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MONETARY POLICY ALTERNATIVES

Prepared for the Federal Open Market Committee

By the staff Board of Governors of the Federal Reserve System

August 17, 1990

MONETARY POLICY ALTERNATIVES

Recent Developments

(1) Pressures on reserve positions were eased slightly in mid-July in response to indications that conditions in credit markets had tightened further. With money growth lagging and activity showing no signs of picking up, such a tightening was viewed as potentially exerting undue restraint on an already sluggish economy. In an effort to offset the effects of this influence, the borrowing assumption was reduced by \$50 million to \$400 million and the federal funds rate dropped by 1/4 percentage point to near 8 percent, where it generally has remained over the balance of the intermeeting period.¹

(2) Largely in reaction to the System's easing of reserve conditions, short-term interest rates dropped about 30 basis points between the July FOMC meeting and the end of that month. The decline in rates also seemed to reflect some expectation of an additional easing in response to data portraying a weaker trajectory for the economy. Bond yields were unchanged on balance through the end of July. But the Iraqi invasion of Kuwait at the beginning of August and the prospect of higher energy prices propelled long-term rates upward in volatile trading. The rise in rates

1. More recently, to take account of the continued upswing in seasonal borrowing, the objective for adjustment plus seasonal borrowing was increased to \$500 million in two \$50 million steps; actual seasonal credit has risen to about \$425 million. In the three maintenance periods completed since the July meeting, adjustment plus seasonal borrowing averaged close to the levels built into the reserve paths. In the first eight days of the current maintenance period, however, borrowing has averaged \$630 million, elevated by disruptions to reserve flows stemming from an extended power outage in New York, which also seemed to have put some upward pressure on the federal funds rate in recent days.

was spurred by concerns about inflation, in light of the experience of the 1970s oil shocks, as well as by a heightened sense of uncertainty about the financial and economic outlook and pessimism about prospects for a budget accord. Bond yields are up as much as 1/2 percentage point since the end of July and broad measures of stock prices, some of which had reached record highs earlier in the intermeeting period, are down about 8 percent over the same period. Short-term market interest rates, which dipped briefly when the events in the Middle East prompted an apparent increased preference for liquidity, have backed up recently, partly on disappointing inflation readings taken before the jump in oil prices. On balance since the July meeting, most money market rates are down 15 to 25 basis points. Although Treasury securities benefited from a flight to quality for a time in early August, there has been little net change in spreads between money market rates, or between rates in longer-term markets.

(3) The easing of short-term interest rates in the United States and some signs of tightening abroad, along with expectations that these divergent trends would continue, appeared to contribute to the decline in the dollar on foreign exchange markets since the last Committee meeting. Short-term interest rates rose about 1/4 percentage points in both Japan and in Germany over the period. Long-term rates in those countries increased 80 and 25 basis points, respectively, and their stock markets posted substantial losses after the runup in oil prices. The dollar's depreciation, which was interrupted for a time after the invasion of Kuwait, totalled about 5-1/4 percent on a weighted average basis over the

intermeeting period. The price of gold surged above \$400 per ounce in recent weeks, likely reflecting both safe-haven motives and inflation worries.

The U.S. Treasury accounted for about \$400 million against marks.

These purchases along with some made earlier enabled the Treasury to unwind on July 31 a \$2 billion warehousing operation with the System, leaving \$7 billion outstanding on that facility.

(4) Money growth remained sluggish in July. M2 increased at a 1-1/4 percent rate last month and M3 hardly rose at all, below the 3 and 1 percent rates, respectively, that the Committee had expected for the June-to-September period. Both aggregates remained in the lower portions of their annual ranges.² M1 and M2 growth in July was held down--by about 3-1/2 and 1 percentage points, respectively--by the introduction of a reserve-avoidance practice at one bank holding company.³ Even abstracting from this effect, however, M2 growth in July remained low relative to econometric model forecasts. One possible contributor to this weakness was the flurry of RTC activity at the end of June, working its way through deposit flows and asset stocks. Data for early August suggest

2. Revisions to data on RPs and IRA/Keogh deposits at thrift institutions going back as far as mid-1989 have boosted the levels of M2 and M3 in July by \$7-3/4 and \$12 billion, respectively. The revisions will not have a significant effect on June-to-September growth rates, but they did add about 1/4 percentage point to growth rates of both M2 and M3 from the fourth quarter of 1989 through July.

3. The subsidiary banks of a large regional bank holding company began, in effect, sweeping OCDs into large time deposits each night, thereby reducing transaction deposits and required reserves.

that growth in the aggregates is rebounding. Apart from the cessation of the shift in OCDs to large time, the strengthening of M2 in August could be reflecting the narrowing of opportunity costs on money assets, as short-term market interest rates have dropped markedly from their peaks in the spring. In addition, the sharp fall in prices in capital markets reportedly prompted large transfers from bond and stock funds into money market mutual fund shares.

(5) The growth of private sector credit in July remained at the more moderate pace established this year. Borrowing by nonfinancial businesses evidently slackened last month: Gross bond issuance dropped back from June's high level, outstanding commercial paper declined, and C&I loans edged down. Responses to the Federal Reserve's latest survey of senior loan officers provide additional evidence that banks have become increasingly selective in recent months in granting credit to businesses and have tightened both price and nonprice terms further. The tightening of terms seems to have spread to larger firms; banks have become especially selective on commercial real estate loans. Only a few banks, however, reported any tightening of standards for single-family home mortgages, and banks on balance signalled another small increase in their willingness to make consumer loans. Nevertheless, household borrowing appears to have been quite soft. Consumer installment credit barely edged up in June, and consumer loans at banks remained weak in July, even abstracting from the securitizations that removed large blocks of credit card receivables from bank balance sheets. Similarly, what little current information is available suggests that mortgage credit growth has remained

noticeably below last year's pace. By contrast to the other nonfinancial sectors, federal debt growth has stayed rapid, boosted by the funding needs of the thrift bailout. As a result, the debt aggregate apparently has remained around the midpoint of its 5 to 9 percent annual range.

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

	May	June	July	QIV' 89 to July
<u>Money and credit aggregates</u>				
M1	-2.8	6.0	-0.3	3.5
M2	-2.3	2.6	1.2	3.7
M3	-2.4	0.8	0.5	1.4
Domestic nonfinancial debt	5.6	7.4	n.a	6.8 ^{1/}
Bank credit	3.3	7.1	5.4	5.7
<u>Reserves measures</u>				
Nonborrowed reserves ^{2/}	-14.5	-2.6	-7.2	-1.4
Total reserves	-9.8	-1.0	-8.3	-1.1
Monetary base	3.5	7.6	6.4	7.5
Memo: (Millions of dollars)				
Adjustment plus seasonal borrowing	459	536	477	--
Excess reserves	962	774	852	--

n.a. - Not available.

1. Through June.

2. 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.

Policy Alternatives

(6) The three usual options for monetary policy over the coming intermeeting period are discussed below beginning on page 9. The choice among those options is complicated by the potential adverse effects on U.S. economic performance of the recent surge in oil prices and by uncertainties about their future course. An increase in the price of imported oil transfers real income and wealth to foreign suppliers, reducing domestic demand, and thereby tending to depress real output. The shift in demand cannot be offset by policy actions without additional adverse price consequences; higher energy prices constitute a supply shock that presents less favorable attainable combinations of economic activity and inflation in the short run. Price pressures arise not only directly from the rising prices of final energy products, but also indirectly as higher costs for energy inputs are passed through to prices of other goods and services. Price effects will be amplified if heightened inflationary expectations or pressures to recoup real wage losses add an upward thrust to nominal labor costs. Finally, for as long as energy supplies are reduced, labor productivity and the economy's potential output associated with a fully employed labor force will be lowered, with the amount of the reduction dependent on the adaptability of the capital stock to less energy-intensive production methods.

(7) In the face of the less favorable set of inflation and output choices, and of uncertainty about how the economic responses would evolve--especially should the higher oil prices persist--one approach might be to try to limit the odds of either a cumulating shortfall of

output or a sustained acceleration in inflation. This objective would be fostered by maintaining growth of nominal spending along the path previously thought consistent with policy objectives. This strategy has self-correcting characteristics over time. For example, a large increase in prices would necessarily involve an offsetting sizeable shortfall in output, and the resulting slack in the economy would over time counter any tendency for inflation to accelerate; the deceleration of inflation in turn implies a strengthening in the rate of change of output, ultimately limiting its shortfall, as nominal income growth is maintained. As it happens, simulations of the staff's large-scale macro model suggest that nominal GNP can be maintained along its baseline path by following essentially the same monetary policy as in the absence of the oil price shock. To a first approximation, the same path for short-term interest rates in the face of a \$10 per barrel increase in the price of oil would lower real output 1 percent after a year and raise the GNP deflator 1 percent (though the increase in the CPI would be appreciably greater). With the same pattern of nominal GNP and opportunity costs, the public's demand for M2 also would be unaltered.

(8) Should the Committee wish to place more weight on countering risks of recession, seeking to ensure continued moderate economic growth, it could run an easier policy than otherwise. Such a policy would accept not only a once-and-for-all increase in the price level associated with higher oil prices but also the risk of some ratcheting up of inflation expectations and inflation itself for an extended period. On the other hand, if the Committee saw greater risks of a substantial pickup in

inflation or attached more importance to avoiding significant deviations from a path toward price stability, a tighter policy than otherwise would be appropriate. Under this policy, economic slack would be greater, especially in the near term, but this would establish a downtrend in the inflation rate sooner. These alternatives would be most relevant should oil prices be expected to persist at their current high levels, or to go higher. A sense that oil price increases might reverse fairly soon would argue for tempering any such policy response to the oil shock.

(9) The three short-run monetary policy alternatives presented below embody unchanged, decreased, and increased pressures in the reserve market. Under alternative B, federal funds would continue to trade around 8 percent in association with an initial specification for adjustment plus seasonal borrowing at the discount window of \$500 million. Under alternative A, the drop in the federal funds rate to 7-1/2 percent would accompany a reduction in borrowed reserves to roughly \$450 million, while the 8-1/2 percent federal funds rate under alternative C would correspond to about \$550 million in borrowing. With adjustment borrowing likely to remain subdued, as generally has been the case this year, and with seasonal borrowing anticipated to begin its normal annual downtrend later in the intermeeting period, technical reductions in the borrowing specification may be needed to keep the federal funds rate around its intended trading area under each of the alternatives.

(10) Projected growth rates for the monetary aggregates associated with the alternatives are indicated in the table below. (The table and charts on the following pages show more detailed data.)

	<u>Alt. A</u>	<u>Alt. B</u>	<u>Alt. C</u>
Growth from June to September			
M2	4-1/2	4	3-1/2
M3	2-3/4	2-1/2	2-1/4
M1	4-1/2	4	3-1/2
Growth from Q4'89 to September			
M2	4-1/4	4	4
M3	2	1-3/4	1-3/4
M1	4-1/4	4	4
Associated federal funds rate ranges	5-1/2 to 9-1/2	6 to 10	6-1/2 to 10-1/2

(11) Market participants no longer seem to be expecting a near-term easing in policy, and short-term rates would be unlikely to move substantially on balance with federal funds remaining near 8 percent under alternative B. Absent a significant change in oil prices, long-term interest rates may stay around recent elevated levels. Scope for a rally in bond markets seems to exist should a budget accord involving significant deficit reduction be reached after all, counter to current investor skepticism. The exchange value of the dollar would be unlikely to retrace much, if any, of its decline since the last Committee meeting.

(12) M2 growth is expected to pick up in August and September to a 5-1/4 percent average rate, bringing its expansion from June to a 4 percent rate, 1 percentage point faster than the pace specified by the Committee at its last meeting. In addition to the special factors producing more rapid growth of OCDs and money market funds in August relative to July, the acceleration in M2 owes to the narrowing of opportunity costs

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									
1990 April	3277.0	3277.0	3277.0	4072.3	4072.3	4072.3	807.3	807.3	807.3
May	3270.6	3270.6	3270.6	4064.0	4064.0	4064.0	805.4	805.4	805.4
June	3277.6	3277.6	3277.6	4066.7	4066.7	4066.7	809.4	809.4	809.4
July	3280.8	3280.8	3280.8	4068.5	4068.5	4068.5	809.2	809.2	809.2
August	3297.2	3296.9	3296.6	4084.5	4084.1	4083.7	814.1	814.0	813.9
September	3313.4	3309.3	3305.2	4093.9	4092.2	4090.5	818.4	817.4	816.4
Monthly Growth Rates									
1990 April	2.3	2.3	2.3	1.2	1.2	1.2	3.7	3.7	3.7
May	-2.3	-2.3	-2.3	-2.4	-2.4	-2.4	-2.8	-2.8	-2.8
June	2.6	2.6	2.6	0.8	0.8	0.8	6.0	6.0	6.0
July	1.2	1.2	1.2	0.5	0.5	0.5	-0.3	-0.3	-0.3
August	6.0	5.9	5.8	4.7	4.6	4.5	7.3	7.1	6.9
September	5.9	4.5	3.1	2.8	2.4	2.0	6.3	5.0	3.7
Quarterly Ave. Growth Rates									
1989 Q3	6.9	6.9	6.9	4.0	4.0	4.0	1.8	1.8	1.8
Q4	7.1	7.1	7.1	2.0	2.0	2.0	5.1	5.1	5.1
1990 Q1	6.3	6.3	6.3	2.9	2.9	2.9	4.8	4.8	4.8
Q2	2.8	2.8	2.8	0.7	0.7	0.7	3.5	3.5	3.5
Q3	2.7	2.5	2.3	1.4	1.4	1.3	3.2	3.0	2.9
Mar. 90 to June 90	0.9	0.9	0.9	-0.2	-0.2	-0.2	2.3	2.3	2.3
June 90 to Sept 90	4.4	3.9	3.4	2.7	2.5	2.3	4.5	4.0	3.5
July 90 to Sept 90	6.0	5.2	4.5	3.8	3.5	3.3	6.9	6.1	5.4
Q4 89 to Q2 90	4.6	4.6	4.6	1.8	1.8	1.8	4.2	4.2	4.2
Q4 89 to Q3 90	4.0	3.9	3.9	1.7	1.7	1.6	3.9	3.8	3.8
Q4 89 to July 90	3.7	3.7	3.7	1.4	1.4	1.4	3.5	3.5	3.5
Q4 89 to Aug. 90	4.0	4.0	4.0	1.8	1.7	1.7	3.9	3.9	3.9
Q4 89 to Sept 90	4.2	4.0	3.9	1.9	1.8	1.8	4.2	4.0	3.9
1990 Target Ranges:	3.0 to 7.0			1.0 to 5.0					

Chart 1
ACTUAL AND TARGETED M2

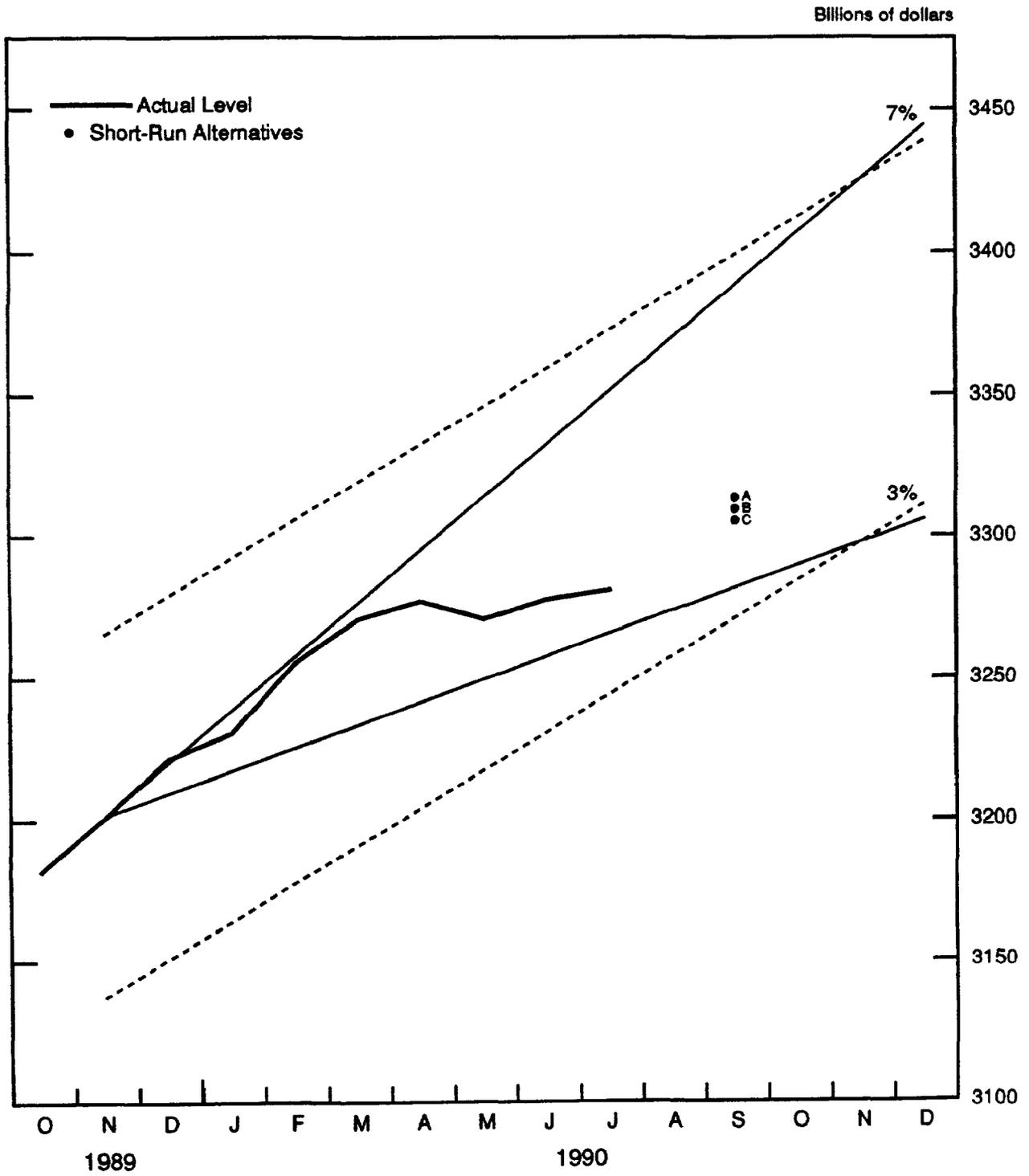


Chart 2
ACTUAL AND TARGETED M3

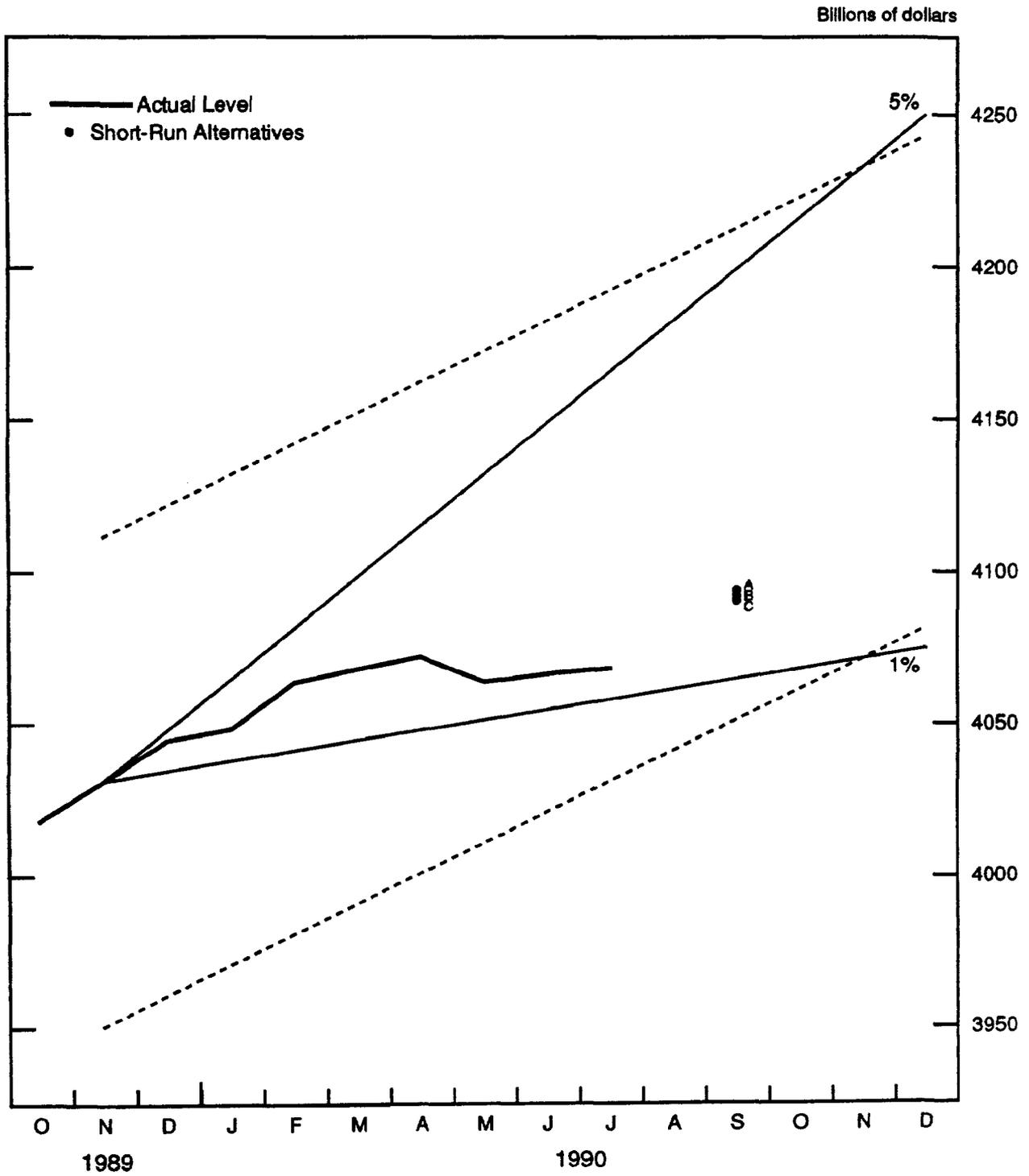


Chart 3

M1

Billions of dollars

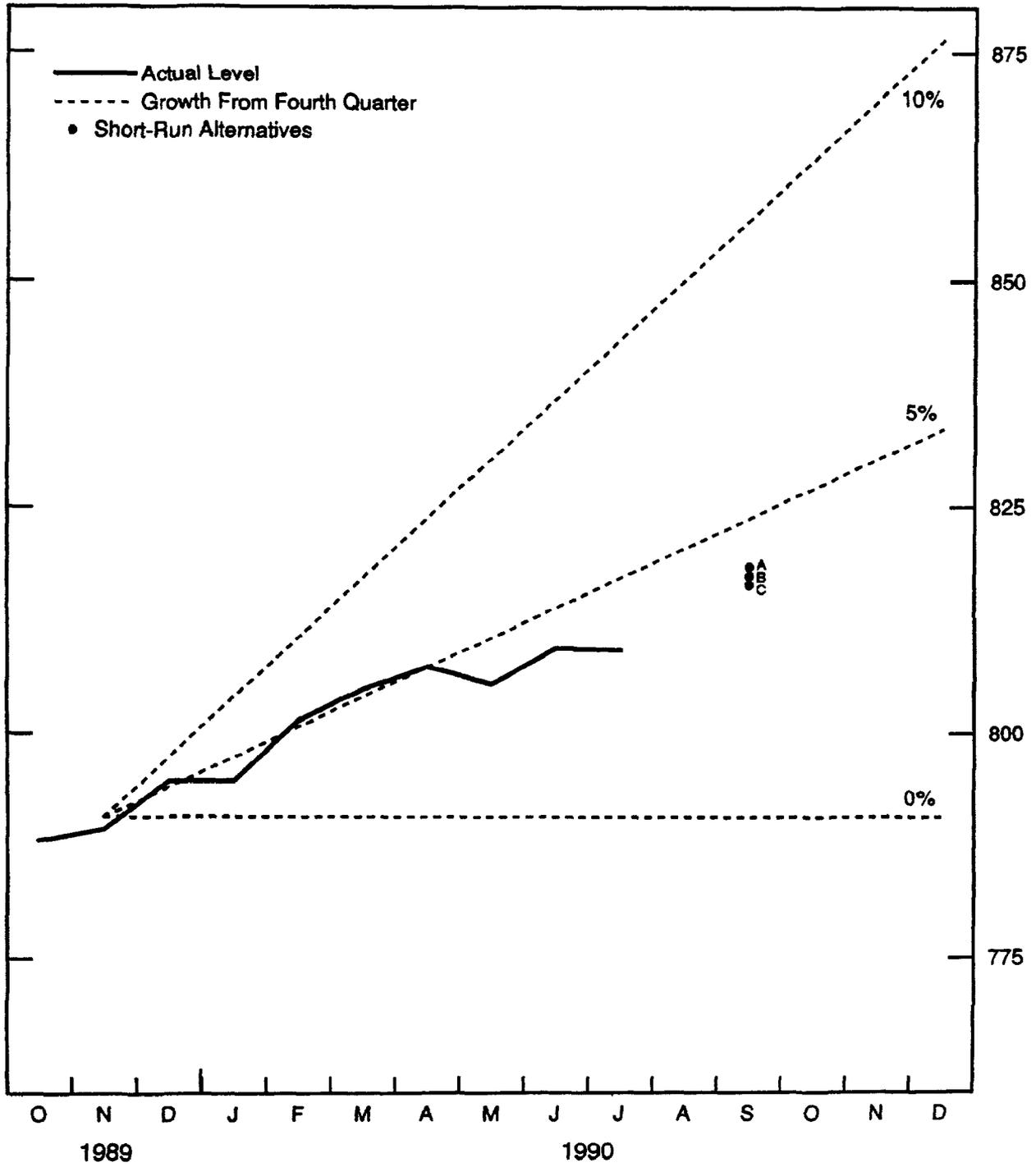
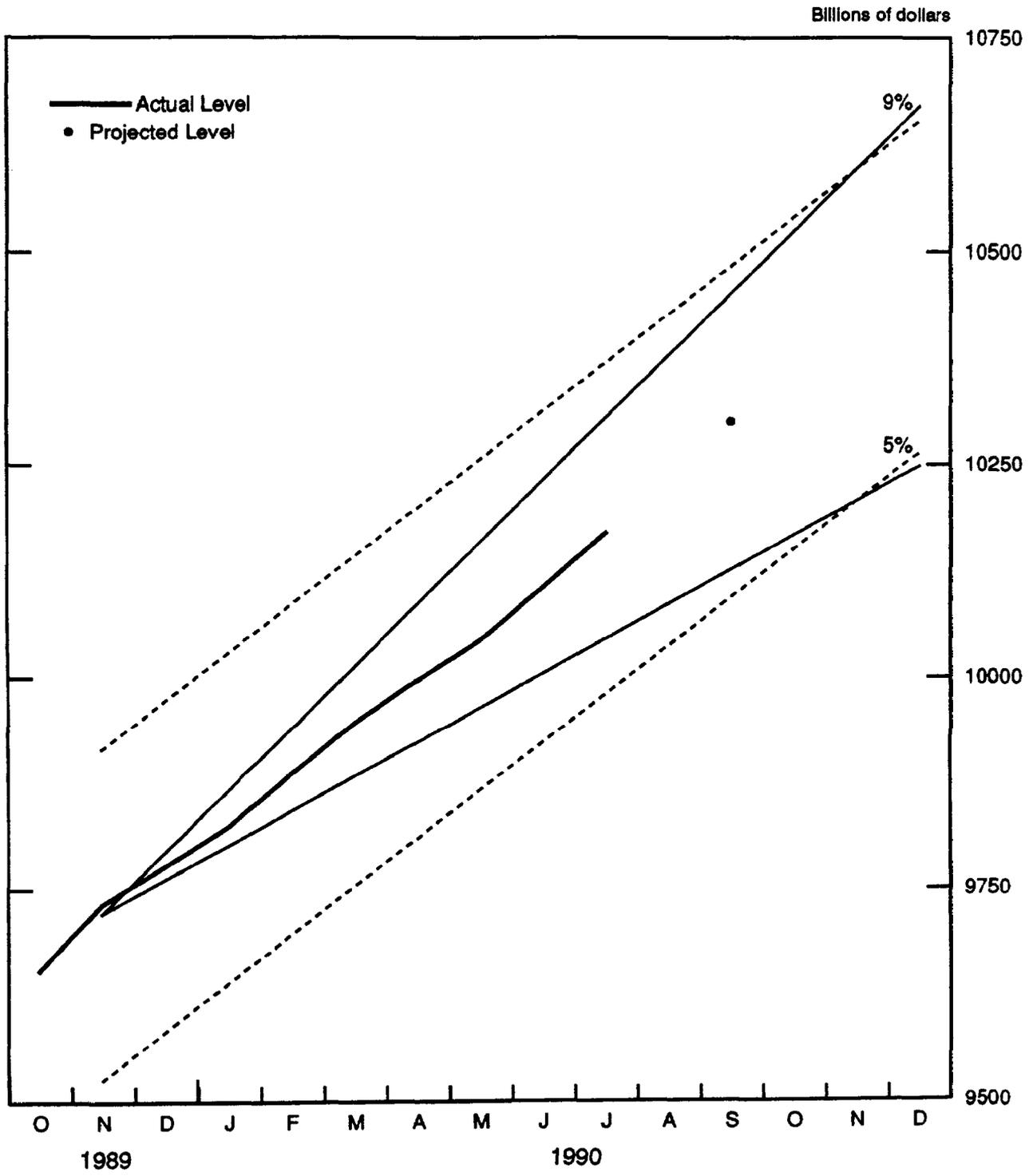


Chart 4
DEBT



over recent months. Even so, weak credit growth at depository institutions is likely to continue to foster lower offering rates on small time deposits and restrain growth of core deposits. Later in the quarter, the RTC is expected to undertake a spate of resolutions, and the renewal of transfers of deposits to banks should result in additional abrogations of brokered deposit contracts and more downward pressure on offering rates. Quarterly average growth of M2 would be held to only 2-1/2 percent, and M2 velocity this quarter would increase at a 3 percent rate, the same as in the second quarter; the increases in velocity in both quarters are about 2-1/2 percentage points larger than projected by M2 demand models.⁴

(13) Under alternative B, M3 over August and September is projected to expand at a 3-1/2 percent average rate, implying growth of 2-1/2 percent from June to September. The pickup in M3 does not reflect a projected acceleration in credit at depository institutions. Rather, it reflects some strength in elements of this aggregate that are not direct funding sources to such institutions--money market mutual funds and term-Eurodollar deposits.⁵ Bank lending is projected to stay subdued as banks continue to exercise extra caution in extending credit, while thrift balance sheets will shrink further, especially as RTC activities pick up over the balance of the quarter. Even so, the debt of nonfederal sectors

4. The somewhat stronger incoming data for M2, including revisions to past months, have led the staff to revise its projection for M2 growth consistent with the greenbook forecast to 4 percent for 1990, from 3-1/2 percent in the last bluebook. Nominal GNP growth for 1990 is now expected to be lower than in the previous greenbook, but its effects on M2 demand are about offset by the slight reduction in short-term nominal interest rates and opportunity costs.

5. Data revisions, along with faster money fund inflows, have led to an upward revision to projected M3 growth for 1990--from 1-1/2 to 2 percent.

is projected to continue to grow at a 6 percent rate over the third quarter, about in line with nominal income. Federal debt growth, on the other hand, is expected to balloon to a 14 percent annual rate over the three months, as RTC working capital needs boost federal marketable borrowing to a record \$68 billion level (n.s.a.). Total domestic non-financial debt growth as a consequence is projected at 7-3/4 percent over the three months, keeping this aggregate around the midpoint of its annual range.

(14) The easing of reserve market conditions under alternative A would engender a like-sized decline in short-term interest rates. The response of long-term interest rates to an easing is unclear. If incoming information suggests sluggish economic growth or tighter credit conditions, inflation concerns may not be heightened further by the policy easing, and bond yields would fall. However, especially in the context of the oil price shock, if the easing were interpreted as signalling greater concern by the FOMC with maintaining output growth than with containing inflation, the decline in the dollar could be particularly sharp, and bond yields could rise. M2, and to a lesser extent M3, would be a bit stronger under alternative A than with an unchanged funds rate; the staff projects growth rates from June to September of 4-1/2 percent for M2 and 2-3/4 percent for M3.

(15) Under alternative C, a considerable backup in short-term rates would appear likely, as a monetary policy tightening would fly in the face of market expectations. Long-term rates might rise only a little, as the increase in real interest rates would be at least partly

offset by a lessening in inflation expectations. The moderation in inflation expectations would accompany a further downward adjustment of market participants' outlook for real economic activity--as the effects of higher real rates were reinforced by an even more cautious attitude of lenders--and evidence that the Federal Reserve was leaning against the price effects of the oil shock. The dollar could find renewed strength on foreign exchange markets as interest differentials moved in favor of dollar investments. M2 and M3 growth over the third quarter would be restrained to 3-1/2 and 2-1/4 percent, respectively.

Directive Language

(16) Draft language for the operational paragraph, including the usual options, is shown below.

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. Taking account of progress toward price stability, the strength of the business expansion, the behavior of the monetary aggregates, and developments in foreign exchange and domestic financial markets, (SOMEWHAT) slightly greater reserve restraint (WOULD) might or somewhat (SLIGHTLY) lesser reserve restraint would (MIGHT) be acceptable in the inter-meeting period. The contemplated reserve conditions are expected to be consistent with growth of M2 and M3 over the period from June through September at annual rates of about ___ AND ___ 3 and 4 percent respectively. The Chairman may call for Committee consultation if it appears to the Manager for Domestic Operations that reserve conditions during the period before the next meeting are likely to be associated with a federal funds rate persistently outside a range of ___ TO ___ 6-to-10 percent.

SELECTED INTEREST RATES
(percent)

	Short-Term								Long-Term							
	federal funds	Treasury bills secondary market			CDs secondary market 3-month	comm paper 1-month	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-year	10-year	30-year			secondary market fixed rate	primary market fixed rate	ARM
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
89 -- High	9.95	9.04	9.07	8.96	10.23	9.98	9.19	11.50	9.77	9.46	9.26	10.47	7.95	11.73	11.22	9.41
Low	8.38	7.54	7.35	7.15	8.24	8.35	7.87	10.50	7.60	7.78	7.85	9.26	7.19	9.92	9.68	8.34
90 -- High	8.33	7.96	8.00	7.97	8.58	8.48	8.06	10.50	9.09	9.07	9.03	10.34	7.79	10.99	10.67	8.63
Low	8.03	7.35	7.27	7.16	7.86	7.90	7.49	10.00	7.90	7.94	8.00	9.55	7.33	10.07	9.80	8.31
Monthly																
Aug 89	8.99	7.90	7.74	7.61	8.64	8.79	8.67	10.50	8.13	8.11	8.12	9.55	7.36	10.38	9.99	8.65
Sep 89	9.02	7.75	7.74	7.65	8.78	8.87	8.60	10.50	8.25	8.19	8.15	9.55	7.52	10.44	10.13	8.71
Oct 89	8.84	7.64	7.62	7.45	8.60	8.66	8.56	10.50	8.02	8.01	8.00	9.39	7.48	10.19	9.95	8.62
Nov 89	8.55	7.69	7.49	7.25	8.39	8.47	8.33	10.50	7.80	7.87	7.90	9.28	7.39	10.06	9.77	8.51
Dec 89	8.45	7.63	7.42	7.21	8.32	8.61	8.22	10.50	7.77	7.84	7.90	9.36	7.31	10.06	9.74	8.39
Jan 90	8.23	7.64	7.55	7.38	8.16	8.20	8.05	10.11	8.13	8.21	8.26	9.63	7.43	10.30	9.90	8.39
Feb 90	8.24	7.74	7.70	7.55	8.22	8.22	7.94	10.00	8.39	8.47	8.50	9.84	7.52	10.49	10.20	8.46
Mar 90	8.28	7.90	7.85	7.76	8.35	8.32	7.95	10.00	8.63	8.59	8.56	9.92	7.53	10.61	10.27	8.53
Apr 90	8.26	7.77	7.84	7.80	8.42	8.32	7.99	10.00	8.78	8.79	8.76	10.09	7.62	10.75	10.37	8.55
May 90	8.18	7.74	7.76	7.73	8.35	8.24	7.98	10.00	8.69	8.76	8.73	10.04	7.59	10.68	10.48	8.59
Jun 90	8.29	7.73	7.63	7.53	8.23	8.21	7.96	10.00	8.40	8.48	8.46	9.85	7.47	10.37	10.16	8.50
Jul 90	8.15	7.62	7.52	7.40	8.10	8.09	7.64	10.00	8.26	8.47	8.50	9.96	7.40	10.26	10.04	8.43
Weekly																
May 2 90	8.12	7.84	8.00	7.97	8.58	8.37	7.66	10.00	9.09	9.07	9.03	10.16	7.79	10.80	10.67	8.62
May 9 90	8.20	7.80	7.84	7.84	8.45	8.30	7.66	10.00	8.83	8.89	8.88	10.02	7.66	10.63	10.54	8.63
May 16 90	8.16	7.66	7.67	7.66	8.29	8.22	7.70	10.00	8.60	8.68	8.66	10.02	7.51	10.68	10.37	8.56
May 23 90	8.22	7.71	7.72	7.67	8.30	8.20	7.70	10.00	8.62	8.69	8.65	9.98	7.49	10.60	10.33	8.53
May 30 90	8.19	7.74	7.72	7.64	8.27	8.18	7.68	10.00	8.56	8.65	8.63	9.87	7.50	10.36	10.29	8.55
Jun 6 90	8.26	7.71	7.63	7.54	8.22	8.16	7.66	10.00	8.41	8.48	8.47	9.78	7.49	10.34	10.10	8.50
Jun 13 90	8.30	7.71	7.62	7.51	8.23	8.19	7.65	10.00	8.38	8.46	8.43	9.83	7.46	10.37	10.12	8.50
Jun 20 90	8.28	7.70	7.63	7.53	8.22	8.21	7.66	10.00	8.40	8.48	8.45	9.89	7.43	10.43	10.16	8.50
Jun 27 90	8.28	7.78	7.67	7.59	8.26	8.24	7.66	10.00	8.45	8.54	8.51	9.92	7.48	10.33	10.15	8.45
Jul 4 90	8.33	7.73	7.61	7.49	8.25	8.25	7.67	10.00	8.32	8.43	8.42	10.00	7.43	10.36	10.06	8.46
Jul 11 90	8.28	7.76	7.68	7.58	8.25	8.24	7.65	10.00	8.42	8.53	8.52	9.94	7.40	10.28	10.11	8.45
Jul 18 90	8.14	7.61	7.52	7.37	8.12	8.10	7.65	10.00	8.26	8.47	8.49	9.99	7.40	10.23	9.99	8.39
Jul 25 90	8.05	7.53	7.43	7.33	8.00	7.99	7.59	10.00	8.21	8.50	8.56	9.94	7.38	10.18	9.98	8.41
Aug 1 90	8.03	7.50	7.36	7.24	7.93	7.91	7.55	10.00	8.09	8.38	8.44	10.07	7.33	10.07	9.84	8.38
Aug 8 90	8.07	7.35	7.27	7.16	7.86	7.90	7.49	10.00	8.10	8.62	8.71	10.22	7.51	10.37	10.08	8.39
Aug 15 90	8.13	7.42	7.32	7.17	7.89	7.97	7.49	10.00	8.10	8.67	8.78	10.34	7.53	10.46	10.05	8.31
Daily																
Aug 10 90	8.05	7.40	7.30	7.16	7.89	7.97	..	10.00	8.12	8.68	8.79	..	..	..	..	..
Aug 16 90	8.44	7.48	7.43	7.29	7.98	8.03	..	10.00	8.23	8.76	8.91	..	..	..	..	..
Aug 17 90	8.10 _p	7.47	7.43	7.29	8.06	8.10	..	10.00	8.27 _p	8.80 _p	8.95 _p	..	..	..	..	..

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.

p -- preliminary data

Money and Credit Aggregate Measures

Seasonally adjusted

AUG. 20, 1990

Period	Money stock measures and liquid assets					Bank credit	Domestic nonfinancial debt ¹			
	M1	M2	nontransactions components		M3	L	total loans and investments	U.S. government ¹	other ¹	total ¹
			in M2	in M3 only						
	1	2	3	4	5	6	7	8	9	10
ANN. GROWTH RATES (%) :										
ANNUALLY (Q4 TO Q4)										
1987	6.3	4.3	3.6	12.0	5.8	5.5	7.9	9.0	10.2	9.9
1988	4.3	5.2	5.5	10.6	6.3	7.1	7.7	8.0	9.4	9.1
1989	0.6	4.6	5.9	-1.2	3.3	4.7	7.2	7.4	8.3	8.1
QUARTERLY AVERAGE										
1989-3rd QTR.	1.8	6.9	8.7	-6.5	4.0	4.5	7.0	4.6	8.1	7.3
1989-4th QTR.	5.1	7.1	7.7	-16.5	2.0	3.2	7.7	9.5	7.8	8.2
1990-1st QTR.	4.8	6.3	6.8	-10.6	2.9	3.1	5.0	8.1	6.4	6.8
1990-2nd QTR.	3.5	2.8	2.6	-7.6	0.7	1.6	6.2	10.2	5.5	6.6
MONTHLY										
1989-JULY	8.4	9.8	10.4	-3.7	6.8	6.5	7.9	-0.1	8.4	6.5
AUG.	2.0	7.6	9.5	-19.8	1.6	3.7	7.1	9.1	7.7	8.1
SEP.	3.8	6.4	7.1	-22.3	0.2	1.7	5.5	10.9	5.9	7.1
OCT.	8.0	6.9	6.7	-19.3	1.4	2.5	11.4	9.5	8.5	8.7
NOV.	2.0	7.3	9.0	-9.0	3.9	4.1	7.4	11.0	9.2	9.6
DEC.	8.2	7.6	7.5	-10.1	4.0	5.8	1.8	3.6	6.1	5.6
1990-JAN.	0.0	3.5	4.6	-8.0	1.2	0.7	2.7	5.4	5.9	5.8
FEB.	10.0	9.1	8.7	-13.1	4.6	2.6	8.4	11.3	6.4	7.5
MAR.	5.1	5.6	5.8	-16.2	1.3	4.8	9.2	14.9	5.1	7.4
APR.	3.7	2.3	1.8	-3.6	1.2	3.0	5.1	7.7	5.5	6.0
MAY	-2.8	-2.3	-2.1	-2.9	-2.4	-6.2	3.3	6.6	5.3	5.6
JUNE	6.0	2.6	1.5	-6.7	0.8	6.0	7.1	13.5	5.5	7.4
JULY p	-0.3	1.2	1.7	-2.1	0.5		5.9			
LEVELS (\$BILLIONS) :										
MONTHLY										
1990-MAR.	804.8	3270.6	2465.8	797.7	4068.3	4914.9	2623.8	2325.9	7621.2	9947.1
APR.	807.3	3277.0	2469.6	795.3	4072.3	4927.1	2635.0	2340.9	7656.2	9997.1
MAY	805.4	3270.6	2465.2	793.4	4064.0	4901.6	2642.2	2353.8	7690.0	10043.8
JUNE	809.4	3277.6	2468.2	789.0	4066.7	4926.1	2657.9	2380.2	7725.2	10105.4
JULY p	809.2	3280.8	2471.6	787.6	4068.5		2670.9			
WEEKLY										
1990-JULY 2	817.7	3285.4	2467.8	783.1	4068.5					
9	810.3	3283.0	2472.7	788.2	4071.2					
16	807.7	3282.8	2475.0	782.5	4065.3					
23	807.6	3278.0	2470.3	790.5	4068.5					
30 p	809.2	3278.1	2468.9	790.4	4068.6					
AUG. 6 p	813.0	3289.2	2476.2	789.2	4078.4					

1. 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 unless otherwise noted

AUG. 20, 1990

Period	Currency	Demand deposits	Other checkable deposits	Overnight RPs and Eurodollars NSA'	MMDAs	Savings deposits	Small denomination time deposits ¹	Money market mutual funds		Large denomination time deposits ⁴	Term RPs NSA'	Term Eurodollars NSA'	Savings bonds	Short-term Treasury securities	Commercial paper ¹	Bankers acceptances
								general purpose and broker/dealer ²	Institutions only							
								8	9							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
LEVELS (\$BILLIONS) :																
ANNUALLY (4TH QTR.)																
1987	195.0	291.5	260.5	87.6	529.3	416.2	903.6	220.5	87.2	482.3	107.4	92.4	99.8	261.9	258.4	44.5
1988	210.7	287.6	280.4	83.3	504.9	428.2	1021.6	237.5	86.7	538.0	123.2	102.7	108.8	267.0	326.2	40.7
1989	220.8	279.5	283.1	76.1	479.9	407.7	1138.9	308.0	101.5	560.7	105.1	80.4	116.8	322.3	349.7	40.6
MONTHLY																
1989-JULY	217.8	279.6	274.5	81.0	463.9	403.3	1122.4	277.7	99.0	574.7	124.1	91.8	114.3	297.2	349.5	41.9
AUG.	218.6	278.5	276.0	78.5	468.2	404.0	1130.0	287.8	101.4	570.5	117.6	89.8	115.0	300.3	354.3	42.6
SEP.	219.3	278.1	278.4	75.2	471.9	405.5	1132.6	295.9	101.6	565.6	113.9	85.6	115.7	311.5	350.3	41.0
OCT.	220.0	280.0	280.8	75.7	475.3	406.1	1135.9	302.7	101.1	562.7	109.6	80.2	116.2	317.6	350.0	40.0
NOV.	220.4	278.8	282.8	75.3	480.8	407.9	1138.5	309.0	101.1	561.0	108.9	79.5	116.8	318.8	351.3	40.5
DEC.	221.9	279.7	285.7	77.4	483.7	409.0	1142.3	312.4	102.3	558.3	96.9	81.4	117.5	330.6	347.9	41.2
1990-JAN.	224.6	277.3	285.4	81.9	485.0	410.2	1143.0	318.1	103.2	554.2	93.6	74.4	117.7	334.3	343.3	40.7
FEB.	226.6	280.2	287.0	82.8	489.4	413.6	1142.6	324.5	103.7	549.6	96.9	68.8	118.2	330.2	344.7	38.3
MAR.	228.4	279.3	289.5	82.4	494.9	414.6	1146.4	325.0	105.4	543.6	95.2	67.0	119.1	347.7	342.7	37.0
APR.	230.1	277.8	291.8	79.8	498.8	415.8	1147.7	324.8	106.8	537.7	94.8	65.9	119.9	341.7	357.5	35.7
MAY	231.6	274.5	291.5	83.7	500.0	415.0	1149.0	319.4	107.3	534.7	95.6	67.6	120.7	331.7	349.9	35.2
JUNE	233.4	274.5	293.8	82.0	501.2	415.8	1147.1	321.0	107.3	531.9	98.4	64.4	121.5	352.3	351.4	34.3
JULY p	235.4	274.8	291.2	82.0	502.4	416.2	1148.4	324.1	108.9	530.2	96.9	63.0				

1. Net of money market mutual fund holdings of these items.
 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 and thrift institutions.
- p-preliminary

NET CHANGES IN SYSTEM HOLDINGS OF SECURITIES¹
Millions of dollars, not seasonally adjusted

August 20, 1990

Period	Treasury bills			Treasury coupons						Federal agencies redemptions (-)	Net change outright holdings total ⁴	Net RPs ⁵
	Net purchases ²	Redemptions (-)	Net change	Net purchases ³				Redemptions (-)	Net change			
				within 1-year	1-5	5-10	over 10					
1984	11,479	7,700	3,779	826	1,938	236	441	--	3,440	256	6,964	1,450
1985	18,096	3,500	14,596	1,349	2,185	358	293	--	4,185	162	18,619	3,001
1986	20,099	1,000	19,099	190	893	236	158	--	1,476	398	20,178	10,033
1987	12,933	9,029	3,905	3,358	9,779	2,441	1,858	70	17,366	276	20,994	-11,033
1988	7,635	2,200	5,435	2,177	4,686	1,404	1,398	--	9,665	587	14,513	1,557
1989	1,466	12,730	-11,264	327	946	258	284	500	1,315	442	-10,391	-1,683
1989--Q1	-3,842	2,200	-6,042	--	-228	-20	--	--	-248	188	-6,477	-5,591
Q2	2,496	2,400	96	172	1,361	287	284	--	2,104	125	2,075	924
Q3	-6,450	3,200	-9,650	--	-163	-9	--	--	-172	99	-9,921	-893
Q4	9,263	4,930	4,333	155	-24	--	--	500	-369	30	3,934	3,877
1990--Q1	-3,799	1,400	-5,199	100	100	--	--	--	200	--	-4,999	-4,061
Q2	10,892	--	10,892	50	100	--	--	--	150	78	10,964	509
1989--October	-1,414	1,400	-2,814	--	-24	--	--	500	-524	30	-3,368	463
November	-8,794	3,530	5,264	155	--	--	--	--	155	--	5,419	-453
December	-1,883	--	1,883	--	--	--	--	--	--	--	-1,883	3,867
1990--January	-1,065	1,000	-2,065	--	--	--	--	--	--	--	-2,065	8,435
February	-3,277	400	-3,677	--	--	--	--	--	--	--	-3,677	4,417
March	543	0	543	100	100	--	--	--	200	--	742	-43
April	5,796	0	5,796	--	100	--	--	--	100	78	5,818	-1,260
May	3,365	--	3,365	168	--	--	--	--	168	--	3,533	-378
June	1,732	--	1,732	50	--	--	--	--	50	--	1,782	2,146
July	287	--	287	--	--	--	--	--	--	33	254	2,863
June 6	3,593	--	3,593	50	--	--	--	--	50	--	278	2,234
13	11	--	11	--	--	--	--	--	--	715	11	-408
20	1,080	--	1,080	--	--	--	--	--	--	--	1,080	-1,921
27	413	--	413	--	--	--	--	--	--	32	413	1,464
July 4	--	--	--	--	--	--	--	--	--	--	--	321
11	--	--	--	--	--	--	--	--	--	715	-715	4,727
18	68	--	68	--	--	--	--	--	--	--	68	-4,620
25	65	--	65	--	--	--	--	--	--	32	33	2,483
August 1	201	--	201	--	--	--	--	--	--	--	201	203
8	624	--	624	--	--	--	--	--	--	--	624	3,997
15	486	--	486	--	--	--	--	--	--	--	486	-2,210
Memo: LEVEL (bil.\$) ⁶ August 15	--	--	113.8	25.4	59.5	13.2	24.5	--	122.5	--	24.3	-1.2

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 coupon issues.

4. Reflects net change and 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
2.4	2.8	1.1	0.2	6.4

Aug. 15