing perceptions of continued disinflation--or even, to some, incipient deflation--the spread between nominal and real yields at the ten-year maturity narrowed about 15 basis points. In view of continued good inflation performance in the United States and of stresses in financial markets worldwide and their perceived feedback on the U.S. economy,

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2. (...continued)

facilitate any unusual demands for excess reserves arising, for example, out of heavy clearing and settlement activity. Its operations, however, were conducted in the usual manner and at the usual time of day. In the event, while pressure on the funds rate has emerged in recent days, it appears mostly to reflect more typical factors, such as month-end payment flows and Treasury securities settlements. Borrowing at the discount window has remained light. For the intermeeting period as a whole, the federal funds rate has averaged close to the FOMC's intended level of  $5\frac{1}{2}$  percent.

3. Bond yields had risen earlier in the intermeeting period on the heels of the Chairman's October 8 testimony warning of inflation risks as well as publication of the PPI for September; they drifted lower subsequently as consumer price data proved more encouraging. Treasury bill rates rose  $\frac{1}{4}$  percentage point over the intermeeting period, boosted by a resumption of net issuance by the Treasury in that sector.

investors evidently concluded that the possibility of any firming of U.S. monetary policy over coming months, already low, had vanished.

(3) Amid spreading financial turmoil in developing countries, the dollar appreciated significantly against the currencies of many emerging market countries during the intermeeting period. In response to pressure on its currency, the Hong Kong Monetary Authority drove its market interest rates up sharply in order to hold its peg to the dollar. In response, stock prices in Hong Kong fell by a third, triggering the worldwide drop in equity values in late October. The announcement on October 31 of an IMF-led support package for Indonesia--which includes a possible short-term loan of up to \$3 billion through the Treasury's Exchange Stabilization Fund--as well as coordinated intervention in support of the Indonesian rupiah by Japan, Singapore, and Indonesia contributed to partial recoveries of beleaguered financial markets in emerging-market economies. In Asia, equity prices dropped 4 to 32 percent over the intermeeting period, and some currencies in that region depreciated significantly against the dollar. For the first time this year, stresses in Asia spilled over to financial markets in Latin America, and spreads on Brady bonds increased 2 to 3 percentage points.<sup>4</sup> As speculative pressure against Brazilian assets mounted, one-month domestic interest rates rose 20 percentage points and share prices fell 27 percent. The Mexican peso depreciated about 7½ percent, on balance, and share prices dropped 13 percent.

(4) In contrast to its gains against currencies of developing nations, the dollar slipped 2 percent on a G-10 weighted-average basis, muting its appreciation overall. The

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4. These spreads are the differences of the implicit yields on the noncollateralized portion of Brady bond cash flows and those on comparable Treasury payments.

dollar was little changed against the yen. Prospects for the Japanese economy appeared to deteriorate over the intermeeting period; domestic demand evidently has not yet rebounded from the depressing effects of the consumption tax increase in the spring, and the intensification of financial turmoil in other Asian countries raised the prospect of further negative shocks to Japanese exports. Over the intermeeting period, the Nikkei index fell 12 percent, and long-term rates in Japan declined 25 basis points to  $1\frac{5}{8}$  percent, a historical low. Virtually all of the dollar's decline occurred against European currencies. Short-term interest rates in most continental European countries climbed 20 to 35 basis points over the period as widespread expectations of a tightening of monetary policy in Germany were confirmed when the Bundesbank raised the rate on its weekly repo tender on October 9. Long-term interest rates in continental Europe rose in the first two weeks of October in line with the advance in short-term rates, but they reversed course as prices in global equity markets declined in the second half of the month. This week, the Bank of England raised its RP rate 25 basis points, citing higher-than-expected inflation and persistent strength in domestic demand; financial markets in the United Kingdom sold off moderately on the unexpected action. For the intermeeting period as a whole, bond yields in most European countries were up 5 to 10 basis points, and equity indexes generally fell 5 to 10 percent.

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Desk did not intervene.

(5) The broad monetary aggregates decelerated further in October. M2 grew at a  $4\frac{3}{4}$  percent annual rate, in line with the projection in the previous bluebook, bringing its advance from the fourth quarter of 1996 to 5 percent, the upper end of its 1 to 5 percent

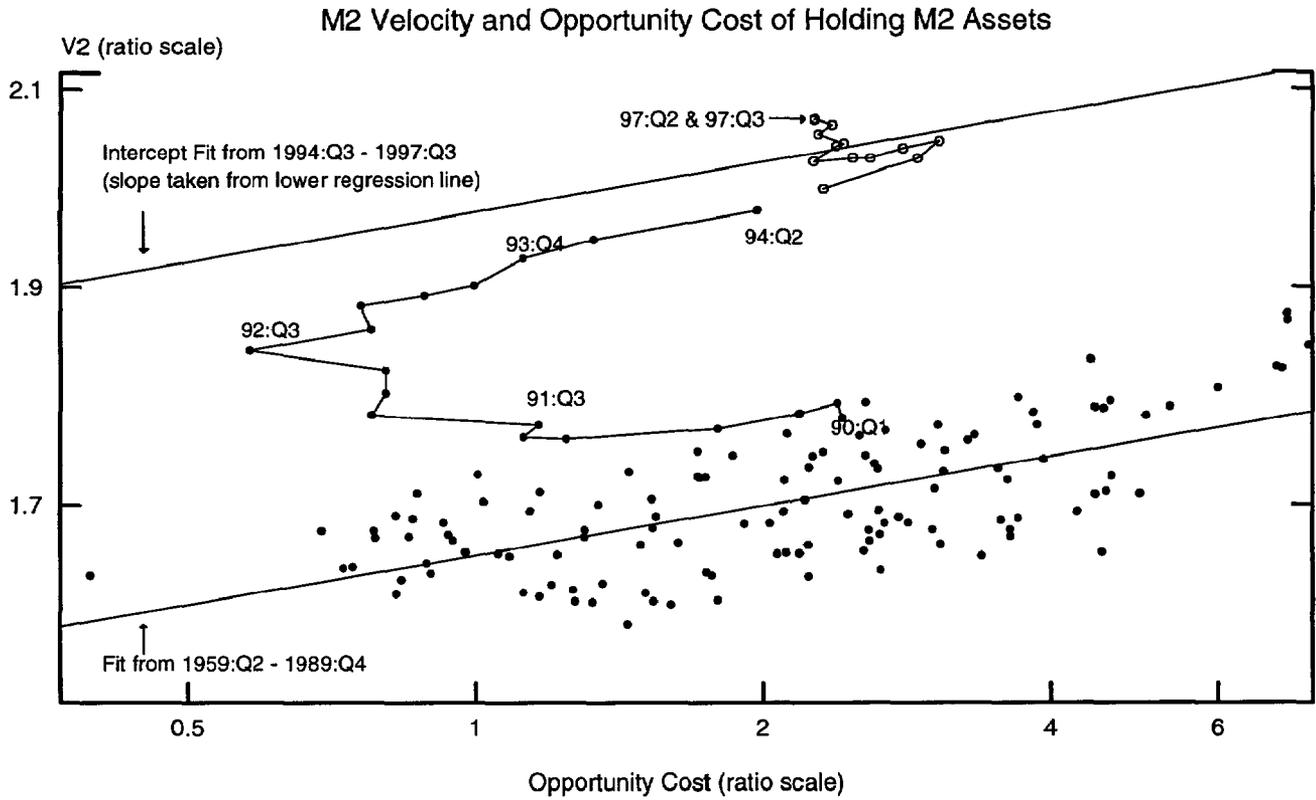
annual range.<sup>5</sup> The slowing was attributable to money market mutual funds, whose growth was off considerably from their strong summer pace. Preliminary data suggest that flows into money market mutual funds and deposits did not benefit significantly from the volatility in the capital markets in recent weeks. While mutual funds reported a substantial increase in customer inquiries and activity, outflows from domestic equity funds proved small and temporary; weakness in international funds, however, proved to be more lasting. With bank credit growth moderating last month, growth of M3 also edged down in October, but by less than the staff had envisioned in the last bluebook, to a still-strong 8 percent annual rate; from the fourth quarter of last year, this aggregate has risen at an 8 percent annual rate, placing it well above its 2 to 6 percent annual range.

(6) M2 velocity was about flat in the third quarter, with short-term opportunity costs unchanged. Abstracting from movements in opportunity costs, V2 has trended higher over the past few years (Chart 2), perhaps reflecting continued flows into long-term mutual funds. Although it did not rise last quarter, the behavior of V2 remained broadly consistent with a model that includes a stronger time trend than was present from the mid-1960s to the late 1980s, but a similar long-run response to opportunity costs (lower panel of chart). Nonetheless, considerable uncertainty continues to surround the prospective behavior of M2 demand.

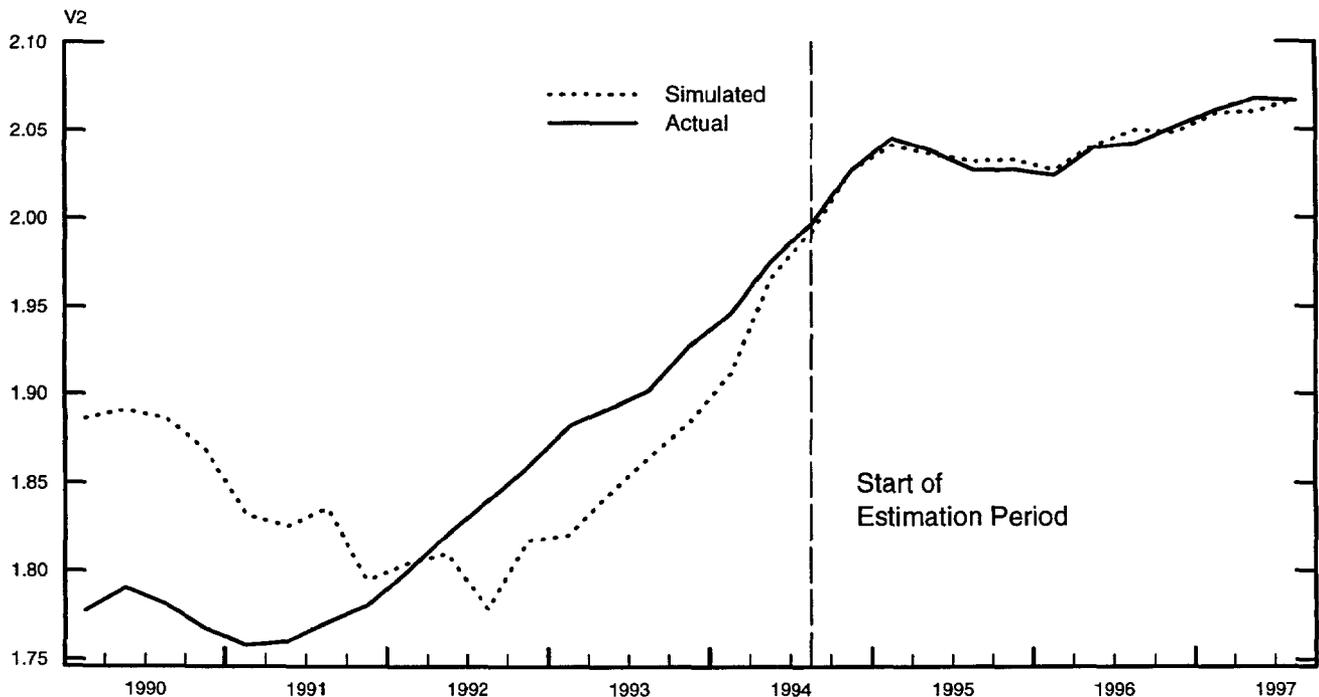
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5. The growth rates of M2 and M3 for the year to date, as well as for 1996, were revised down  $\frac{1}{4}$  to  $\frac{1}{2}$  percentage point in response to the receipt of data on IRA/Keogh accounts at money market mutual funds, which are excluded from the monetary aggregates and which had expanded considerably more rapidly during 1996 than allowed for in previous estimates.

Chart 2



### Simulated Velocity from Velocity Model with Trend Growth (Estimation Period 1994:Q3 - 1997:Q3)



Estimation results: the trend of velocity = 1.27 percent at an annual rate, and the elasticity with respect to opportunity cost = 0.064.  
 Estimation results for the conference aggregate model (estimation period 1964:Q1 - 1988:Q4): the trend of velocity = 0.28 percent at an annual rate, and the elasticity with respect to opportunity cost = 0.057.

(7) Overall credit growth appears to have remained moderate in recent months. In the household sector, increases in consumer credit have averaged somewhat under the growth in nominal income, far below the rates earlier in the economic expansion. According to the most recent Senior Loan Officer Opinion Survey, banks continued to tighten terms and standards on credit card loans, but fewer of them reported doing so than on previous surveys; in contrast to previous surveys, few banks tightened on other consumer loans. Business borrowing has remained rapid, propelled by a shortfall of internal funds relative to capital expenditures as well as by brisk merger activity. Bond issuance dipped sharply late in the month in response to volatility in the markets. In contrast, equity offerings have held up in recent weeks, though buy-backs increased in the wake of equity price declines. Firms have also relied on bank funding, which remains readily available on attractive terms to most firms. The loan officer survey indicated that terms such as spreads of loan rates over funding costs continue to be eased in reaction to continued intense competition from other bank and nonbank lenders.<sup>6</sup> With the federal deficit widening seasonally, the Treasury has resumed net borrowing in the market, including in the bill sector, but its debt issuance remains modest seasonally adjusted. Overall domestic nonfinancial sector debt appears to be continuing to expand at an underlying rate of less than 5 percent, leaving this aggregate in the lower half of its 3 to 7 percent annual range for the year.

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6. The bulk of the responses to the loan officer survey likely reflected conditions before the sharp declines in U.S. markets in late October.

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

	Aug.	Sept.	Oct.	96:Q4 to Oct. <sup>1</sup>
<b><u>Money and Credit Aggregates</u></b>				
M1	8.5	-9.9	-3.8	-2.3
Adjusted for sweeps	12.6	3.0	3.8	5.6
M2	10.8	5.9	4.8	5.1
M3	12.0	8.8	7.9	8.0
Domestic nonfinancial debt	4.6	4.6	--	4.3
Federal	1.6	1.1	--	0.6
Nonfederal	5.7	5.8	--	5.6
Bank Credit	3.0	5.5	6.5	7.5
Adjusted <sup>2</sup>	0.8	8.8	6.7	7.1
<b><u>Reserve Measures</u></b>				
Nonborrowed Reserves <sup>3</sup>	8.8	-15.0	-0.7	-7.8
Total Reserves	13.5	-18.9	-5.0	-7.7
Adjusted for sweeps	19.7	7.8	9.3	8.5
Monetary Base	5.8	7.5	5.0	5.2
Adjusted for sweeps	7.0	10.1	6.5	7.1
Memo: (millions of dollars)				
Adjustment plus seasonal borrowing	598	438	270	--
Excess reserves	1253	1295	1463	--

1. QIV 1996 to September.

2. Adjusted to remove effects of mark-to-market accounting rules (FIN 39 and FASB 115).

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.

### Short-run Policy Alternatives

(8) The staff's forecast again calls for real GDP growth to remain faster than the growth of potential for a while, reducing the unemployment rate to almost 4½ percent by mid-1998--noticeably below the rate thought to be consistent with inflation staying stable. The staff has scaled back its projection of the underlying acceleration in core prices, owing to surprisingly placid incoming price readings, continued robust gains in labor productivity, and the likelihood of a lower trajectory for non-oil import prices as a consequence of the recent financial disruptions in Asia. Still, with core inflation projected to be on an upward track, especially abstracting from the technical adjustments to the CPI, the staff forecast assumes that the FOMC will tighten its policy stance next year. The associated rise in bond yields will accentuate the downward correction in equity prices foreseen as investors become disappointed by earnings. As a consequence, real GDP growth in 1999 drops to a pace slower than that of potential, pushing unemployment by the end of that year a bit above its current rate.

(9) If the Committee shares the staff's assessment that the U.S. economy has overshot its sustainable productive potential, it may be disposed to tighten its policy stance, as in the 25 basis point rise in the funds rate in **alternative C**. With markets still somewhat unsettled, the extent of their reactions to a policy tightening is especially difficult to gauge, and the odds that those reactions, both in the United States and abroad, could be outsized are probably higher than usual. Under these circumstances, if the Committee were inclined to tighten, it might consider waiting until it had greater assurance that domestic and foreign financial markets have quieted further. The Committee would be led to raise rates if it

judged the threat of an inflationary uptrend to be serious enough to justify a preemptive policy initiative, even in the absence of any evidence in hand of actual acceleration in prices. In light of the persistent strength of final demand to date, the likely effects of recent financial market events on the U.S. inflation outlook could well be seen as too minor to assuage Committee concerns about intensifying inflationary forces. The Committee may judge that the impacts of weaker economies and currencies in Asia on U.S. export volume and import prices will be relatively limited. Also, given the small net size of the stock market decline, the cost of equity capital may be seen as remaining low enough, when combined with the still accommodative credit conditions for businesses in securities markets and at financial intermediaries, to undergird continued heavy investment spending. Similarly, household financial wealth may be regarded as remaining elevated enough, when considered together with likely persisting employment gains and still high consumer confidence, to keep consumption spending on a strong path. A policy tightening--even if delayed until markets stabilize--likely would induce further sizable downward adjustments to stock prices, and bond prices as well, and bolster the exchange value of the dollar. However, these market responses could be viewed as a necessary aspect of the transmission of monetary policy restraint. For example, in the staff forecast, a decline of around 20 percent in stock prices over the next year or so is a key element in limiting the rise in inflation.

(10) **Alternative B**, which would leave the intended federal funds rate at 5½ percent, could be chosen at this meeting either merely as a deferral of a tighter stance until financial markets have become more resilient, or, more positively, as a justifiable policy posture, absent some change in the tenor of incoming information about inflation prospects.

The continuing string of data suggesting stronger real activity and softer inflation than expected has provided evidence that, at least in some respects, economic behavior is deviating from historical patterns. In those circumstances, knowing at what point resource pressures will induce cost and price acceleration--and hence when preemptive policy actions would become warranted--is difficult, making a "wait-and-see" posture more attractive. Despite the recent strength in aggregate demand, the current policy stance still could turn out to be consistent with sustainable economic expansion and subdued inflation. Indeed, inflation expectations probably have receded even further of late; certainly that would be consistent with the narrowing spread between yields on the Treasury's nominal and inflation-protected securities. By itself, this development should restrain the wage- and price-setting process. Moreover, the fall in inflation expectations has further raised real short-term interest rates, which should work to restrain spending over time, other things equal.

(11) Markets are unlikely to react immediately if the Committee again chooses to maintain its current intended federal funds rate, because participants have incorporated an unchanged policy stance into market prices. The market does not appear to share the staff assessment that the economy has already overshot its capacity constraints, and that pressures on resources are likely to intensify. Thus, data over coming months in line with the Greenbook projection would seem likely to induce some increase in market yields. In addition, if the perceived risk of volatility in prices of corporate equity and debt should diminish somewhat further, it would erode even more the flight-to-quality incentive for holding Treasuries and augment the upward pressure on yields on Treasury notes and bonds. Banks and other intermediaries may stop easing the terms and conditions of their lending to

businesses, reflecting some of the heightened concerns about credit quality evident in securities markets of late. In foreign exchange markets, the weighted-average value of the dollar against other G-10 currencies probably will hold around its current level, but could tend to appreciate as U.S. long-term rates edge higher and especially should speculative pressures on Latin American markets subside.

(12) The staff anticipates that, under alternative B, M2 and M3 will grow at annual rates of  $4\frac{1}{2}$  and  $6\frac{1}{4}$  percent, respectively, over the five months from October to March of next year. Over the fourth and first quarters, quarterly average growth rates for the two aggregates of  $5\frac{1}{4}$  and  $7\frac{1}{4}$  percent are anticipated, compared with a Greenbook forecast of  $5\frac{1}{4}$  percent on average for nominal GDP. The standard measure of the opportunity costs of holding monetary assets is effectively unchanged over the next two quarters as the policy tightening assumed by the staff starts toward the end of that interval. The updrift in M2 velocity observed in the last few years should be muted in the period ahead, because some investors will likely choose the safety of M2 assets over increased exposures in equity markets. The sizable downtrend in M3 velocity is expected to persist. Bank credit is expected to expand at around a 6 percent rate over the five months, supported in part by strong business lending to help finance continued investment in plant and equipment, so M3 growth likely again will be bolstered relative to that of M2 by still-rapid issuance of large time deposits as well as by inflows into institution-only money funds. For this year as a whole, M2 is seen as growing at the 5 percent upper end of its range, while M3 is expected to expand 2 percentage points faster than the 6 percent upper bound of its range.

(13) Over the fourth and first quarters, domestic nonfinancial debt is projected to grow at a 5 percent average pace, near that of nominal spending. The expansion of federal debt, however, will be held far below this rate by the modest borrowing needs of the Treasury. Nonfederal debt growth, by contrast, is expected to pick up to a little more than a 6 percent annual rate over the two quarters, led by business borrowing. Business credit demands should be boosted by the widening of the financing gap, restrained only minimally by the edging up of financing costs. The household sector's acquisition of debt should be well maintained through the first quarter of next year.

Alternative Levels and Growth Rates for Key Monetary Aggregates

	M2		M3		M1			
	Alt. B	Alt. C	Alt. B	Alt. C	Alt. B	Alt. C		
<b>Levels in Billions</b>								
Aug-97	3940.5	3940.5	5168.5	5168.5	1069.6	1069.6		
Sep-97	3960.0	3960.0	5206.4	5206.4	1060.8	1060.8		
Oct-97	3975.7	3975.7	5240.6	5240.6	1057.4	1057.4		
Nov-97	3990.6	3990.2	5268.1	5267.9	1059.0	1058.9		
Dec-97	4006.4	4005.0	5296.6	5295.7	1059.6	1059.2		
Jan-98	4021.4	4018.7	5321.8	5320.0	1058.9	1058.0		
Feb-98	4036.5	4032.5	5351.1	5348.5	1058.3	1056.8		
Mar-98	4050.9	4045.9	5380.0	5376.9	1057.4	1055.2		
<b>Monthly Growth Rates</b>								
Aug-97	10.8	10.8	12.0	12.0	8.5	8.5		
Sep-97	5.9	5.9	8.8	8.8	-9.9	-9.9		
Oct-97	4.8	4.8	7.9	7.9	-3.8	-3.8		
Nov-97	4.5	4.4	6.3	6.2	1.8	1.7		
Dec-97	4.8	4.5	6.5	6.3	0.7	0.3		
Jan-98	4.5	4.1	5.7	5.5	-0.8	-1.4		
Feb-98	4.5	4.1	6.6	6.4	-0.7	-1.4		
Mar-98	4.3	4.0	6.5	6.4	-1.0	-1.8		
<b>Quarterly Averages</b>								
97 Q1	5.4	5.4	7.7	7.7	-0.7	-0.7		
97 Q2	3.8	3.8	6.7	6.7	-5.5	-5.5		
97 Q3	5.1	5.1	8.3	8.3	0.2	0.2		
97 Q4	5.7	5.6	8.1	8.0	-2.1	-2.1		
98 Q1	4.6	4.2	6.3	6.1	-0.2	-0.7		
<b>Growth Rate</b>								
From	To							
Oct-97	Mar-98		4.5	4.2	6.4	6.2	0.0	-0.5
96 Q4	Oct-97		5.1	5.1	8.0	8.0	-2.3	-2.3
96 Q4	Dec-97		5.0	5.0	7.9	7.8	-1.8	-1.8
95 Q4	96 Q4		4.3	4.3	6.6	6.6	-4.6	-4.6
96 Q4	97 Q4		5.0	5.0	7.9	7.9	-2.0	-2.0
97 Q4	Mar-98		4.5	4.2	6.4	6.2	-0.4	-0.9
1997 Annual Ranges:			1.0 to 5.0		2.0 to 6.0			

Chart 3

### Actual and Projected M2

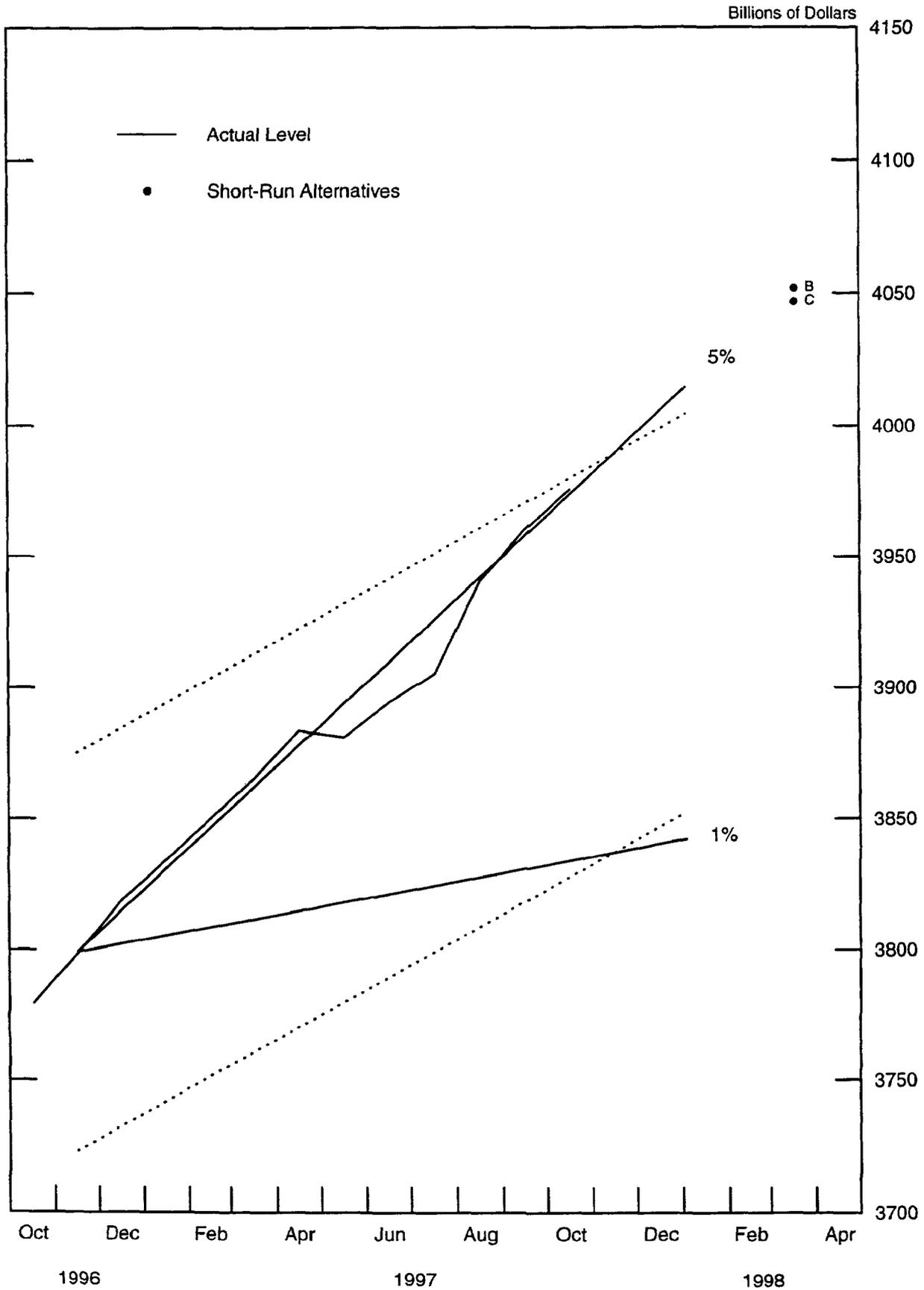


Chart 4

# Actual and Projected M3

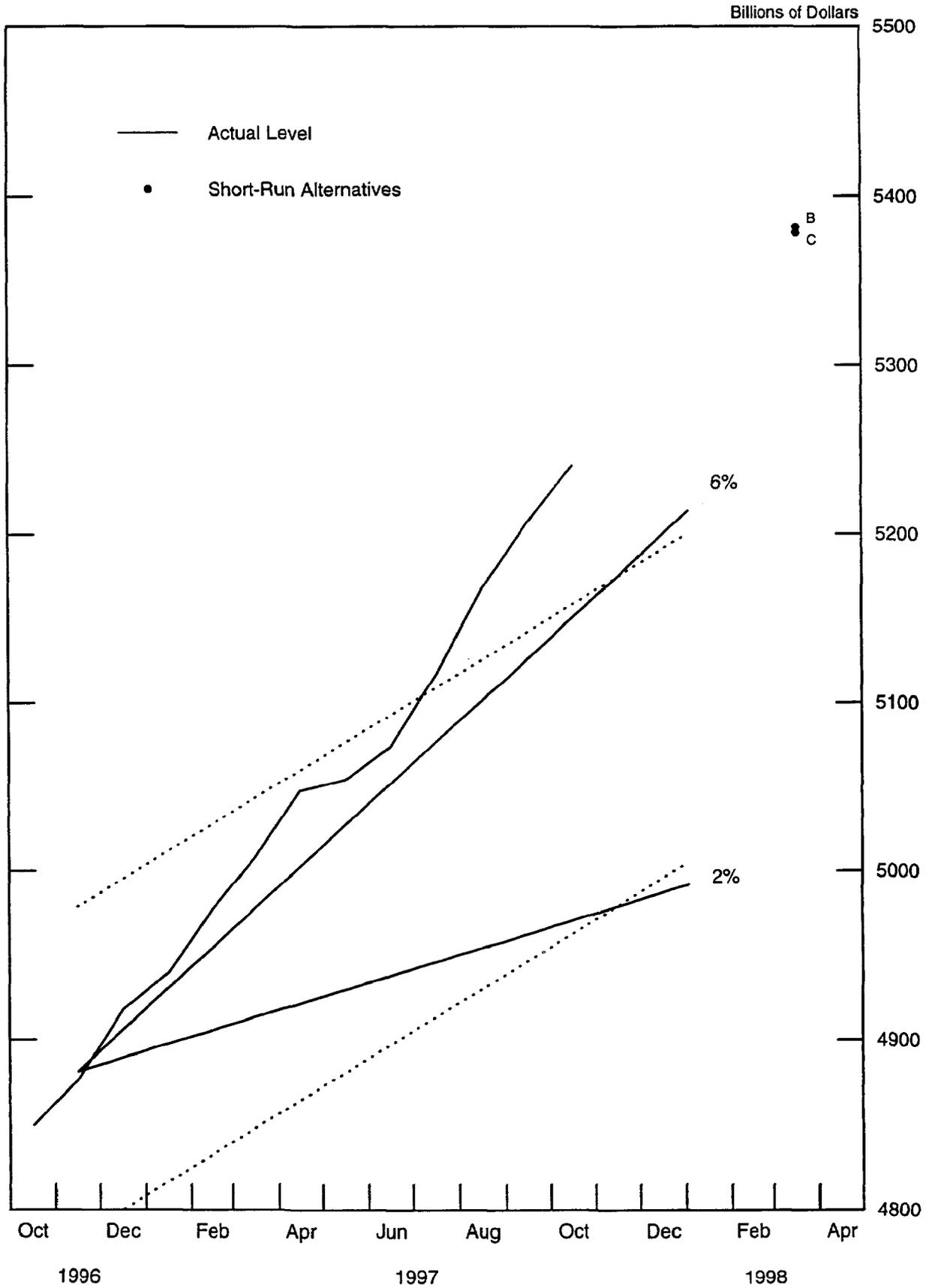
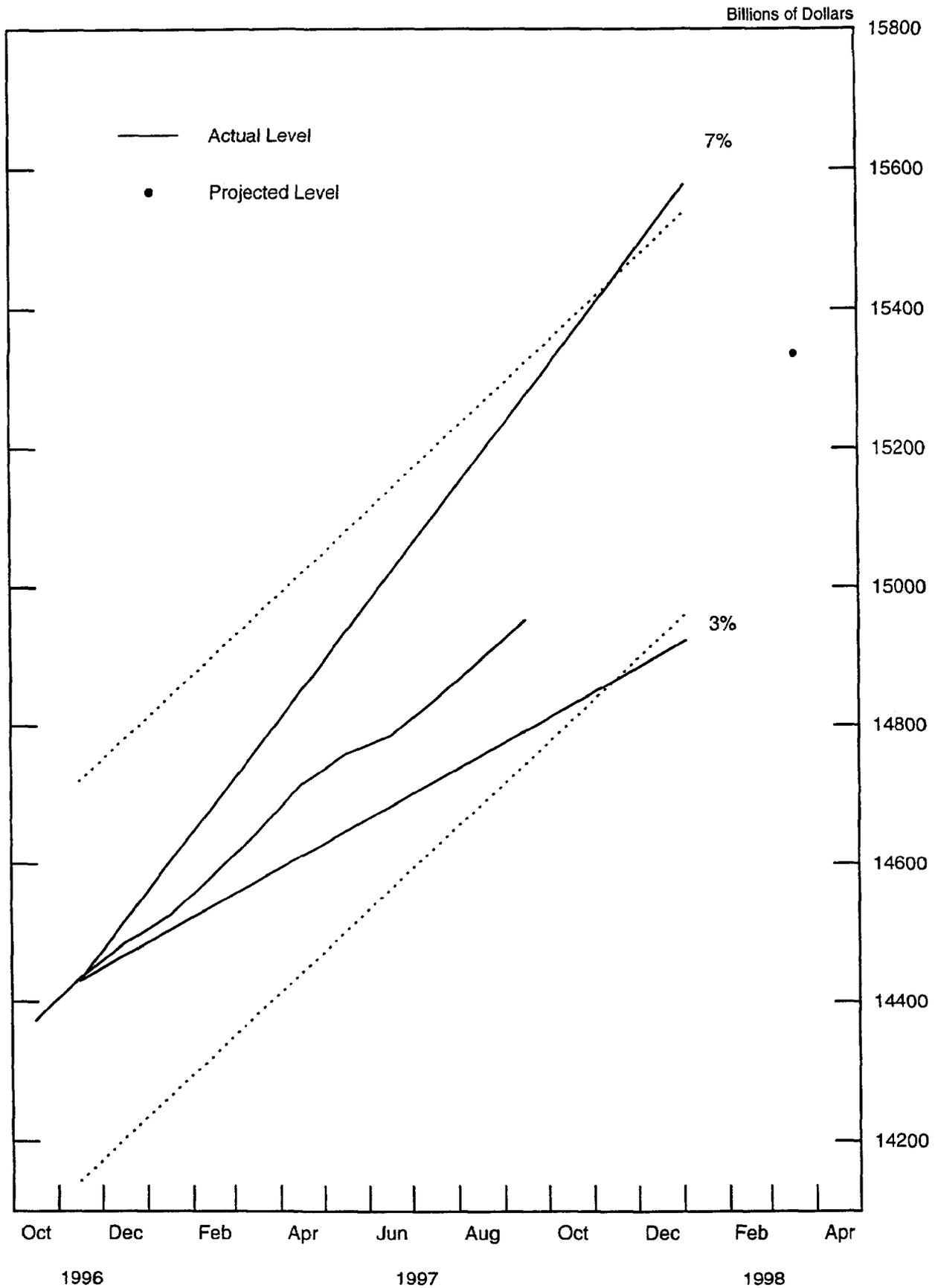


Chart 5

### Actual and Projected Debt



**Directive Language**

(14) Presented below is draft wording for the operational paragraph that includes the usual options for Committee consideration.

**OPERATIONAL PARAGRAPH**

In the implementation of policy for the immediate future, the Committee seeks conditions in reserve markets consistent with maintaining/INCREASING/DECREASING the federal funds rate at/TO an average of around  $5\frac{1}{2}$  \_\_\_ percent. 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, a somewhat/SLIGHTLY higher federal funds rate would/MIGHT or a SOMEWHAT/slightly lower federal funds rate WOULD/might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with moderate growth in M2 and M3 over coming months.

**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	fixed-rate	fixed-rate
96 -- High	5.61	5.18	5.37	5.61	5.57	5.83	5.15	8.50	6.59	7.02	7.16	8.23	6.34	8.72	8.42	6.01
-- Low	5.08	4.79	4.71	4.57	5.13	5.28	4.73	8.25	4.95	5.59	5.97	7.00	5.63	7.35	6.94	5.19
97 -- High	5.86	5.24	5.41	5.67	5.73	5.94	5.06	8.50	6.65	6.93	7.13	8.27	6.14	8.56	8.18	5.91
-- Low	5.05	4.87	5.00	5.12	5.35	5.37	4.80	8.25	5.74	5.90	6.20	7.27	5.49	7.45	7.21	5.45
Monthly																
Nov 96	5.31	5.03	5.07	5.14	5.38	5.39	4.83	8.25	5.82	6.20	6.48	7.54	5.85	7.91	7.62	5.53
Dec 96	5.29	4.91	5.04	5.18	5.44	5.70	4.85	8.25	5.91	6.30	6.55	7.63	5.91	8.01	7.60	5.52
Jan 97	5.25	5.03	5.10	5.30	5.43	5.43	4.85	8.25	6.16	6.58	6.83	7.93	5.99	8.21	7.82	5.56
Feb 97	5.19	5.01	5.06	5.23	5.37	5.39	4.83	8.25	6.03	6.42	6.69	7.81	5.90	8.03	7.65	5.49
Mar 97	5.39	5.14	5.26	5.47	5.53	5.51	4.82	8.30	6.38	6.69	6.93	8.08	6.04	8.35	7.90	5.64
Apr 97	5.51	5.16	5.37	5.64	5.71	5.61	4.94	8.50	6.61	6.89	7.09	8.23	6.14	8.46	8.14	5.87
May 97	5.50	5.05	5.30	5.54	5.70	5.61	--	8.50	6.42	6.71	6.94	8.01	5.94	8.24	7.94	5.81
Jun 97	5.56	4.93	5.13	5.38	5.66	5.60	--	8.50	6.24	6.49	6.77	7.85	5.79	8.02	7.69	5.69
Jul 97	5.52	5.05	5.12	5.24	5.60	5.56	--	8.50	6.00	6.22	6.51	7.62	5.62	7.81	7.50	5.57
Aug 97	5.54	5.14	5.19	5.27	5.60	5.55	--	8.50	6.06	6.30	6.58	7.67	5.68	7.85	7.48	5.55
Sep 97	5.54	4.95	5.09	5.23	5.60	5.49	--	8.50	5.98	6.21	6.50	7.58	5.64	7.75	7.43	5.55
Oct 97	5.50	4.97	5.09	5.17	5.65	5.49	--	8.50	5.84	6.03	6.33	7.44	5.63	7.62	7.29	5.51
Weekly																
Jul 23 97	5.43	5.07	5.15	5.26	5.59	5.54	5.01	8.50	5.99	6.20	6.48	7.52	5.54	7.75	7.43	5.54
Jul 30 97	5.57	5.10	5.14	5.21	5.58	5.56	5.02	8.50	5.92	6.13	6.40	7.54	5.49	7.75	7.36	5.49
Aug 6 97	5.62	5.14	5.18	5.22	5.59	5.56	5.06	8.50	5.98	6.18	6.44	7.71	5.62	7.88	7.46	5.53
Aug 13 97	5.45	5.17	5.23	5.29	5.61	5.57	5.01	8.50	6.11	6.35	6.62	7.64	5.71	7.83	7.54	5.56
Aug 20 97	5.59	5.14	5.16	5.23	5.59	5.54	5.06	8.50	5.99	6.24	6.54	7.74	5.69	7.91	7.46	5.56
Aug 27 97	5.56	5.14	5.17	5.29	5.59	5.54	5.02	8.50	6.10	6.37	6.65	7.68	5.68	7.89	7.58	5.62
Sep 3 97	5.64	5.07	5.17	5.27	5.60	5.52	--	8.50	6.07	6.32	6.59	7.72	5.66	7.84	7.53	5.58
Sep 10 97	5.48	5.01	5.16	5.29	5.60	5.48	--	8.50	6.09	6.35	6.63	7.66	5.69	7.82	7.53	5.59
Sep 17 97	5.58	4.98	5.11	5.23	5.60	5.48	--	8.50	5.98	6.23	6.53	7.45	5.58	7.68	7.38	5.53
Sep 24 97	5.45	4.90	5.03	5.18	5.59	5.49	--	8.50	5.88	6.08	6.37	7.44	5.63	7.65	7.28	5.51
Oct 1 97	5.58	4.89	5.01	5.18	5.63	5.50	5.04	8.50	5.88	6.09	6.38	7.37	5.59	7.45	7.31	5.52
Oct 8 97	5.46	4.92	5.03	5.13	5.61	5.48	5.00	8.50	5.78	6.00	6.30	7.53	5.64	7.73	7.26	5.49
Oct 15 97	5.45	4.97	5.11	5.22	5.63	5.48	4.98	8.50	5.89	6.10	6.39	7.54	5.67	7.71	7.34	5.55
Oct 22 97	5.54	4.95	5.14	5.26	5.68	5.48	5.01	8.50	5.96	6.13	6.42	7.41	5.66	7.65	7.35	5.55
Oct 29 97	5.50	5.02	5.10	5.12	5.67	5.49	5.03	8.50	5.79	5.97	6.28	7.27	5.60	7.55	7.21	5.46
Nov 5 97	5.60	5.09	5.11	5.12	5.67	5.52	5.06	8.50	5.74	5.90	6.20	7.29	5.65	7.55	7.24	5.48
Daily																
Oct 31 97	5.56	5.07	5.11	5.08	5.68	5.53	--	8.50	5.70	5.84	6.15	--	--	--	--	--
Nov 6 97	5.60	5.17	5.10	5.14	5.68	5.50	--	8.50	5.76	5.90	6.15	--	--	--	--	--
Nov 7 97	5.48p	5.17	5.12	5.14	5.68	--	--	8.50	5.77	5.90	6.14	--	--	--	--	--

NOTE: Weekly data for columns 1 through 11 are statement week averages. As of September 1997, data in column 6 are interpolated from data on certain commercial paper trades settled by the Depository Trust Company; prior to that, they reflect an average of offering rates placed by several leading dealers. 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.

p - preliminary data

## Money and Credit Aggregate Measures

Seasonally adjusted

NOVEMBER 10, 1997

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>										
1994	2.5	0.6	-0.3	6.5	1.7	2.7	6.9	5.7	4.8	5.1
1995	-1.6	4.0	6.7	15.2	6.1	7.4	8.8	4.4	5.7	5.4
1996	-4.6	4.3	8.4	15.5	6.6	6.3	4.0	3.7	5.7	5.2
<b>Quarterly (average)</b>										
1996-Q4	-7.3	4.2	9.0	19.7	7.5	6.2	6.0	3.4	5.2	4.7
1997-Q1	-0.7	5.4	7.8	15.9	7.7	6.1	9.7	1.8	5.1	4.3
1997-Q2	-5.5	3.8	7.4	16.7	6.7	7.8	7.6	0.4	6.1	4.6
1997-Q3	0.2	5.1	6.9	19.2	8.3		5.6			
<b>Monthly</b>										
1996-OCT.	-14.3	3.2	10.3	26.6	8.2	4.8	6.1	3.9	5.6	5.1
NOV.	-0.2	5.9	8.4	8.7	6.6	6.7	8.4	4.5	5.5	5.2
DEC.	1.1	6.6	8.8	23.3	10.3	6.1	8.8	3.2	4.5	4.2
1997-JAN.	-1.6	4.8	7.4	7.3	5.4	2.9	10.6	-0.6	4.8	3.4
FEB.	1.1	4.8	6.2	23.8	9.0	9.4	11.4	1.5	5.9	4.8
MAR.	-5.9	4.8	9.0	16.9	7.6	8.7	6.0	4.4	5.3	5.1
APR.	-11.3	5.5	12.1	22.4	9.4	10.7	12.3	2.1	7.0	5.7
MAY	-2.8	-0.7	0.0	9.1	1.5	3.5	1.3	-4.3	6.3	3.6
JUNE	0.3	4.2	5.6	6.2	4.6	4.3	5.7	-4.2	4.3	2.1
JULY	-1.1	3.4	5.0	33.3	10.3	6.5	8.7	0.9	5.4	4.2
AUG.	8.5	10.8	11.7	15.7	12.0	14.1	3.0	1.6	5.7	4.6
SEP.	-9.9	5.9	11.9	17.9	8.8		5.5			
OCT. pe	-4	5	8	18	8					
<b>Levels (\$billions):</b>										
<b>Monthly</b>										
1997-MAY	1062.8	3880.9	2818.1	1173.3	5054.2	6249.2	3902.0	3789.7	10969.9	14759.6
JUNE	1063.1	3894.4	2831.3	1179.4	5073.7	6271.5	3920.5	3776.5	11009.3	14785.8
JULY	1062.1	3905.3	2843.2	1212.1	5117.4	6305.7	3948.8	3779.4	11058.7	14838.1
AUG.	1069.6	3940.5	2870.9	1228.0	5168.5	6379.7	3958.7	3784.5	11110.8	14895.3
SEP.	1060.8	3960.0	2899.3	1246.3	5206.4		3976.8			
<b>Weekly</b>										
1997-SEP. 1	1079.8	3961.0	2881.1	1239.3	5200.2					
8	1062.2	3949.4	2887.2	1245.1	5194.5					
15	1055.4	3955.8	2900.5	1247.8	5203.7					
22	1055.3	3964.4	2909.2	1243.5	5208.0					
29	1062.0	3967.8	2905.9	1250.2	5218.0					
OCT. 6	1067.5	3976.2	2908.7	1247.6	5223.8					
13	1051.4	3968.1	2916.7	1269.4	5237.5					
20 p	1056.5	3981.5	2925.0	1260.6	5242.1					
27 p	1054.8	3977.5	2922.8	1272.9	5250.5					

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

Seasonally adjusted

NOVEMBER 10, 1997

Period	Currency	Demand deposits	Other checkable deposits	Savings deposits <sup>1</sup>	Small denomination time deposits <sup>2</sup>	Money market mutual funds		Large denomination time deposits <sup>3</sup>	RP's <sup>4,5</sup>	Eurodollars <sup>4,5</sup>	Savings bonds	Short-term Treasury securities <sup>6</sup>	Commercial paper <sup>6</sup>	Bankers acceptances <sup>6</sup>
						Retail <sup>7</sup>	Institution-only							
						1	2							
<b>Levels (Billions):</b>														
<b>Annual (Q4)</b>														
1994	352.4	384.9	404.8	1164.0	806.5	379.8	197.4	358.7	176.6	80.5	179.7	378.8	402.2	13.6
1995	371.4	390.3	362.1	1127.3	930.4	451.0	244.7	416.3	186.7	89.5	184.4	465.6	439.3	11.6
1996	392.6	401.1	278.3	1258.8	943.5	516.2	293.1	485.3	195.1	108.7	187.0	471.1	486.1	12.2
<b>Monthly</b>														
1996-SEP.	387.6	405.1	292.2	1231.5	937.3	507.5	285.2	468.3	194.4	98.9	187.1	483.9	482.0	12.0
OCT.	390.2	398.4	283.2	1246.3	941.0	512.0	288.1	480.9	196.0	105.1	187.1	476.8	479.6	12.1
NOV.	392.5	402.2	276.8	1259.0	943.9	515.2	292.0	483.4	195.3	107.1	187.0	480.0	483.2	12.2
DEC.	395.2	402.6	274.8	1271.0	945.7	521.5	299.3	491.5	194.1	113.9	187.0	456.5	495.5	12.2
<b>1997-</b>														
JAN.	397.0	401.6	272.5	1282.5	946.8	525.7	296.3	493.3	198.3	117.5	186.7	436.1	509.1	11.9
FEB.	400.5	404.3	267.3	1290.5	948.2	530.6	305.4	500.1	202.2	119.7	186.4	437.6	517.5	12.7
MAR.	402.4	403.1	261.5	1304.3	947.4	538.3	311.8	509.1	200.6	121.7	186.3	441.5	525.9	13.5
APR.	403.7	395.6	257.7	1321.1	948.9	548.1	311.6	522.1	204.1	126.6	186.2	446.6	537.8	12.8
MAY	406.1	395.7	252.8	1320.9	953.3	543.9	311.6	523.6	204.6	133.5	186.2	451.7	543.9	13.1
JUNE	407.7	397.2	250.1	1325.4	957.9	548.0	318.9	533.0	198.8	128.8	186.3	442.9	555.9	12.6
JULY	410.2	396.4	247.2	1329.9	960.9	552.5	324.1	551.1	208.0	128.8	186.4	422.2	566.8	12.9
AUG.	412.1	402.0	247.2	1341.4	962.5	567.0	329.2	557.2	211.0	130.6	186.5	446.3	565.0	13.3
SEP.	415.4	390.6	246.7	1356.7	964.3	578.3	338.9	569.2	208.2	130.0				

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

p preliminary

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

November 7, 1997

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					
1994	17,484	---	17,484	733	9,916	3,575	3,606	2,337	15,493	942	32,035	-7,412
1995	10,932	900	10,032	390	5,366	1,432	2,529	1,776	7,941	1,003	16,970	-1,023
1996	9,901	---	9,901	524	3,898	1,116	1,655	2,015	5,179	409	14,670	5,351
1996 --Q1	---	---	---	---	---	---	---	1,228	-1,228	108	-1,336	-8,879
--Q2	3,399	---	3,399	65	1,839	654	920	787	2,691	138	5,952	2,959
--Q3	---	---	---	459	2,060	462	735	---	3,716	79	3,637	-2,454
--Q4	6,502	---	6,502	---	---	---	---	---	---	85	6,417	13,726
1997 --Q1	---	---	---	818	3,985	---	1,117	607	5,314	230	5,084	-18,046
--Q2	4,602	---	4,602	877	5,823	1,233	1,894	376	9,451	498	13,555	11,984
--Q3	---	---	---	644	1,042	---	---	598	1,089	571	518	45,997
1996 November	6,502	---	6,502	---	---	---	---	---	---	10	6,492	584
December	---	---	---	---	---	---	---	---	---	12	-12	9,518
1997 January	---	---	---	---	---	---	---	607	-607	187	-793	-10,151
February	---	---	---	818	1,125	---	---	---	1,943	27	1,916	-7,371
March	---	---	---	---	2,861	---	1,117	---	3,978	17	3,961	-524
April	4,006	---	4,006	---	1,924	---	---	376	1,548	24	5,530	41,665
May	---	---	---	383	1,102	734	988	---	3,206	---	3,206	-42,664
June	596	---	596	494	2,797	499	906	---	4,696	474	4,818	12,984
July	---	---	---	---	---	---	---	598	-598	287	-885	-11,565
August	---	---	---	---	---	---	---	---	---	179	-179	30,846
September	---	---	---	644	1,042	---	---	---	1,686	105	1,581	26,716
October	---	---	---	---	---	770	648	416	1,002	631	371	56,347
Weekly												
July 30	---	---	---	---	---	---	---	---	---	---	---	7,178
August 6	---	---	---	---	---	---	---	---	---	164	-164	-3,773
13	---	---	---	---	---	---	---	---	---	15	-15	9,191
20	---	---	---	---	---	---	---	---	---	---	---	1,954
27	---	---	---	---	---	---	---	---	---	---	---	12,012
September 3	---	---	---	---	---	---	---	---	---	70	-70	6,012
10	---	---	---	---	---	---	---	---	---	35	-35	2,917
17	---	---	---	644	1,042	---	---	---	1,686	---	1,686	7,566
24	---	---	---	---	---	---	---	---	---	---	---	3,972
October 1	---	---	---	---	---	---	---	---	---	60	-60	19,288
8	---	---	---	---	---	---	---	---	---	---	---	2,984
15	---	---	---	---	---	770	648	416	1,002	521	481	-1,346
22	---	---	---	---	---	---	---	---	---	15	-15	39,422
29	---	---	---	---	---	---	---	---	---	35	-35	3,128
November 5	---	---	---	---	---	---	---	---	---	26	-26	11,504
Memo: LEVEL (bil. \$) <sup>6</sup>												
November 5			209.6	45.0	90.3	38.4	45.4		219.1		429.4	-14.7

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
0.2	0.2	0.3	0.0	0.7

November 5