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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

#### MONETARY POLICY ALTERNATIVES

# Recent developments

- (1) Growth in the broader monetary aggregates slowed in August. However, with expansion at annual rates of around 10-3/4 percent for M2 and 8-1/2 percent for M3 last month, both aggregates grew more rapidly over July and August than their 7 to 9 percent paths for the June-to-September period. In August M2 and M3 were close to the upper limits of their respective longer-run ranges. Data for early September suggest a further slowing of M2, while M3 seems to be expanding at around its August pace. In contrast to the broader aggregates, M1 accelerated in August, to a 20-3/4 percent annual rate, and growth over July and August was at about the advanced pace recorded over the second quarter. M1 growth appears to have slackened considerably in the early weeks of September.
- flows into money market funds and less rapid issuance of overnight RPs by commercial banks—the latter associated with reduced purchases of government securities. Growth of deposits in M2 remained near the robust pace that has prevailed throughout the summer, as reductions in average deposit offering rates have continued to lag declines in market yields, especially for the most liquid components of M2. Although more institutions have reduced offering rates on NOW and savings deposits below their former regulatory ceilings, most still appear to be reluctant to do so. The overall flow into OCDs, savings deposits, and MMDAs strengthened in August, while runoffs from small time deposits accelerated. Expansion in other checkable deposits, at nearly a 40 percent annual rate, was especially

KEY MONETARY AGGREGATES (Seasonally adjusted annual rates of growth)

	June	July	August	June to August	QIV'85 to August
Money and credit aggregates				<u> </u>	
M1	14.8	16.7	20.8	18.9	14.5
M2	9.4	12.9	10.8	11.9	8.9
м3	8.6	13.0	8.6	10.8	9.1
Domestic nonfinancial debt	10.6	11.0	13.7	12.4	13.0
Bank credit	3.8	13.0	13.5	13.4	9.2
Reserve measures					
Nonborrowed reserves <sup>1</sup>	22.0	23.3	18.7	21.2	20.8
Total reserves	21.4	25.3	19.6	22.7	19.0
Monetary base	9.2	8.8	12.0	10.5	9.5
Memo: (Millions of dollars)					
Adjustment and seasonal borrowing	273	363	407		
Excess reserves	931	910	736		

<sup>1.</sup> Includes "other extended credit" from the Federal Reserve.

NOTE: Monthly reserve measures, including excess reserves and borrowing, are calculated by prorating averages for 2-week reserve maintenance periods that overlap months. Data incorporate adjustments for discontinuities associated with implementation of the Monetary Control Act and other regulatory changes to reserve requirements.

robust, as their opportunity costs reached unprecedented lows. Expansion in demand deposits also remained brisk in August, and currency growth strengthened. Commercial banks supplemented strong inflows to core deposits with increased issuance of managed liabilities. Bank CDs expanded for the first time in six months, helping to fund sizable acquisitions of tax-exempt securities and a pickup in loan growth.

- nearly a 14 percent annual rate in August, bringing growth since the fourth quarter of 1985 to 13 percent, well above the 8 to 11 percent range for 1986. Issuance of tax-exempt debt was especially heavy as state and local units rushed to market in advance of restrictions included in proposed tax-reform legislation, which would take effect September 1; subsequently, tax-exempt borrowing has dropped off sharply. Business borrowing in shorter-term markets picked up appreciably in August, while corporate bond issuance remained fairly strong; borrowing in long-term markets has decreased markedly in September, however, following a back up in bond yields. A robust pace of equity retirements has continued to boost overall business borrowing. And household debt appears to be expanding at a strong clip, with net mortgage formation proceeding rapidly and consumer credit receiving a boost from the latest round of low-rate automobile finance programs.
- (4) Growth of nonborrowed and total reserves in August continued at annual rates approaching 20 percent, reflecting the strength in transactions deposits. Reserve paths were constructed throughout the intermeeting period assuming \$300 million of adjustment plus seasonal borrowing. Borrowing (after allowance for special situation credit) was close to this level in the maintenance period ending in the week following the last Committee meeting. However, such borrowing averaged \$519 million in the

subsequent maintenance period. There was a substantial upward revision in estimates of required reserves on the final day of that period, but with the money market suggesting ample reserve availability, the Desk met only a portion of the projected need; the reserve shortfall did not show through until late in the day. In the first eight days of the current period, borrowing has dropped back to around \$380 million.

- (5) Federal funds generally have traded around or a little below 5-7/8 percent since the one-half percentage point reduction in the discount rate that took effect shortly after the August 19 FOMC meeting. Shorter-term interest rates declined 30 basis points or so following the discount rate cut, and the prime rate was reduced one-half percentage point. In bond markets, rates were little changed immediately after the discount rate action, but subsequently have backed up by as much as 65 basis points. Concerns about inflation apparently began to emerge among market participants, associated in part with signs that OPEC was succeeding in restraining output. At the same time, evidence of greater economic strength and rapid money growth both domestically and abroad, along with various statements by foreign authorities, seemed to make near-term monetary easing in the United States and other major industrial countries unlikely. In recent days, further increases in bond yields have accompanied an appreciable decline in the foreign exchange value of the dollar, which raised market concerns about demands for dollar assets. Spurred in part by the rise in bond yields, major stock price indexes fell 4 to 8 percent over the intermeeting period.
- (6) The dollar fell 1-3/4 percent on balance against major foreign currencies since the last Committee meeting. The dollar remained steady after the August discount rate cut and even firmed in early September.

The significant decline in the past week followed strong statements by German and Japanese officials ruling out further monetary easing in their countries as well as statements here and abroad recognizing the potential for a weaker dollar under these circumstances.

. Precious metals prices continued to rise over the intermeeting period, bringing their total increases since late July to 15 to 30 percent. Political developments relating to South Africa and threatening supply disruptions apparently accounted for a significant portion of these price rises, but the decline in the dollar and emerging inflation concerns in the U.S. seem to have contributed as well.

# Policy alternatives

(7) The table below presents three alternative specifications for growth of the monetary aggregates from August to December together with associated federal funds rate ranges. (More detailed data, including implied growth for each alternative from last year's fourth-quarter base of the annual ranges to the fourth quarter of this year, and from September to December, are shown on the table and charts on the following pages.)

	Alt. A	Alt. B	Alt. C
Growth from			
August to December			
M2	9-1/2	8-1/2	7-1/2
M3	8-1/2	8	7-1/2
M1	14	12	10
Associated federal funds			
rate range	3 to 7	4 to 8	5 to 9

(8) Under Alternative B, which assumes continuation of the current degree of pressure on reserve positions, growth in M2 and M3 expected over the next four months would leave these aggregates at the 9 percent upper ends of their annual ranges. With the moderate easing or tightening of reserve pressures assumed for alternatives A and C, respectively, the broader aggregates would be expected to move above or below the upper bounds of their annual ranges, with the gap widening as the year comes to a close. However, even under these alternatives, given the lateness in the year, annual growth of the broad aggregates on a fourth-quarter average basis

<sup>1.</sup> August rather than September is used as the base month for the money growth specifications because at this point the levels of the monetary aggregates in September shown in the detailed table are largely projected.

		<b>M</b> 2			м3			M1		
	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	Alt. A	Alt. B	Alt. C	
Levels in billions										
1986-July	2699.1	2699.1	2699.1	3375.4	3375.4	3375.4	676.1	676.1	676.1	
August	2723.4	2723.4	2723.4	3399.5	3399.5	3399.5	687.8	687.8	687.8	
September	2740.6	2740.4	2740.2	3424.0	3423.7	3423.4	694.1	694.0	693.9	
October	2763.2	2761.0	2758.7	3449.4	3447.7	3445.9	702.9	701.7	700.5	
November	2786.5	2781.2	2775 <b>.9</b>	3474.0	3470.4	3466.9	711.4	708.9	706.4	
December	2809.7	2800.7	2791.6	3497.5	3491.8	3486.0	720.0	715.5	710.9	
Monthly Growth Rate	es									
1986-July	12.9	12.9	12.9	13.0	13.0	13.0	16.7	16.7	16.7	
August	10.8	10.8	10.8	8.6	8.6	8.6	20.8	20.8	20.8	
September	7.6	7.5	7.4	8.6	8.5	8.4	11.0	10.8	10.6	ı
October	9.9	9.0	8.1	8.9	8.4	7.9	15.2	13.3	11.4	-/-
November	10.1	8.8	7.5	8.6	7.9	7.3	14.5	12.3	10.1	
December	10.0	8.4	6.8	8.1	7.4	6.6	14.5	11.2	7.6	
Quarterly Ave. Grow	th Rates									
~ 1985-Q4	6.1	6.1	6.1	6.6	6.6	6.6	10.7	10.7	10.7	
1986-Q1	4.3	4.3	4.3	7.6	7.6	7.6	7.7	7.7	7.7	
Q2	10.5	10.5	10.5	9.0	9.0	9.0	15.8	15.8	15.8	
Q3	11.1	11.1	11.1	10.1	10.0	10.0	17.5	17.5	17.5	
Q4	9.6	8.8	8.0	8.7	8.3	7.9	14.8	13.2	11.7	
June 86 to Sept.86	10.5	10.5	10.4	10.2	10.1	10.1	16.4	16.3	16.3	
Aug. 86 to Dec. 86	9.5	8.5	7.5	8.6	8.1	7.6	14.0	12.1	10.1	
Sept.86 to Dec. 86	10.1	8.8	7.5	8.6	8.0	7.3	14.9	12.4	9.8	
Q4 85 to Aug. 86	8.9	8.9	8.9	9.1	9.1	9.1	14.5	14.5	14.5	
Q4 85 to Sept.86	8.9	8.8	8.8	9.1	9.1	9.1	14.3	14.3	14.2	
Q4 85 to Dec. 86	9.3	9.0	8.7	9.1	9.0	8.8	14.8	14.2	13.5	
Q4 85 to Q4 86	9.2	9.0	8.7	9.1	9.0	8.9	14.7	14.3	13.8	
1986 Ranges:		6 to 9			6 to 9			3 to 8		

CHART 1
ACTUAL AND TARGETED M2

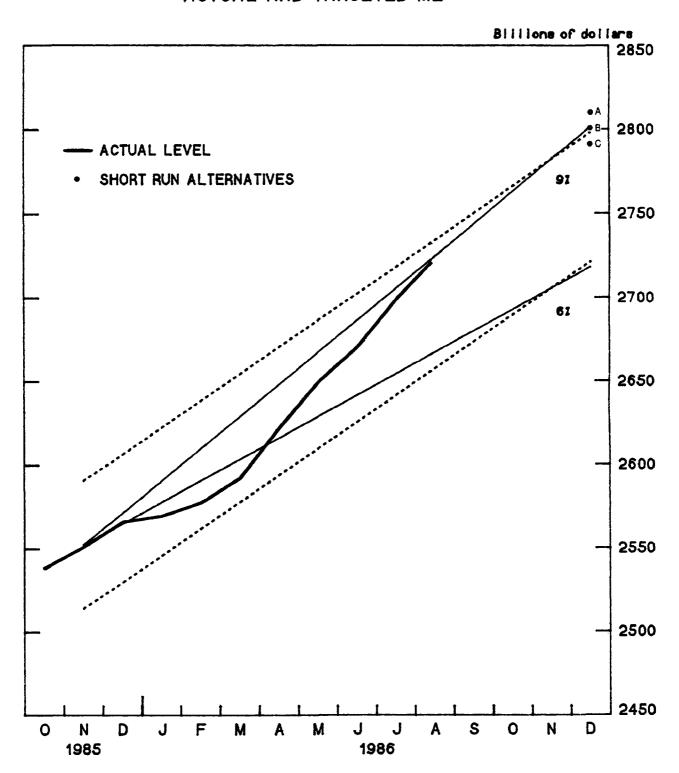


CHART 2
ACTUAL AND TARGETED M3

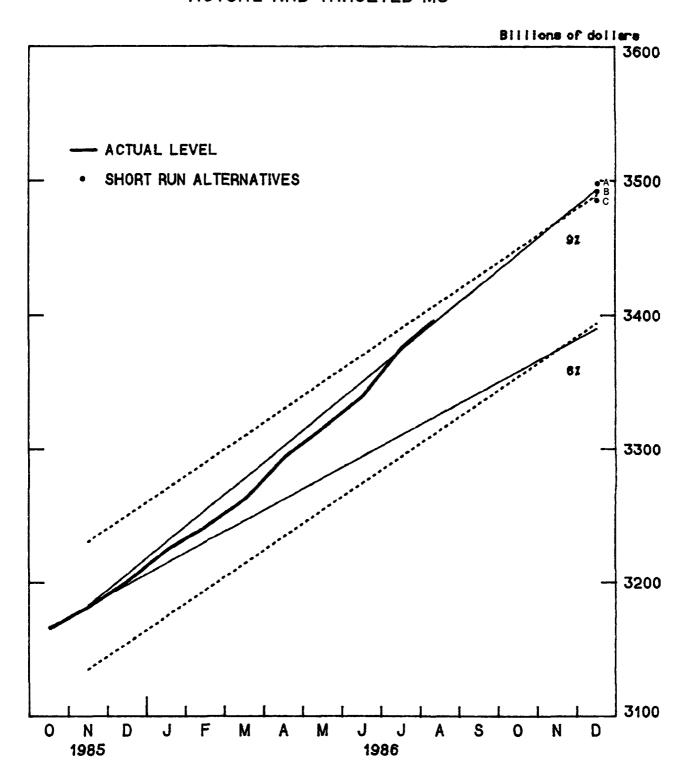


CHART 3
ACTUAL AND TARGETED M1

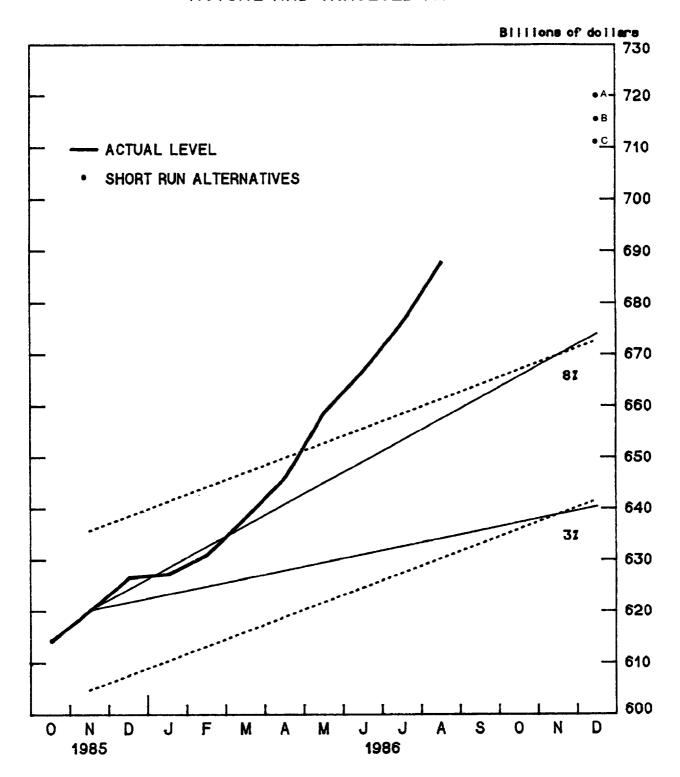
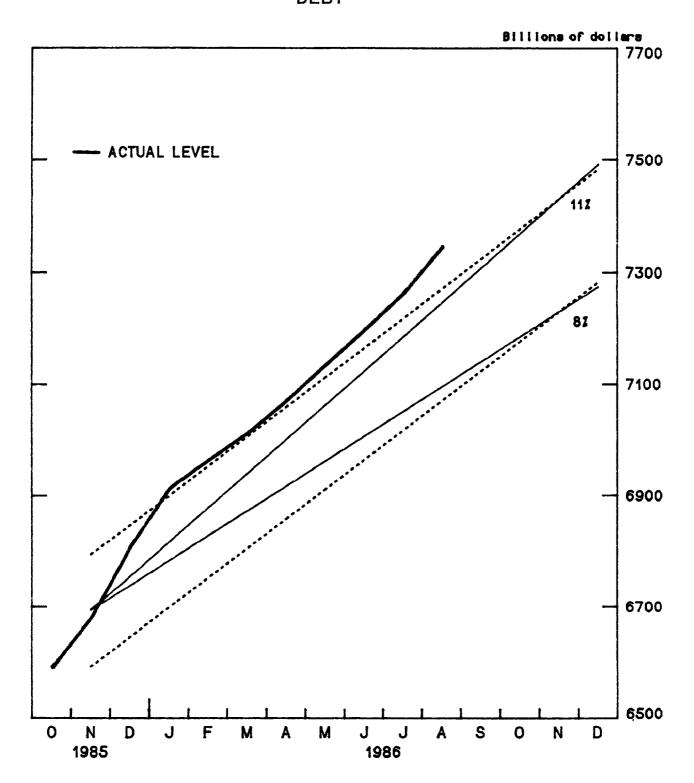


Chart 4 DEBT



would not be anticipated to diverge greatly from the upper limits of their long-run annual ranges. MI growth for the year under all the alternatives is projected to be not far from the 14-1/2 pace registered so far this year.

- (9) Under alternative B, reserve paths would continue to be constructed assuming \$300 million of adjustment plus seasonal borrowing at the discount window. Federal funds would be expected to continue to trade around 5-7/8 percent, confirming expectations of no near-term policy change, and the Treasury bill rate would remain near 5-1/4 percent. Bond yields should fluctuate around recent higher levels, with financial markets continuing to be unusually sensitive to developments affecting the economic and policy outlook. While forthcoming inflation indicators may suggest only a moderate uptick in price pressures, as in the staff forecast, strength in near-term data on economic activity, expansion of broad money measures along the upper bounds of their ranges, and the continued downtrend in the dollar in foreign exchange markets expected under this alternative would tend to limit the potential for retracing the recent climb in bond yields.
- 8-1/2 percent at an annual rate over the remainder of the year, appreciably below its average pace in July and August, but still well in excess of income growth. Based on the staff greenbook forecast, M2 velocity would decline further—at a 3 percent annual rate in the fourth quarter. With money market rates staying around current levels under alternative B, inflows from market instruments to liquid retail accounts should continue to be stimulated by their relatively attractive returns, though flows would tend to be somewhat smaller than in recent months, reflecting the diminishing impacts of earlier declines in market rates. In addition, opportunity costs may widen a bit as offering rates adjust down a little more. The expectation

of a moderate slowing of inflows to retail M2 accounts is based on an assessment that rates on savings and regular NOW accounts will continue to be reduced very sluggishly over the balance of the year, despite unusually low spreads to market rates; should depository institutions show more willingness to cut offering rates, M2 growth could slow somewhat more. Growth in M2 also may be restrained by further ebbing in the expansion in overnight RPs as net purchases of Treasury securities by banks continue to abate as interest rates stabilize.

- (11) M3 also is expected to decelerate from August to December in the specifications of alternative B—to an 8 percent annual rate. This slowing would be accounted for entirely by the reduced growth in M2; the non-M2 component of M3 is projected to continue expanding at the average pace of recent months. Bank credit growth should slow substantially over the balance of the year as loan demand remains moderate and acquisitions of tax—exempt as well as Treasury securities drop off. Thrifts' asset expansion, meanwhile, is expected to pick up only marginally in coming months.
- July-August pace, is still likely to be quite rapid over the rest of the year under alternative B. With offering rates on NOW accounts adjusting only slowly, inflows to other checkable deposits would continue to be boosted by funds shifting from small time deposits as well as from market instruments, though abating from their recent extraordinary pace. Growth in demand deposits should taper off, as holdings become more fully adjusted to the earlier declines in short-term market rates. Based on the staff's GNP projection, transactions needs are likely to increase in the fourth quarter at around the third-quarter pace. Reflecting the influence of the

previous narrowing in opportunity costs of Ml balances, Ml velocity is expected to contract at a 7 percent annual rate in the fourth quarter, after a 12 percent decline in the current quarter.

- (13) Debt growth also may moderate in coming months, though remaining much faster than GNP through the fourth quarter. A marked slowdown from the elevated August pace already is in process, concentrated in state and local government borrowing. In addition, once current rate concessions expire, the decline anticipated in car sales in the fourth quarter is likely to be associated with reduced consumer installment borrowing. Household mortgage borrowing should be well maintained over the rest of the year with continued strong single-family housing activity. Federal credit demands will remain heavy in coming months, especially in the coupon area, once the debt ceiling is raised. Nonfinancial business borrowing could pick up with some widening of the financing gap and possibly an increase in corporate financial restructuring activity in advance of tax reform. Overall, debt of domestic nonfinancial sectors is projected to expand at a 12 percent rate from August through year end, implying growth for the year on a fourthquarter average basis of 13 percent, compared with the 11 percent upper bound of the Committee's monitoring range.
- ings to a near-frictional level of \$150 million or a one-half percentage point cut in the discount rate with borrowings kept at \$300 million. In either case, the funds rate would gravitate into the 5-1/4 to 5-1/2 percent area. Short-term market rates would adjust downwards, with the 3-month bill rate likely moving below 5 percent. While bond yields might come down initially, they would probably remain above the low points reached in the spring; indeed, recent experience suggests some risk that long-term

yields could even back up in the face of a decline in short-term rates if
the easing in policy taken together with signs of strength in the economy
and prices exacerbated fears of inflation. Absent monetary easing abroad,
lower short-term rates would tend to lessen the attractiveness of dollar
assets, and any heightening of inflationary concerns in this environment
could place the foreign exchange value of the dollar under considerable downward pressure.

- and 8-1/2 percent, respectively, would be anticipated from August through December. Such growth would leave these aggregates a little above the upper band of their annual ranges. Offering rates on retail deposits and money market mutual funds would become even more favorable, at least for a while, fostering heavy inflows into these instruments. Absent a policy reversal in coming months, deposit flows are likely to remain strong into early 1987 supported in part by the emergence of somewhat more robust economic activity than in the staff projection. Ml growth from August to December would be expected to continue near its rapid pace for the year to date, bringing growth for the year to 14-3/4 percent.
- \$500 million. Federal funds might return to the 6-1/4 to 6-1/2 percent area. This tightening of reserve conditions would enhance the odds that M2 and M3 would come in within their ranges for this year. Growth in these aggregates would be expected to slow to a 7-1/2 percent rate over the rest of the year. M1 might decelerate significantly, as rates on small time deposits rose relative to those on NOW accounts. Even so, with the opportunity costs of holding NOW accounts remaining quite low, growth of M1 over the August-to-

December period might still average around 10 percent at an annual rate, resulting in growth for the year of nearly 14 percent.

(17) Since a near-term tightening action is not currently built into money market rates, 3-month bills could back up to around 5-3/4 percent. Private short-term rates could rise by more than Treasuries if concerns intensify about the prospects of certain borrowers and lending institutions. Bond rates also would tend to back up, though the reaction in long-term markets might tend to be muted to the extent that concerns about inflationary Orospects were eased. The dollar could tend to strengthen, at least for a time, on foreign exchange markets.

## Directive language

usual alternatives, is shown below. The draft follows the format used at the July and August meetings in specifying numerical growth rates for M2 and M3 but not for M1. As noted on page 6, August is suggested as the base for the money growth specifications. With regard to the issue of intermeeting adjustments in the degree of reserve pressure, the draft retains the symmetrical language of the last directive but could be adapted to an asymmetrical approach (with the appropriate use of "might" and "would") as in a number of earlier directives.

#### OPERATIONAL PARAGRAPH

In the implementation of policy for the immediate future, the Committee seeks to decrease slightly (SOMEWHAT) (Alt. A)/MAINTAIN (Alt. B)/INCREASE SOMEWHAT (Alt. C) the existing degree of pressure on reserve positions,-taking-account-of-the-possibility-of-a change-in-the-discount-rate. This action is expected to be consistent with growth in M2 and M3 over the period from June-to-September AUGUST TO DECEMBER at annual rates of about \_\_\_\_ AND \_\_\_ 7-to-9 percent, RESPECTIVELY. While growth in M1 is expected to moderate from the exceptionally large increase during the second quarter PAST SEVERAL MONTHS, that growth will continue to be judged in the light of the behavior of M2 and M3 and other factors. Somewhat greater or lesser reserve restraint might/(WCULD) be acceptable depending on the behavior of the aggregates, the strength of the business expansion, developments in foreign exchange markets, progress against inflation, and conditions in domestic and

international credit markets. 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 \_\_\_\_\_\_4-te-8 percent.

Percent

Period					Shor	t-term		<b>,</b>						Term			
85Righ   8-month   19-98   3-month   19-98   3-month   19-98   7   6   9   70   11   12   13   14   15   15   14   15   15   14   15   15	Period	1				,	paper		prime					Bond	secondary		
185		1	3-month	6-month	1-year	3-month	1-month	fund		3-year	10-year	30-year	offered	·	fixed-rate	fixed-rate	AF
100   100		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1
86—18th Post Post Post Post Post Post Post Post	ASHigh	8.98	8.65	9.03	9.21	9.13	8.83	8.31		11.19	11.95	11.89	13.23	10.31	13.57	13.29	11.
Correct   Corr				6.92	7.06	7.34	7.22	7.00	9.50			9.34	10.62	8.85	10.52	11.09	9.
Second   S	86	9.55	7.21	7.30	7.35	7.94	7.91	7.22	9.50	8.60	9.38	9.52	10 . 83	8.72	10.97	10.99	9.
Bov. Bov. Bov. Bov. Bov. Bov. Bov. Bov.				5.23	5.31	5.47	5.60	5.34	7.50					7.32	9.52	9.86	8.
Bov. Bov. Bov. Bov. Bov. Bov. Bov. Bov.	Ont .	7.99	7.16	7.13	7.45	7.88	7.81	7.15	9.50	9.25	10.24	10 - 50	11.82	9.54	11.97	12.14	9.
Dec.   8.28   7.10   7.14   7.16   7.80   7.87   7.23   9.50   8.40   9.26   9.54   10.93   8.96   10.83   11.26   86—Jan.   Peb.   7.86   7.06   7.11   7.17   7.21   7.82   7.78   7.15   9.50   8.41   9.19   9.40   10.74   8.50   10.79   10.88   86—Jan.   7.48   6.56   6.57   6.59   7.24   7.30   6.96   9.10   7.30   7.78   7.95   9.41   7.74   9.86   10.71   87.   Apr.   6.99   6.06   6.08   6.06   6.60   6.75   6.58   8.83   8.83   7.27   7.71   7.52   9.50   7.78   7.95   9.41   7.74   9.86   10.08   88.   Apr.   6.99   6.06   6.08   6.06   6.65   6.72   6.28   8.50   7.27   7.71   7.52   9.50   7.96   10.22   10.21   88.   Apr.   6.99   6.06   6.08   6.06   6.65   6.72   6.28   8.50   7.27   7.71   7.52   9.50   7.96   10.22   10.21   88.   Apr.   6.99   6.06   6.08   6.06   6.65   6.72   6.28   8.50   7.27   7.71   7.52   9.50   7.96   10.22   10.21   89.   Aug.   6.92   6.21   6.27   6.32   6.73   6.79   6.42   6.02   6.16   6.86   7.30   7.27   9.57   9.57   10.16   10.49   89.   Aug.   6.17   5.32   5.55   5.60   5.92   6.02   5.77p   7.90   7.90   8.19   7.73   9.73   7.95   10.16   10.49   89.   Aug.   6.86   6.16   6.43   6.49   6.84   6.84   6.17   8.50   7.65   8.09   7.76   9.66   8.51   10.32   10.76   89.   Aug.   6.87   6.15   6.24   6.26   6.72   6.80   6.17   8.50   7.65   8.09   7.76   9.66   8.51   10.32   10.76   89.   Aug.   6.87   6.13   6.24   6.26   6.72   6.80   6.17   8.50   7.23   7.71   7.50   9.70   8.27   10.47   10.61   89.   Aug.   6.87   6.13   6.24   6.26   6.72   6.80   6.15   6.15   8.50   7.23   7.71   7.50   9.70   8.27   10.47   10.61   89.   Aug.   6.87   6.13   6.24   6.26   6.72   6.80   6.17   6.17   8.50   7.23   7.71   7.50   9.70   8.27   10.47   10.61   89.   Aug.   6.87   6.13   6.24   6.26   6.72   6.80   6.17   6.17   6.90   7.27   7.11   7.50   9.70   8.27   10.47   10.61   89.   Aug.   6.87   6.13   6.24   6.26   6.72   6.80   6.17   6.17   6.90   7.30   7.30   7.71   7.50   9.70   8.27   10.47   10.61   89.   Aug.   6.87   6.80   6.80   6.80   6.80   6.80						7.81	7.84	7.21	9.50								9.
Peb. 7.86 7.06 7.11 7.11 7.59 7.70 7.11 9.50 8.10 8.70 8.93 10.21 7.99 10.45 10.71 Mar. 7.48 6.56 6.57 6.59 7.24 7.30 6.96 9.10 7.30 7.78 7.96 9.41 7.74 9.86 10.08 Apr. 6.99 6.06 6.08 6.06 6.65 6.72 6.22 8.50 7.27 7.71 7.52 9.50 7.96 10.22 10.21 June 6.92 6.21 6.27 6.32 6.73 6.79 6.18 8.50 7.27 7.71 7.52 9.50 7.96 10.22 10.21 June 6.56 5.83 5.86 5.80 6.77 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.99 10.16 10.49 Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.49 7.11 7.33 9.51 7.79 9.57 7.99 10.15 10.45 10.49 Aug. 6.17 6.36 6.36 6.36 6.43 6.49 6.84 6.17 6.30 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.23 7.75 7.45 9.55 8.09 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.75 8.80 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.23 7.75 7.45 9.55 8.09 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.23 7.75 7.45 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.23 7.75 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.13 8.50 7.23 7.75 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.17 8.50 7.23 7.75 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.13 8.50 7.23 7.75 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.13 8.50 6.99 7.76 9.69 9.79 7.99 10.07 10.61 9.60 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.75 7.19 7.24 7.16 9.51 7.91 10.07 10.43 2.36 6.22 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.75 7.19 7.24 7.16 9.51 7.91 10.07 10.43 2.30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.75 7.86 8.00 6.77 7.24 7.15 9.59 7.99 7.99 10.00 10.40							7.87	7.23	9.50								9.
Peb. 7.86 7.06 7.11 7.11 7.49 7.70 7.11 9.50 8.10 8.70 8.93 10.21 7.99 10.45 10.71 Mar. 7.48 6.56 6.57 6.59 7.24 7.30 6.96 9.10 7.30 7.78 7.96 9.41 7.74 9.86 10.08 Apr. 6.99 6.06 6.08 6.06 6.65 6.57 6.59 7.24 7.30 6.96 9.10 7.30 7.78 7.96 9.41 7.74 9.86 10.08 Apr. May 6.85 6.15 6.19 6.25 6.65 6.72 6.22 8.50 7.21 7.71 7.52 9.50 7.96 10.22 10.21 June 6.92 6.21 6.27 6.32 6.73 6.79 6.18 8.50 7.21 7.71 7.52 9.50 7.96 10.22 10.21 June 6.56 5.83 5.86 5.30 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.99 10.16 10.49 Aug. 6.17 5.52 5.55 5.00 5.92 6.02 5.77p 7.90 6.49 7.11 7.33 9.51 7.79 9.57 7.99 10.15 10.15 Jun. 4 6.95 6.38 6.46 6.52 6.78 6.70 6.15 8.50 7.00 7.00 7.00 7.00 8.19 7.81 9.70 8.36 10.06 10.74 11 6.89 6.36 6.43 6.49 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.53 7.71 7.50 7.33 7.71 7.50 9.75 8.00 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.23 7.75 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.10 8.50 7.22 7.55 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.10 8.50 7.22 7.55 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.15 8.50 7.22 7.55 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.13 8.50 6.90 7.22 7.55 7.43 9.55 8.09 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.13 8.50 6.99 7.24 7.16 9.51 7.91 10.07 10.43 2.36 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 2.30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.97 7.75 7.92 7.93 9.49 7.64 9.87 10.22 10.40 2.30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.97 7.24 7.15 9.59 7.99 7.95 10.00 10.40 2.70 10	06 1	0.14	7.07	7 17	7.21	7.82	7.78	7.15	9.50	. 41	0.10	9.40	10 74	# 50	10.79	10 88	9.
Mar. 7.88 6.56 6.57 6.59 7.24 7.30 6.96 9.10 7.30 7.78 7.96 9.41 7.74 9.86 10.08  Apr. 6.99 6.06 6.08 6.06 6.60 6.75 6.58 8.83 7.27 7.71 7.52 9.50 7.96 10.22 10.21  June 6.92 6.21 6.27 6.32 6.73 6.79 6.18 8.50 7.21 7.71 7.52 9.50 7.96 10.22 10.21  June July 6.56 5.83 5.86 5.90 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.95 10.16 10.49  Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.49 7.17 7.33 9.51 7.39 9.75 10.15  Jun. 4 6.99 6.36 6.48 6.46 6.52 6.78 6.70 6.15 8.50 11 6.86 7.30 7.27 9.57 7.95 10.16 10.49  Lil 6.89 6.36 6.43 6.44 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76  18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61  25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.15 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.15 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.15 8.50 7.22 7.34 7.11 7.50 9.70 8.27 10.47 10.61 6.25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.35 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.15 8.50 6.96 7.34 7.18 9.54 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.07 10.40							–										á
Apr. 6.99 6.06 6.08 6.06 6.60 6.75 6.58 8.83 6.86 7.30 7.39 9.26 7.64 9.71 9.93 May 6.85 6.15 6.19 6.25 6.65 6.72 6.22 8.50 7.27 7.71 7.52 9.50 7.96 10.22 10.21 10.19 1																	8
Hay 6.85 6.15 6.19 6.25 6.65 6.72 6.22 8.50 7.27 7.71 7.52 9.50 7.96 10.22 10.21  June 6.92 6.21 6.27 6.32 6.73 6.79 6.18 8.50 7.41 7.80 7.57 9.65 8.30 10.45 10.68  July 6.56 5.83 5.86 5.90 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.95 10.15  Jun. 4 6.95 6.38 6.46 6.52 6.78 6.70 6.15 8.50 7.70 8.19 7.81 9.70 8.36 10.67 10.74  11 6.89 6.36 6.43 6.49 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76  18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61  25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.03 7.38 7.26 9.49 7.90 10.27 10.61  16 6.51 5.78 5.83 5.84 6.36 6.31 6.30 5.99 8.00 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62  3uly 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.03 7.38 7.26 9.49 7.90 10.27 10.61  6.86 6.30 5.84 5.89 5.96 6.31 6.30 5.99 8.00 6.75 7.29 7.20 7.20 7.20 7.20 7.20 7.20 7.20 7.20	Mar.	/.46	0.50	0.57	0.,,	****				7.30	7.76	7.30	7.41	7.74	7.00	10.06	
June d. 6.92 6.21 6.27 6.32 6.73 6.79 6.18 8.50 7.61 7.80 7.57 9.65 8.30 10.45 10.68 July 6.56 5.83 5.86 5.90 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.95 10.16 10.49 Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.49 7.17 7.33 9.51 7.59 9.75 10.15 Jun. 4 6.95 6.38 6.46 6.52 6.78 6.70 6.15 8.50 7.60 8.90 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61 25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62 July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.03 7.38 7.26 9.49 7.90 10.27 10.61 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.54 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.07 10.43 23 6.42 5.74 5.81 5.84 6.31 6.27 5.89 8.00 6.72 7.89 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 13 6.31 5.65 5.66 5.56 5.66 5.73 6.12 5.89 8.00 6.72 7.41 7.48 9.69 7.66 10.07 10.40 13 6.31 5.65 5.66 5.56 5.61 5.94 6.12 5.78 5.89 8.00 6.72 7.28 7.39 9.49 7.44 9.87 8.08 10.22 10.40 13 6.31 5.65 5.66 5.56 5.61 5.94 6.12 5.76 8.00 6.92 7.41 7.48 9.69 7.04 9.87 10.00 10.40 13 6.31 5.65 5.66 5.56 5.56 5.57 5.89 8.00 6.72 7.02 7.31 7.52 9.59 7.43 9.67 8.08 10.22 10.40 13 6.31 5.65 5.66 5.56 5.56 5.54 5.59 6.12 5.78 5.89 8.00 6.79 7.24 7.16 9.51 7.43 9.69 7.06 10.07 10.40 13 6.31 5.65 5.66 5.56 5.56 5.59 6.12 5.77 5.80 8.00 6.79 7.37 7.50 9.58 7.97 10.00 10.40 13 6.31 5.65 5.66 5.56 5.56 5.56 5.59 6.12 5.77 5.80 8.00 6.92 7.41 7.48 9.69 7.05 10.00 10.40 13 6.31 5.65 5.66 5.56 5.56 5.56 5.57 5.60 5.50 5.50 5.50 5.50 5.50 5.50 5.50	Apr.	6.99	6.06	6.08						6.86	7.30	7.39	9.26	7.64	9.71	9.93	8
July 6.56 5.83 5.86 5.90 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.95 10.16 10.49 Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.86 7.10 7.33 9.51 7.59 9.75 10.15 10.49 Aug. 11 6.89 6.36 6.36 6.46 6.52 6.78 6.70 6.15 8.50 7.70 8.19 7.81 9.70 8.36 10.67 10.74 11 6.89 6.36 6.44 6.49 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.86 6.10 6.15 6.19 6.66 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61 25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62	Hay	6.85	6.15	6.19	6.25	6.65	6.72	6.22	8.50	7.27	7.71	7.52	9.50	7.96	10.22	10.21	8
July Aug. 6.56 5.83 5.86 5.90 6.37 6.42 6.02 8.16 6.86 7.30 7.27 9.57 7.95 10.16 10.49 Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.49 7.17 7.33 9.51 7.59 9.75 10.15 10.49 Aug. 11 6.89 6.36 6.36 6.46 6.49 6.78 6.70 6.15 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.51 7.59 9.70 8.21 10.47 10.61 25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62 3 10.	June	6.92	6.21	6.27	6.32	6.73	6.79	6.18	8.50	7.41	7.80	7.57	9.65	8.30	10.45	10.68	8
Aug. 6.17 5.52 5.55 5.60 5.92 6.02 5.77p 7.90 6.49 7.17 7.33 9.51 7.59 9.75 10.15  Jun. 4 6.95 6.38 6.46 6.52 6.78 6.70 6.15 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18.68 6.87 6.15 6.24 6.26 6.72 6.80 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 12.5 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.6			5.83	5.86	5.90	6.37	6.42	6.02	8.16					7.95	10.16	10.49	8
11 6.89 6.36 6.43 6.49 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 18 6.87 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61 25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62 34 10.	-		5.52	5.55	5.60	5.92	6.02	5.77p	7.90	6.49	7.17	7.33	9.51	7.59	9.75	10.15	8
11 6.89 6.36 6.43 6.49 6.84 6.84 6.84 6.17 8.50 7.65 8.09 7.76 9.66 8.51 10.32 10.76 25 6.86 6.15 6.24 6.26 6.72 6.80 6.19 8.50 7.33 7.71 7.50 9.70 8.27 10.47 10.61 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62 3.00 9.70 6.87 10.47 10.61 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62 3.00 9.70 9.70 9.70 9.70 10.27 10.61 9.70 9.70 9.70 9.70 9.70 10.27 10.61 9.70 9.70 9.70 9.70 9.70 10.27 10.61 9.70 9.70 9.70 9.70 9.70 10.27 10.61 9.70 9.70 9.70 9.70 9.70 10.27 10.61 9.70 9.70 9.70 9.70 9.70 9.70 9.70 9.70	Jun. 4	6.95	6.38	6.46	6.52	6.78	6.70	6.15		7.70	8.19	7.81	9.70	8.36	10.67	10.74	8
25 6.86 6.10 6.15 6.19 6.66 6.75 6.17 8.50 7.22 7.55 7.43 9.55 8.05 10.32 10.62  July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.03 7.38 7.26 9.49 7.90 10.27 10.61 9.51 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.07 10.43 23 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 20 6.38 5.56 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.86 6.27 7.02 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.86 6.27 7.02 7.24 9.45 7.43 9.62 10.04 10.23 10.23 10.62 9.96 17 5.88 5.16 5.36 5.46 5.73 5.47 5.60 5.53 7.50 6.24 7.09 7.24 9.45 7.43 9.62 10.04 10.23 10.24 10.05 1	11	6.89	6.36	6.43	6.49	6.84	6.84			7.65	8.09	7.76	9.66	8.51		10.76	8
July 2 7.02 6.01 5.99 6.05 6.55 6.72 6.19 8.50 7.03 7.38 7.26 9.49 7.90 10.27 10.61 9 6.87 5.90 5.89 5.94 6.45 6.67 6.15 8.50 6.96 7.34 7.18 9.54 7.91 10.17 10.59 16 6.51 5.78 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 7.16 9.51 7.91 10.07 10.40 23 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 6.92 7.41 7.48 9.69 7.96 10.07 10.40 40 40 40 40 40 40 40 40 40 40 40 40 4	18	6.87	6.15	6.24	6.26	6.72	6.80			7.33	7.71	7.50	9.70	8.27	10.47	10.61	8
9 6.87 5.90 5.89 5.94 6.45 6.67 6.15 8.50 6.96 7.34 7.18 9.54 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.07 10.43 23 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40  Aug. 6 6.36 5.74 5.78 5.81 6.23 6.27 5.86 8.00 6.79 7.37 7.50 9.58 7.97 10.00 10.40 20 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 20 6.38 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93  Sep. 3 5.83 5.22 5.23 5.31 5.41 5.63 5.66 5.38 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07  1y-Sep. 12 5.86 5.17 5.38 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74 18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74  18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74	25	6.86	6.10	6.15	6.19	6.66	6.75	6.17	8.50	7.22		7.43	9.55	8.05	10.32	10.62	8
9 6.87 5.90 5.89 5.94 6.45 6.67 6.15 8.50 6.96 7.34 7.18 9.54 7.91 10.17 10.59 16 6.51 5.78 5.83 5.84 6.36 6.41 6.09 8.07 6.79 7.24 7.16 9.51 7.91 10.07 10.43 23 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 8.02 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 8.08 10.22 10.40 8.09 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 8.08 10.22 10.40 8.09 5.96 6.31 6.27 5.80 8.00 6.79 7.37 7.50 9.58 7.97 10.00 10.40 8.09 13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 8.09 8.00 8.09 7.96 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.0	July 2	7.02	6.01	5.99	6.05	6.55	6.72	6.19	8.50	7.03	7.38	7.26	9.49	7.90	10.27	10.61	8
23 6.42 5.74 5.81 5.84 6.31 6.30 5.99 8.00 6.75 7.19 7.24 9.67 8.08 10.22 10.40 30 6.92 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 Aug. 6 6.36 5.74 5.78 5.81 6.23 6.27 5.86 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40 13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 20 6.38 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93 Sep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07		6.87	5.90	5.89	5.94	6.45	6.67	6.15	8.50					7.91	10.17	10.59	8
30 6.32 5.84 5.89 5.96 6.31 6.27 5.89 8.00 6.92 7.41 7.48 9.69 7.96 10.07 10.40  Aug. 6 6.36 5.74 5.78 5.81 6.23 6.27 5.86 8.00 6.79 7.37 7.50 9.58 7.97 10.00 10.40  13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23  20 6.38 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04  27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93  Sep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90  10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96  17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07  1ySep. 12 5.86 5.17 5.38 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74	16	6.51	5.78	5.83	5.84	6.36				6.79	7.24	7.16	9.51	7.91	10.07	10.43	8
Aug. 6 6.36 5.74 5.78 5.81 6.23 6.27 5.86 8.00 6.79 7.37 7.50 9.58 7.97 10.00 10.40 13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 20 6.38 5.56 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93 8ep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07 19—Sep. 12 5.86 5.17 5.38 5.42 5.53 5.74 5.77 — 7.50 6.74 7.63 7.74 — — — — — — — — — — — — — — — — — — —	23	6.42	5.74	5.81	5.84	6.31	6.30			6.75	7.19	7.24	9.67	8.08	10.22	10.40	8
13 6.31 5.65 5.68 5.73 6.12 6.21 5.82 8.00 6.64 7.28 7.39 9.49 7.64 9.87 10.23 20 6.38 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93 8ep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07 19—Sep. 12 5.86 5.17 5.38 5.48 5.72 5.76 5.77 — 7.50 6.75 7.62 7.74 — — — — — — — — — — — — — — — — — — —	30	6.32	5.84	5.89	5.96	6.31	6.27	5.89	8.00	6.92	7.41	7.48	9.69	7.96	10 .07	10.40	8
20 6.38 5.56 5.56 5.61 5.94 6.12 5.76 8.00 6.44 7.09 7.24 9.45 7.43 9.62 10.04 27 5.87 5.32 5.38 5.41 5.64 5.68 5.67 7.86 6.27 7.02 7.24 9.32 7.32 9.52 9.93    Sep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07 19.90 1	Aug. 6	6.36	5.74	5.78	5.81	6.23	6.27			6.79	7.37	7.50	9.58	7.97	10 .00	10.40	8
27	13	6.31	5.65	5.68	5.73					6.64	7.28	7.39	9.49	7.64	9.87	10.23	8
Sep. 3 5.83 5.22 5.23 5.31 5.47 5.60 5.53 7.50 6.24 7.06 7.28 9.43 7.37 9.77 9.90 10 5.82 5.20 5.31 5.41 5.63 5.66 5.38 7.50 6.51 7.31 7.52 9.59 7.63 10.02 9.96 17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07 19Sep. 12 5.86 5.17 5.38 5.48 5.72 5.76 7.50 6.74 7.63 7.74 18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74	20	6.38	5.56						-	6.44	7.09	7.24	9.45	7.43	9.62	10.04	8
10	27	5.87	5.32	5.38	5.41	5.64	5.68	5.67	7.86	6.27	7.02	7.24	9.32	7.32	9.52	9.93	8
17 5.88 5.16 5.36 5.46 5.73 5.77 5.34 7.50 6.69 7.54 7.69 9.72 7.57 10.07 10.07 19Sep. 12 5.86 5.17 5.38 5.48 5.72 5.76 7.50 6.74 7.63 7.74 18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74	Sep. 3	5.83								6.24	7.06	7.28	9.43		9.77		8
1ySep. 12 5.86 5.17 5.38 5.48 5.72 5.76 7.50 6.74 7.63 7.74 18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74					-					6.51	7.31	7.52	9.59	7.63	10.02	9.96	8
18 5.84 5.23 5.42 5.53 5.74 5.77 7.50 6.75 7.62 7.74	17	5.88	5.16	5.36	5.46	5.73	5.77	5.34	7.50	6.69	7.54	7.69	9.72	7.57	10.07	10.07	8
	lySep. 12	5.86	5.17							6.74	7.63	7.74					
19 5.83p 5.25 5.44 5.53 5.81 5.79 7.50 6.81p 7.67p 7.83p	18	5.84	5.23	5.42	5.53					6.75	7.62	7.74					
	19	5.83p	5.25	5.44	5.53	5.81	5.79		7.50	6.81p	7.67p	7.83p					

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 and 13 are 1-day quotes for Friday and Thursday, 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 on the Friday following the end of the statement week. Column 15 is the average contract rate on new commitments for fixed-rate mort-

gages (FRMs) with 80 percent toan-to-value ratios at a sample of savings and loans. Column 16 is the average initial contract rate on new commitments for one-year, adjustable-rate mortgages (ARMs) at S&Ls offering both FRMs and ARMs with the same number of discount points.

# **Money and Credit Aggregate Measures**

Seasonally adjusted

SEPT. 22, 1986

	L	MC	ney stock meast	a blupil bna sen	\$90T\$		Bank credit	Dome	estic nonfinan	cial debt <sup>2</sup>
			nontrar	sactions			total loans	U.S.		1
Period	M1	M2	comp	onents	M3	L	and	government 2	other 2	total
			in M2	In M3 only	1		Investments <sup>1</sup>			f
	11	2	3	4	5	6	7	8	9	10
PRORMY ASSUAL GROUTH:	J			[				_		ļ
1983	10.4	12.2	12.8	1.0	9.9	10.4	10.6	21.5	8.5	11.2
1984	5.4	8.0	8. 8	21.2	10.5	11.9	11.2	15.8	13.8	14.3
1985	11-9	8.7	7.7	3.8	7.7	8.5	9.9	15.2	13.6	14.0
UARTERLY AVERAGE	ļ	1	1		1					1
ED OTE. 1985	14.5	9.0	8.0	-0.2	7.6	7.8	9.6	14.6	12.4	12.9
#D QT#. 1765 TH QT#. 1985	10.7	6-1	4.7	8.5	6.6	9.5	9.4	15.2	14.4	14-6
	7.7	4.3	3.3	20.7	7.6	8.2	12-7	17.5	15-6	16.1
ST QTR. 1986 ND QTR. 1986	15.8	10.5	8.7	3.4	9.0	7.2	4-1	9.5	9.9	9-8
ONTHLI	ļ								l	1
985 AUG.	17-3	9.3	6.9	-2.3	7. 1	9.2	7.7	14.0	13.0	13.2
SEPT.	13.3	6-8	4.8	11.9	7.8	9.1	8.7	7.9	13.3	12.1
OCT.	5.3	4.3	3.9	11.2	5.7	7.0	5.4	9. 1	13.2	12.3
101-	11.5	5.9	4.2	5.7	5.9	12.0	13.3	24.5	13-6	16.1
DEC.	12.6	7.1	5.3	9. 1	7.5	12.3	15-6	28.9	21.6	23.3
986JAN,	1.1	1.6	1.7	37.8	8. 6	7.0	18.7	16.4	18.8	18.3
PBB.	7.3	3.6	2.5	17.2	6.4	5.8	3.4	9.8	8_4	8.7
nas,	14.1	6.8	4.5	11.4	7.8	4.2	5.4	5. 3	9_3	8.4
APR.	14.5	13.8	13.6	2, 5	11.5	7.3	2.0	7.8	10.7	10.0
MAY	23_4	12.6	9.0	~10.5	7.9	10.2	5-9	12.8	10-2	10.8
JUNZ	14.8	9.4	7.7	5.2	8_6	7-4	3.8	15.5	9-2	10.6
JULY	16.7	12.9	11.6	13.6	13.0	11-1	13.0	13.9	10_1	11.0
AUG. P	20.8	10.8	7.5	-0.4	8. 6	ļ	13.5	10.3	14.7	13.7
ONTHLY LEVELS (\$BILLIONS)						Í	1 1			1
986APE.	646.1	2622.2	1976.1	671.7	3293.9	3916.7	1947.9	1638.8	54 32 2	7071.0
MAT	658.7	2649.7	1991.0	665 <u>.</u> 8	3315.5	3950-0	1957-5	16563	5478.3	7134-7
JUME	666.8	2670.5	2003.7	668.7	3339.2	3974.4	1963.7	1677.7	5520.2	7197.9
JULI	676.1	2699.1	2023.0	676.3	3375.4	4011-0	1985-0	1697.1	5566.5	7263.7
AUG. P	687.8	2723.4	2035.7	676. 1	3399.5		2007-4	1711.7	5634.9	7346.5
BEKLY LRVELS (\$BILLIOUS)			]				]			
986-AUG. 4	679_8	1	j (				1 1			1
11	685.0	1	[	ĺ			1	ļ		1
18	687.9	1	1	,			]	ŀ		1
25	688.5			ļ			] [	ļ		
SEPT. 1P	693.0			j			] {			
8P	695.3	1	l l		i		l í	í		1

<sup>1/</sup> ANNUAL MATES FOR BANK CHEDIT ARE ADJUSTED FOR A TRANSFER OF LOAMS PHON CONTINENTAL ILLINOIS NATIONAL BANK TO THE FDIC

BEGINNING SEPTEMBER 26, 1984.

2/ DEBT DATA ARE ON A MONTHLY AVERAGE DASIS, DERIVED BY AVERAGING END-OF-HONTH LEVELS OF ADJACENT MONTHS, AND HAVE BEEN ADJUSTED TO REMOVE DISCONTINUITIES.
P-PRELIMINARY

#### Components of Money Stock and Related Measures

Billions of dollars, seasonally adjusted unless otherwise noted

SEPT. 22, 1986

						1	Small	Money		Large		T 1				
		Demand	Other	Overnight RPs and	MMDAs	Savings	denomi-		nds, NSA	denomi-	Term RPs	Term		Short-		
Period	Currency	deposits	checkable deposits	Eurodollars NSA		deposits	nation time deposits <sup>1</sup>	general purpose, and broker/ dealer <sup>2</sup>	Institu- tions only	nation time deposits <sup>3</sup>	NSA	Eurodoliars NSA	Savings bonds	term Treasury securities	Commer- cial paper	Bankers accep- tances
	1	2	3	4	5	6	7	8	9	10	11	12	13	14_	15	16
AMMUALLY (4TH QTR):																
1983 1984 1985	147.2 157.8 169.7	243.4 247.1 268.4	130.2 144.2 176.3	53.6 56.1 67.3	376.2 405.1 508.5	309.7 291.0 303.2	775.0 881.8 877.3	138.2 161.7 176.8	43.2 57.7 64.1	325.2 409.8 433.0	48.0 65.6 63.0	89.3 81.8 77.8	70.9 74.0 79.0	211.1 268.2 295.8	127.5 158.7 199.5	44.0 44.5 42.7
BORTELY		20064														
1985-AUG. SBPT.	166.9 167.7	263.1 266.4	169.0 171.5	63.8 64.5	495.2 499.8	299.7 300.3	880.9 878.3	176.8 176.7	63.6 62.3	421.0 425.6	57.3 58.6	78.8 78.9	77.2 78.0	277.3 280.6	182.9 187.2	43.6 43.2
OCT. NOY. DBC.	168.7 169.8 170.6	266.0 267.8 271.5	173.7 176.7 178.6	65. 2 66. 4 70. 3	504.1 509.5 512.0	302.3 303.7 303.6	875.7 876.0 880.3	177.0 176.8 176.5	63.3 64.5 64.6	429.7 432.9 436.5	59.8 63.3 66.0	78-2 78-4 76-7	78.5 79.0 79.5	280.9 299.5 307.1	192.5 196.4 209.5	43.9 43.1 41.1
1986-JAE. FBB. MAR.	171.9 172.9 173.9	268.9 269.2 273.2	180.5 183.1 185.2	68.9 68.5 67.6	515.7 516.3 520.5	304.0 304.9 306.9	885.9 891.0 894.7	177.7 181.0 186.2	67.3 67.7 70.2	447-9 451-2 450-5	68.8 70.6 71.6	76. 1 79. 4 82. 9	79.9 80.5 81.1	304. 1 305. 8 298. 0	210.6 209.2 209.5	41.5 42.1 41.6
APR. Mar Juhb	174.4 175.8 176.7	275.7 281.6 284.9	189.9 195.1 199.0	68.5 69.1 66.3	525-2 530-8 540-4	311.4 318.5 325.0	895.9 891.2 885.7	191.4 193.2 197.2	74-1 76-1 75-0	452.1 446.3 445.1	71.5 74.2 75.5	81.6 79.9 80.5	81.8 82.6 83.4	297. 1 305. 1 300. 9	203-0 206-7 210-7	41.0 40.1 40.3
JULY AUG. P	177.5 179.0	288.3 291.8	203-9 210-5	71.8 74.1	546.2 553.2	331.1 337.2	883.8 877.1	199.4 200.2	77.5 80.8	445.4 447.1	74.9 75.5	79.5 79.5	84.3	297.2	213.8	40.3
										:						
										,						

<sup>1/</sup> INCLUDES RETAIL REPURCHASE AGREEMENTS. ALL IRA AND KEOGH ACCOUNTS AT COMMERCIAL BANKS AND THRIPT INSTITUTIONS ARE SUBTRACTED FROM SMALL TIME DEPOSITS.

<sup>2/</sup> EXCLUDES IRA AND KEOGH ACCOUNTS.

<sup>3/</sup> NET OF LARGE DENOMINATION TIME DEPOSITS HELD BY MONEY MARKET MUTUAL FUNDS AND THRIFT INSTITUTIONS. P-PRELIMINARY

# Net Changes in System Holdings of Securities<sup>1</sup>

Millions of dollars, not seasonally adjusted

September 19, 1986

agencies net purchases <sup>4</sup> Net change outright holdings	agencies net p	Federal a			orcnases*	supons net p	Treasury co		Treasury bills	Outland
5-10 over 10 total total <sup>s</sup>	5~10	1-5	within 1-year	total	over 10	5-10	1-5	within 1-year	net change <sup>2</sup>	Period
29 24 668 2,035	79	398	217	4,564	811	703	2,138	912	-3,052	1980
494 8,491		360	133	2,768	379	393	1,702	294	5,337	1981
8,312				2,803	307	388	1,794	312	5,698	1982
				3,653	383	890	1,896	484	13,068	1983
16,342 6,964				3,440	441	236	1,938	826	3,779	1984
18,619				4,185	293	358	2,185	1,349	14,596	1985
						100			ĺ	1005 omp +
755				1,326		-100	465	961	-2,044	1985QTR. I
8,409				1,295	96	108	846	245	7,183	II
3,962				12		6	6		4,027	III
6,983				1,552	197	345	868	143	5,431	IV
2,861									-2,821	1986QTR. I
7,535									7,585	11
61 -									61	1986Jan.
3,318								1	-3,277	Feb.
396									396	Mar.
2,988									2,988	Apr.
3,146								[	3,196	May
1,402									1,402	June
867									867	July
2,850					~~				2,940	Aug.
380									380	July 2
										9
208								<b>!</b>	208	16
128									128	23
531									531	30
168									168	Aug. 6
36									126	13
349									349	20
67 1									67	27
2,287 -1		~~							2,287	Sept. 3
119 2									119	10
281 -2									281	17
1.2 .4 8.0 198.9	1.2	3.9	2.6	92.4	22.8	15.6	36.7	17.3	94.5	LEVELSept. 17 (\$ billions)

<sup>1.</sup> Change from end-of-period to end-of-period.

<sup>2.</sup> Outright transactions in market and with foreign accounts, and redemptions (-) in bill auctions.

Outright transactions in market and with foreign accounts, and short-term notes acquired in exchange for maturing bills. Excludes redemptions, maturity shifts, rollovers of maturing coupon issues, and direct Treasury borrowing from the System.

<sup>4.</sup> Outright transactions in market and with foreign accounts only. Excludes redemptions and maturity shifts.

In addition to the net purchase of securities, also reflects changes in System holdings of bankers' acceptances, direct Treasury borrowing from the System and redemptions (-) of agency and Treasury coupon issues.

<sup>6.</sup> Includes changes in RPs(+), matched sale-purchase transactions(-), and matched purchase sale transactions(+).