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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

CLASS I - FOMC

## MONETARY POLICY ALTERNATIVES

## Recent developments

(1) Following the November 3 FOMC meeting, reserve paths were constructed assuming $\$ 400$ million of adjustment plus seasonal borrowing. However, in light of the fragile market conditions and uncertainty about liquidity demands and discount borrowing behavior, the Desk treated the allowance for borrowing flexibly, gearing open market operations to a considerable extent on the level of the federal funds rate relative to a central tendency of 6-3/4 to 6-7/8 percent, as discussed by the Committee. In each of the two complete maintenance periods since the last meeting, the Desk made informal downward adjustments to the borrowing allowance in order to avoid a tightening of money markets and a surge of borrowing late in the period, and actual borrowing averaged about $\$ 225$ million over the two periods. On December 4, the borrowing allowance was reduced formally to $\$ 300$ million, as evidence of a reduced willingness to borrow accumulated. Actual borrowing has averaged $\$ 140$ million over the first eight days of the current maintenance period. After expanding at a double-digit pace in October, total and nonborrowed reserves contracted in November, owing to a drop in required reserves associated primarily with the reversal of the post-crash bulge in transactions accounts, and to a lower average level of excess reserve demands.
(2) Federal funds have averaged in the $6-3 / 4$ to $6-7 / 8$ percent range over the intermeeting period, close to the average in the days
leading up to the last FOMC meeting. Most other short-term rates have risen somewhat on balance, perhaps reflecting some ebbing both of preferences for liquidity as markets calmed somewhat and of hopes for further ease in monetary policy, as incoming data failed to suggest a nearterm weakening of the economy and the dollar fell. Rate increases were especially sharp on one-month private instruments, but these were attributable to efforts to lock in funding over the end of the year in anticipation that once again reserve market conditions would tighten substantially around that date. Yields on long-term Treasury securities have risen a little less than one-half a point since early November, with much of the increase occurring as the dollar declined sharply following release of unfavorable trade data for October. Corporate bond yields rose considerably less, however, and rates on municipal bonds have fallen over the intermeeting period, reflecting the restoration of calmer, more liquid conditions to most sectors of these markets. In general, markets are functioning more normally, with bid-ask spreads and dealer access to funding returning to levels prior to the stock market collapse; even so markets remain skittish, with occasional episodes of unusually wide price swings and of incipient flights to liquidity and quality echoing the experience after mid-October.
(3) The dollar has declined by about 5 percent on a weightedaverage basis since the last Committee meeting. Market disappointment over U.S. budget deficit reduction efforts contributed to the dollar's weakness in the early part of the intermeeting period, as did various statements by U.S. and German officials to the effect that they were not
willing to sacrifice other objectives to that of exchange rate stability. The early December round of concerted official interest rate reductions by Germany and several other European countries did lend some temporary support to the dollar. However, dollar declines resumed, and disappointing trade figures for October triggered a steep further drop in the exchange value of the dollar.

- The Desk purchased about $\$ 1.5$ billion against marks and yen, with the total divided evenly between System and Treasury accounts. Over the period, short-term interest rates declined by about $1 / 2$ percentage point, on average, in major foreign countries, while long-term rates declined slightly on balance. Stock prices fell by about 3 percent in Japan, while dropping a further 12 percent in Germany and rising slightly in the United Kingdom, compared with declines of around 6 percent in the United States.
(4) The monetary aggregates weakened substantially in November. While some of the weakening reflected a runoff of the bulge in demand deposits that followed the stock market plunge in October, demand deposits dropped below early October levels and OCDs decreased. M1 contracted at a 6-1/2 percent annual rate in November; growth for October and November combined was about 4-1/4 percent at an annual rate. With the nontransactions portion of M2 expanding only sluggishly, the level of M2

KEY MONETARY AGGREGATES
(Seasonally adjusted annual rates of growth)


Money and credit aggregates

| M1 | .3 | 15.0 | -6.6 | 4.2 | 5.8 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| M2 | 5.7 | 7.2 | -.1 | 3.5 | 4.1 |
| M3 | 5.7 | 8.0 | 4.7 | 6.4 | 5.6 |
| Domestic nonfinancial debt | 8.9 | 9.4 | $10.3^{p}$ | $9.9^{p}$ | $9.6^{\mathrm{p}}$ |
| Bank credit | 9.7 | 10.4 | -.8 | 4.7 | 7.5 |

Reserve measures
Nonborrowed reserves ${ }^{1}$
Total reserves
$-1.4$
$-1.1$
14.8
$-4.8$
5.0
6.5

Monetary base
5.0
13.9
$-10.1$
1.8
6.2
11.9
8.3
10.2
8.1

Memo: (Millions of dollars)
Adjustment plus seasonal
borrowing
531
Excess reserves
793
494
231
1128
937

1. Includes "other extended credit" from the Federal Reserve. p--Preliminary.
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 implementation of the Monetary Control Act and other regulatory changes to reserve requirements.
was about unchanged in November, following a $7-1 / 4$ percent rate of growth in October; growth of M2 at a $3-1 / 2$ percent rate over the two months fell short of the Committee's 6 to 7 percent range for the broad aggregates. Only small time deposits and money fund shares have shown any strength recently, as their yields have remained attractive relative to rates on market instruments and liquid deposits. The extent of the dropoff in M1 and M2 in November, as well as the relative movements of components within M2, suggest that there were no lasting unusual demands for liquid, insured deposits. 1 In addition, the runup in interest rates and opportunity costs through mid-October probably continued to restrain demands for these aggregates. To supplement weak core deposit growth, banks and thrift institutions issued managed liabilities at a robust pace in November, and flows into institution-only money funds moved up sharply, as returns on these funds lagged the downward movement of market rates in late October. As a consequence, M3 expanded at a 43/4 percent annual rate, bringing growth in this aggregate from September to $6-1 / 2$ percent. Based on the staff Greenbook GNP forecast, the velocities of M1 and M2 appear to be increasing slightly further in the fourth quarter, while the velocity of M3 probably is dropping a little.
(5) The staff estimates that growth for 1987 on a fourth-quarter to fourth-quarter basis will be 4-1/4 percent for M2 and 5-1/2 percent for M3, considerably below the pace of recent years, leaving these aggregates respectively well below and at the lower ends of their 5-1/2
2. The currency component of MI continued to increase unusually rapidiy through mid-November, but has leveled off in recent weeks.
to $8-1 / 2$ percent annual ranges. M1 growth, at 6 percent, also would represent a sharp deceleration from the experience of the previous two years. The slowing of these aggregates and turnaround of their velocities appear to be attributable primarily to the rebound in interest rates and opportunity costs in 1987 following steep declines in 1986. However, the extent of the moderation in money growth is somewhat more than can be accounted for using historical relationships among money, interest rates, and income. In part, the interest sensitivity of money demand may have increased in recent years, given the effects of deregulation and greater ease in effecting financial transfers; weakness in demand deposits in particular may be reflecting this tendency. In addition, special factors, including changes in consumer borrowing incentives under the new tax law, may have tended to restrain accumulation of liquid assets in M2.
(6) Borrowing by private nonfinancial sectors may have slowed somewhat in November. Partial data suggest that business borrowing weakened last month, with both bond issuance and short-term borrowing below the pace of previous months. In part, credit needs were depressed by a reduced level of merger and leveraged buyout activity. Borrowing by state and local governments remained near the subdued pace that has prevailed in recent months. For households, banking data together with the earlier expiration of most auto incentive programs suggest consumer credit growth was moderate. On the other hand, Treasury borrowing has increased to fund a larger fourth-quarter deficit. Overall, the debt of domestic nonfinancial sectors is estimated to have expanded in November
in line with its trend of just over 9 percent since the fourth-quarter 1986 base; it thus appears that the debt aggregate will end the year near the middle of its 8 to 11 percent range.

## Policy alternatives

(7) Three alternatives for monetary policy are presented below for Committee consideration. They are based on the options of maintaining current reserve and money market conditions, or seeking somewhat easier (alternative A) or somewhat tighter (alternative C) conditions. The latter two alternatives are assumed to involve changes of approximately $1 / 2$ point in the federal funds rate from current levels along with associated adjustments of reserve pressures. Investor caution about default risk and potential volatility may continue in financial markets over the near term. In such circumstances, the apparent added reluctance of banks to be seen tapping the discount window since the last FOMC meeting also could persist. Moreover, year-end pressures may affect bank reserve management and the movements of interest rates in coming weeks. As a consequence, the relationship between the amount of adjustment plus seasonal borrowing and the spread of the funds rate over the discount rate is likely to remain unusually uncertain for awhile. In constructing the alternatives, the staff has assumed that, if financial markets remain unusually sensitive and instability in the borrowing relationship persists, the borrowing objective will continue to be interpreted with some degree of flexibility in implementing open market operations. ${ }^{2}$

[^1](8) Anticipated growth of the monetary aggregates from November to March under each alternative is presented in the table below, along with the associated federal funds rate bands. The memo items in the table show the implied rates of growth through March from the estimated fourth-quarter base for the 1988 ranges, as well as the FOMC's tentative 1988 ranges themselves. (More detailed data are shown on the table and charts on the following pages.) Under all the alternatives, growth of the monetary aggregates in coming months is expected to rebound from the unusual weakness in November. However, based on the experience of recent weeks, the projected growth paths do not incorporate any allowance for heightened demands for money resulting from the stock market collapse and subsequent financial and economic uncertainty.
Alt. A Alt. B Alt. C

Growth from November to March

| M2 | 6 | 5 | 4 |
| :--- | :--- | :--- | :--- |
| M3 | $6-1 / 2$ | 6 | $5-1 / 2$ |
| M1 | 6 | 4 | 2 |

Associated federal funds rate range

4 to $8 \quad 4$ to $8 \quad 5$ to 9

Memo items:
Alt. A Alt. B Alt. C
Implied growth from
Q4'87 to March

M2
M3
M1

| 12 | $5-3 / 4$ | $4-3 / 4$ | $3-3 / 4$ | 5 to 8 |
| :--- | :--- | :--- | :--- | :--- |
| 13 | $6-1 / 2$ | 6 | $5-1 / 2$ | 5 to 8 |
| $5-1 / 2$ | $3-1 / 2$ | $1-1 / 2$ | -- |  |

Tentative 1988 range (Q4 to Q4)
(9) Alternative $B$ would involve federal funds trading continuing to center around 6-3/4 to 6-7/8 percent. Borrowing at the discount

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 |  |  |  |  |  |  |  |  |  |
| 1987 October | 2894.3 | 2894.3 | 2894.3 | 3645.6 | 3645.6 | 3645.6 | 760.7 | 760.7 | 760.7 |
| November | 2894.0 | 2894.0 | 2894.0 | 3660.0 | 3660.0 | 3660.0 | 756.5 | 756.5 | 756.5 |
| December | 2906.8 | 2906.1 | 2905.3 | 3675.3 | 3674.6 | 3673.9 | 757.1 | 756.9 | 756.7 |
| 1988 January | 2921.9 | 2918.7 | 2915.5 | 3696.4 | 3694.2 | 3692.0 | 761.4 | 760.1 | 758.8 |
| February | 2937.2 | 2931.1 | 2925.0 | 3717.9 | 3713.9 | 3709.9 | 766.1 | 763.3 | 760.5 |
| March | 2953.2 | 2943.6 | 2934.0 | 3739.8 | 3733.7 | 3727.6 | 771.6 | 766.6 | 761.6 |
| Monthly Growth Rates |  |  |  |  |  |  |  |  |  |
| 1987 October | 7.2 | 7.2 | 7.2 | 8.0 | 8.0 | 8.0 | 15.0 | 15.0 | 15.0 |
| November | -0.1 | -0.1 | -0.1 | 4.7 | 4.7 | 4.7 | -6.6 | -6.6 | -6.6 |
| December | 5.3 | 5.0 | 4.7 | 5.0 | 4.8 | 4.6 | 0.9 | 0.6 | 0.3 |
| 1988 January | 6.2 | 5.2 | 4.2 | 6.9 | 6.4 | 5.9 | 6.9 | 5.1 | 3.3 |
| February | 6.3 | 5.1 | 3.9 | 7.0 | 6.4 | 5.8 | 7.5 | 5.1 | 2.7 |
| March | 6.5 | 5.1 | 3.7 | 7.1 | 6.4 | 5.7 | 8.6 | 5.2 | 1.7 |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Q2 | 2.3 | 2.3 | 2.3 | 4.3 | 4.3 | 4.3 | 6.4 | 6.4 | 6.4 |
| Q3 | 3.1 | 3.1 | 3.1 | 4.9 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 |
| Q4 | 5.0 | 4.9 | 4.9 | 6.3 | 6.3 | 6.3 | 4.3 | 4.3 | 4.3 |
| 1988 Q1 | 5.4 | 4.6 | 3.7 | 6.3 | 5.9 | 5.5 | 4.4 | 2.8 | 1.2 |
| Sep. 87 to Dec. 87 | 4.1 | 4.0 | 3.9 | 5.9 | 5.9 | 5.8 | 3.1 | 3.0 | 2.9 |
| Nov. 87 to Mar. 88 | 6.1 | 5.1 | 4.1 | 6.5 | 6.0 | 5.5 | 6.0 | 4.0 | 2.0 |
| Dec. 87 to Mar. 88 | 6.4 | 5.2 | 4.0 | 7.0 | 6.4 | 5.8 | 7.7 | 5.1 | 2.6 |
| Q4 86 to Q4 87 | 4.3 | 4.3 | 4.3 | 5.6 | 5.6 | 5.6 | 6.1 | 6.1 | 6.0 |
| Q4 87 to Q1 88 | 5.4 | 4.6 | 3.7 | 6.3 | 5.9 | 5.5 | 4.4 | 2.8 | 1.2 |
| Q4 86 to Nov. 87 | 4.1 | 4.1 | 4.1 | 5.6 | 5.6 | 5.6 | 5.8 | 5.8 | 5.8 |
| Q4 86 to Dec. 87 | 4.2 | 4.2 | 4.2 | 5.6 | 5.6 | 5.5 | 5.5 | 5.4 | 5.4 |
| Q4 87 to Mar. 88 | 5.7 | 4.7 | 3.7 | 6.5 | 6.0 | 5.6 | 5.4 | 3.4 | 1.4 |
| 1987 Ranges: <br> 1988 Ranges (Tentative): |  | 5.5 to 8.5 |  | 5.5 to 8.5 |  |  |  |  |  |
|  |  | 5.0 to 8.0 |  | 5.0 to 8.0 |  |  |  |  |  |

Chart 1
ACTUAL AND TARGETED M2
Billions of dollare


Chart 2

## ACTUAL AND TARGETED M3

Billions of doliars



Chart 4
DEBT

window associated with this level of federal funds trading seems especially difficult to gauge for the coming two maintenance periods, which surround year-end, as depository institutions position themselves for anticipated year-end pressures. Given continuing uncertainties in financial markets and concerns about bank credit quality, some reluctance on the part of banks to be seen at the window is likely to persist after year-end. Borrowing of perhaps around $\$ 300$ million could be consistent with the assumed federal funds rate in the new year.
(10) With federal funds continuing to trade around recent levels, short-term rates might show mixed movements in coming weeks. Private short-term rates should decline once year-end pressures have passed, while Treasury bill yields could edge higher, with the 3-month bill rate rising to above 6 percent under alternative B. However, any narrowing of spreads could be limited, as economic uncertainties here and abroad, combined with the overhang of previous financial difficulties, sustain market concerns about the financial strength of debtors and the institutions that have extended them credit. The dollar would probably continue under general downward pressure, although a new G-7 accord could lend an element of stability for a time. Should dollar weakness abate, and economic indicators point to a softer economy along the lines of the staff forecast, bond yields could drop somewhat from the elevated levels of recent days.
(11) Under the unchanged reserve market conditions of alternative B, M2 growth from November to March likely would pick up from the 3-1/2 percent average pace of October and November, placing this aggregate
just below the 5 percent lower bound of the growth cone associated with its tentative 1988 range by March. The decline in market interest rates since mid-October has lowered opportunity costs on retail deposits to around their summer levels. As the effects of increases in opportunity costs earlier this year fade, deposit inflows should pick up. M2 is thus expected to grow nearly apace with GNP through the first quarter of next year, with its velocity essentially unchanged. This compares with an increase in $V 2$ that averaged 3 percent at an annual rate over the first three quarters of this year.
(12) M3 is expected to grow at a 6 percent annual rate from November to March under alternative $B$, about the same pace as in recent months; such growth would keep this aggregate through March well within its tentative range for 1988. Flows to institution-only money funds should weaken substantially as their returns move down into more normal alignment with market rates, However, bank credit expansion is likely to rebound in coming months from its November pause, and thrift asset growth should be well maintained, buoyed by continued large acquisitions of ARMs. Overall household mortgage and consumer credit expansion in the first quarter is expected to stay around the reduced fourth-quarter pace, as housing activity and consumer durables spending remain about flat. Business borrowing is expected to be sizable, as the financing gap remains appreciable, while share retirements fall back only modestly. State and local bond issuance should continue near its recent subdued pace, but a substantial volume of federal government borrowing is anticipated to finance the higher deficit. In all, the debt of
domestic nonfinancial sectors in March is expected to stand 9 percent at an annual rate above its fourth-quarter base--the midpoint of its 7-1/2 to $10-1 / 2$ percent tentative range for 1988.
(13) M1 growth is expected to average 4 percent over the next four months under alternative $B$. This represents a slight pickup from its average pace over October and November, abstracting from the effects of the bulge. Little expansion is expected on a month-average basis in December, given the pattern of growth in late November and early December. But with interest rates essentially flat, increases averaging 5 percent at an annual rate are projected over the first three months of next year. Even so, the monthly pattern of Ml growth is expected to produce an increase in velocity of 2 percent in the first quarter.
(14) The $1 / 2$ percentage point lowering of the federal funds rate under alternative A would bring it to the $6-1 / 4$ to $6-3 / 8$ percent area. This probably would be associated with minimal borrowing in the nearterm and perhaps in a range around $\$ 150$ million in the new year. Such an easing is not expected by financial market participants, at least in the absence of much hard evidence indicating that the stock market decline or other factors have begun to retard spending significantly. Choosing this alternative thus would depress short-term market rates below recent levels, with the 3 -month Treasury bill rate likely to fluctuate around 5-1/2 percent. Yields on private short-term instruments probably would decline by more, as the policy easing improved prospects for continued economic expansion and helped relieve worries about credit quality. Such an action would tend to restore
differentials between U.S. and European short-term interest rates to levels prevailing before recent cuts in official lending rates abroad, increasing downward pressure on the dollar. If inflationary concerns in financial markets are intensified, declines in bond yields may be limited.
(15) Lower short-term market rates relative to deposit offering rates under alternative $A$ would prompt more rapid inflows into M2-type accounts. M2 growth from November to March would be expected to pick up to 6 percent. Higher compensating balance requirements in response to reduced market rates would boost business demand deposits, while more savings-type balances would be diverted to NOW and other liquid accounts in response to reduced opportunity costs. M1 growth of 6 percent expected over November to March implies expansion at almost an 8 percent rate in the early months of 1988, given the slow growth now in train for December. The faster growth in core deposits likely would produce only a partial offset in reduced issuance of managed liabilities in M3, as greater loan demands would be placed on banks and thrifts in response to generally easier credit conditions. With this alternative, M3 might expand at around a 6-1/2 percent pace from November to March. By then, M2 would be within, and M3 around the midpoint of, the FOMC's tentative ranges for 1988.
(16) The firming of reserve market conditions embodied in alternative $C$ would also take market participants by surprise. Federal funds rates could rise back to the $7-1 / 4$ to $7-3 / 8$ percent area, with borrowing perhaps around the $\$ 500$ million range in early 1988 . Rates on private
instruments could rise appreciably, especially if a negative reaction in stock markets induced a renewed flight to safety and liquidity. Higher funding costs would cause banks to increase their prime rates by at least $1 / 2$ point, while rates on consumer installment and mortgage loans also would be raised. But higher interest rates would enhance the attractiveness of dollar assets to international investors, and a tendency for the exchange value of the dollar to appreciate in the nearterm could emerge.
(17) The higher interest rates of alternative $C$ can be expected to prevent M2 from accelerating much from its recent pace. M3 growth could slow somewhat, especially as money funds experienced outflows when market rates rose. In March, M2 would be well below, and M3 somewhat above, the lower bounds of their tentative 1988 ranges. Given its relatively greater interest sensitivity, M1 would probably grow at only a 2 percent rate through March, well below its average growth to date this year.

## Directive language

(18) Draft language for the operational paragraph is shown below. The second sentence from the November directive, which calls for special flexibility in the conduct of open market operations, might be retained. However, the remaining special language from that directive is proposed for deletion; much of it referenced unusual demands for liquidity. The sentence on possible intermeeting adjustments would add a reference to "conditions in financial markets" to the usual listing of factors to be considered in deciding on the desirability of such an adjustment.

## OPERATIONAL PARAGRAPH

In the implementation of policy for the immediate future, the committee seeks to DECREASE SOMEWHAT (Alt. A)/maintain (Alt. B)/INCREASE SOMENHAT (Alt. C) the degree of pressure on reserve positions sought in reeent days. The Committee recognizes that STILL SENSITIVE the votatize conditions in financial markets and uncertainties in the economic outlook may continue to call for a special degree of flexibility in open market operationsr-dependingr-in-partieutarr-on-demends-for-itquidity-growing-out-of-reeent-or-prospeetive-devełopments-in-finaneiaz-markets. TAKING ACCOUNT OF CONDITIONS IN EINANCIAL MARKETS, apart-from-sueh-eonsiderationst somewhat (SLIGHTLY) lesser reserve restraint would (MIGHT), or slightly (SOMEWHAT) greater reserve restraint might (WOULD), be acceptable depending on the strength of the business expansion, indications of inflationary pressures, developments in foreign exchange markets, as well as the behavior of the monetary aggregates. White-the outłook-for-menetary-growth-over-the-menths-ahead-is-subjeet-to-unusuał
uncertaintyt The contemplated reserve conditions are expected to be consistent with growth in M2 and M3 over the period from NOVEMBER THROUGH MARCH September-through-Beeember at annual rates of about 6-to-7
$\qquad$ percent AND $\qquad$ PERCENT, RESPECTIVELY but-more-rapid-growth-is-pos-sibłe-shoutd-preferenees-for-łiquidity-be-partieułarły-strong. Over the same period, growth in M1 is expected to REMAIN RELATIVELY LIMITED be weṫ-above-its-averege-pace-in-the-previous-severaz-menths. 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 4 -te- $\theta$ $\qquad$ TO $\qquad$ percent.

|  | (percent) |  |  |  |  |  |  |  | -U.S. Gov't. constant$\qquad$ |  |  | corp. A utility rac off | muni. <br> Bond <br> Buyer | comventional home mortgages |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\qquad$ Treasury bills$\qquad$ secondary market- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | federal funds | $\stackrel{3}{\text { month }}$ | $\stackrel{6}{\text { month }}$ | $\begin{aligned} & 12 \\ & \text { month } \end{aligned}$ | cds <br> sec mkt <br> 3-month | $\begin{aligned} & \text { comm. } \\ & \text { paper } \\ & \text { l-month } \end{aligned}$ | money market mutual fund | bank prime loan | 3-year | 10-year | 30-year |  |  | sec mikt <br> fixedrate | primery <br> fixedrate | ARM |
| 86--High | 9.55 | 7.21 | 7.30 | 7.35 | 7.94 | 7.91 | 7.21 | 9.50 | 8.60 | 9.38 | 9.52 | 10.83 | 8.72 | 10.97 | 10.99 | 9.09 |
| Low | 5.75 | 5.09 | 5.16 | 5.32 | 5.47 | 5.60 | 5.17 | 7.50 | 6.24 | 7.02 | 7.16 | 9.03 | 7.15 | 9.31 | 9.29 | 7.62 |
| 87--High | 7.62 | 6.84 | 7.36 | 7.64 | 8.49 | 7.69 | 6.70 | 9.25 | 9.29 | 9.96 | 9.97 | 11.50 | 9.59 | 11.98 | 11.58 | 8.45 |
| Low | 5.95 | 5.24 | 5.36 | 5.40 | 5.83 | 5.88 | 5.28 | 7.50 | 6.37 | 7.03 | 7.34 | 8.79 | 6.92 | 8.97 | 9.03 | 7.47 |
| Monthly |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DEC 86 | 6.91 | 5.53 | 5.55 | 5.55 | 6.04 | 6.63 | 5.45 | 7.50 | 6.43 | 7.11 | 7.37 | 9.08 | 7.23 | 9.34 | 9.31 | 7.68 |
| JAN 87 | 6.43 | 5.43 | 5.44 | 5.46 | 5.87 | 5.95 | 5.50 | 7.50 | 6.41 | 7.08 | 7.39 | 8.92 | 6.99 | 9.15 | 9.20 | 7.62 |
| FEB 87 | 6.10 | 5.59 | 5.59 | 5.63 | 6.10 | 6.12 | 5.32 | 7.59 | 6.56 | 7.25 | 7.54 | 8.82 | 7.03 | 9.04 | 9.08 | 7.56 |
| MAR 87 | 6.13 | 5.59 | 5.60 | 5.68 | 6.17 | 6.22 | 5.32 | 7.50 | 6.58 | 7.25 | 7.55 | 8.84 | 7.03 | 9.01 | 9.04 | 7.54 |
| APR 87 | 6.37 | 5.64 | 5.90 | 6.09 | 6.52 | 6.39 | 5.49 | 7.75 | 7.32 | 8.02 | 8.25 | 9.51 | 7.87 | 10.05 | 9.83 | 7.58 |
| May 67 | 6.85 | 5.66 | 6.05 | 6.52 | 6.99 | 6.83 | 5.79 | 8.14 | 8.02 | 8.61 | 8.78 | 10.05 | 8.35 | 10.58 | 10.60 | 7.88 |
| JN 87 | 6.73 | 5.67 | 5.99 | 6.35 | 6.94 | 6.86 | 6.01 | 8.25 | 7.82 | 8.40 | 8.57 | 10.05 | 8.13 | 10.38 | 10.54 | 7.93 |
| WL 87 | 6.58 | 5.69 | 5.76 | 6.24 | 6.70 | 6.57 | 6.02 | 8.25 | 7.74 | 8.45 | 8.64 | 10.17 | 8.09 | 10.20 | 10.28 | 7.81 |
| AUG 87 | 6.73 | 6.04 | 6.15 | 6.54 | 6.75 | 6.62 | 6.00 | 8.25 | 8.03 | B. 76 | 8.97 | 10.37 | 8. 11 | 10.39 | 10.33 | 7.76 |
| SEP 87 | 7.22 | 6.40 | 6.64 | 7.11 | 7.37 | 7.26 | 6.22 | 8.70 | 8.67 | 9.42 | 9.59 | 10.84 | 8.61 | 11.01 | 10.89 | 7.95 |
| OCT 87 | 7.29 | 6.13 | 6.69 | 7.05 | 8.02 | 7.38 | 6.57 | 9.07 | 8.75 | 9.52 | 9.61 | 11.07 | 9.06 | 11.42 | 11.26 | 8.25 |
| NDV 87 | 6.69 | 5.69 | 6.19 | 6.50 | 7.24 | 6.77 | . . | 8.78 | 7.99 | 8.86 | 8.95 | 10.39 | 8.39 | 10.73 | 10.65 | 8.00 |
| Hookly |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SEP 287 | 6.85 | 6.21 | 6.31 | 6.76 | 6.92 | 6.78 | 6.03 | 8.25 | 8.30 | 9.05 | 9.23 | 10.60 | 8.47 | 10.92 | 10.63 | 7.84 |
| SEP 987 | 6.95 | 6.36 | 6.52 | 7.12 | 7.20 | 7.09 | 6.04 | 8.68 | 8.63 | 9.39 | 9.56 | 10.86 | 8.67 | 10.96 | 10.91 | 7.96 |
| SEP 1687 | 7.21 | 6.34 | 6.55 | 7.11 | 7.39 | 7.35 | 6.21 | 8.75 | 8.64 | 9.41 | 9.59 | 10.93 | 8.65 | 11.03 | 10.99 | 7.99 |
| SEP 2387 | 7.26 | 6.45 | 6.72 | 7.10 | 7.43 | 7.33 | 6.25 | 8.75 | 8.66 | 9.42 | 9.58 | 11.00 | 8.65 | 11.13 | 11.02 | 7.99 |
| SEP 3087 | 7.56 | 6.55 | 6.87 | 7.23 | 7.59 | 7.41 | 6.34 | 8.75 | 8.84 | 9.57 | 9.72 | 11.08 | 8.88 | 11.43 | 11.18 | 8.08 |
| OCT 787 | 7.43 | 6.62 | 6.89 | 7.39 | 8.03 | 7.47 | 6.45 | 8.82 | 8.97 | 9.68 | 9.78 | 11.24 | 9.03 | 11.65 | 11.21 | 8.15 |
| OCT 1487 | 7.59 | 6.84 | 7.36 | 7.64 | 8.47 | 7.69 | 6.56 | 9.25 | 9.29 | 9.96 | 9.97 | 11.50 | 9.59 | 11.98 | 11.58 | 8.45 |
| OCT 2187 | 7.37 | 6.37 | 6.98 | 7.22 | 8.49 | 7.66 | 6.70 | 9.25 | 9.07 | 9.85 | 9.93 | 10.75 | 9.01 | 11.08 | 11.36 | 8.37 |
| OCT 2887 | 7.03 | 5.24 | 5.97 | 6.40 | 7.43 | 6.96 | 6.53 | 9.00 | 0.10 | 8. 94 | 9.08 | 10.60 | B. 78 | 10.98 | 10.97 | 8.20 |
| NOV 487 | 6.43 | 5.42 | 6.03 | 6.38 | 7.40 | 6.91 | 6.47 | 9.00 | 8.01 | 8.90 | 9.04 | 10.39 | 8.28 | 10.81 | 10.79 | 8.11 |
| NOV 1187 | 6.68 | 5.67 | 6.12 | 6.41 | 7.08 | 6.67 | 6.49 | 8.75 | 7.90 | 8. 76 | 8.85 | 10.38 | 8.41 | 10.73 | 10.66 | 7.98 |
| NOV 1887 | 6.77 | 5.85 | 6.32 | 6.57 | 7.17 | 6.78 | 6.68 | 8.75 | 7.99 | 8.83 | 8.92 | 10.31 | 8.44 | 10.62 | 10.60 | 7.97 |
| NOV 2587 | 6.78 | 5.73 | 6.18 | 6.51 | 7.19 | 6.75 | 6.43 | 8.75 | 7.98 | 8.86 | 8.95 | 10.40 | 8.43 | 10.74 | 10.55 | 7.94 |
| DEC 287 | 6.89 | 5.47 | 6.17 | 6.58 | 7.60 | 7.03 | 6.42 | 8.75 | 8.10 | 9.03 | 9.15 | 10.42 | 8.40 | 10.73 | 10.60 | 7.95 |
| DEC 987 | 6.84 | 5.66 | 6.31 | 6.64 | 7.64 | 7.62 | 6.47 | 8.75 | 8.09 | 9.02 | 9.18 | 10.70 | 8.57 | 10.98 | 10.66 | 7.91 |
| Daily |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DEC 487 | 6.82 | 5.43 | 6.15 | 6.53 | 7.54 | 7.52 | - | 8.75 | 8.00 | 8.94 | 9.12 | $\cdots$ | . | $\cdots$ | . | . |
| DEC 1087 | 6.83 | 5.92 | 6.47 | 6.81 | 7.77 | 7.83 | . | 8.75 | 8.29 | 9.23 | 9.40 | . | - | . | . | . |
| DEC 1187 | 6.84 p | 5.86 | 6.47 | 6.79 | 7.89 | 8.00 | . | 8.75 | 8.30p | $9.28 p$ | 9.45p | - | $\cdots$ | $\cdots$ | . |  |




 commitments for 1-year, adjustable-rate mortgages(ARMs) at SaLs offering both FRMs and ARMs with the same mumber of discount points.

| Period | Money and Credit Aggregate Measures |  |  |  |  |  | $\text { DEC. } 14.1987$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Seasonally adjusted |  |  |  |  |  |  |  |  |  |
|  | M1 | M2 | slock meas | and liquid | M3 | 1 | Bank credit total loans and investments' | Oomestic nonfinancial debl2 |  |  |
|  |  |  | nontra | ctions ents |  |  |  | us. government ${ }^{2}$ | other ${ }^{2}$ | total ${ }^{2}$ |
|  |  |  | in M2 | in m3 only |  |  |  |  |  |  |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| PERCBNT AHMOAL GROUTH: AMMUALLY (QIV TO gIV) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984 - | 5.4 | 7.9 | 8.6 | 23.2 | 10.7 | 12.2 | 11.2 | 15.9 | 13.4 | 13.9 |
| 1985 | 12.1 | 8.8 | 7.8 | 3.3 | 7.7 | 8.5 | 10.2 | 15.2 | 12.6 | 13.2 |
| 1986 | 15.3 | 9.0 | 6.9 | 8.7 | 8.9 | 8.1 | 9.7 | 14.7 | 12.7 | 13.2 |
|  |  |  |  |  |  |  |  |  |  |  |
| 4TS GTE. 1986 | 17.0 | 9.3 | 6.7 | 4.3 | 8. 3 | 8. 4 | 8. 4 | 11.8 | 12.8 | 12.5 |
| 1ST GTA. 1987 | 13.1 | 6.4 | 4.1 | 6.6 | 6.5 | 6.2 | 10.1 | 12.2 | 9.8 | 10.4 |
| 2 WD UTR. 1987 | 6.4 | 2.3 | 0.9 | 12.2 | 4.3 | 3.2 | 7.0 | 8.7 | 9.2 | 9.1 |
| 3RD GTR. 1987 | 0.0 | 3.1 | 4.3 | 11.8 | 4.9 | 4.4 | 5.7 | 5.9 | 9.0 | 8.2 |
|  |  |  |  |  |  |  |  |  |  |  |
| DEC | 30.5 | 10.8 | 4.0 | 8.6 | 10.3 | 9.5 | 15. 1 | 19.1 | 14.8 | 15.8 |
| 1987--JALL | 11.8 | 9.6 | 8.7 | 6.6 | 9.0 | 9.5 | 16.1 | 9.4 | 10.4 | 10.2 |
| YEL | -0. 5 | -0.2 | -0. 1 | 7. 1 | 1.2 | 2.2 | 0.8 | 9.4 | 3.9 | 5.2 |
| M18 | 3.4 | 1.5 | 0.9 | 2.1 | 1.6 | -3. 2 | 3.8 | 11.2 | 7.6 | 8.5 |
| $\triangle P B^{\text {a }}$ | 17.5 | 5.7 | 1.4 | 5.5 | 5.6 | 3. 3 | 11.9 | 7.6 | 10.7 | 9.9 |
| hat | 4.5 | 0.2 | -1.3 | 27.0 | 5.5 | 9.6 | 7.4 | 8. 2 | 10.7 | 10.1 |
| Juge | -10.4 | 0.5 | 4.4 | 26.5 | 5.8 | 4.8 | 3.9 | 7.4 | 10.0 | 9.4 |
| JULY | 1.6 | 2.7 | 3.1 | 0.7 | 2.3 | -1. 1 | 1.4 | 1.8 | 8.4 | 6.8 |
| AUG | 5.6 | 6.5 | 6. 9 | 9.3 | 7.1 | 8. 2 | 30.8 | 8.8 | 3.4 | 7.8 |
| SEPr. | 0.3 | 5.7 | 7.6 | 5.5 | 5.7 | 8.4 | 9.7 | 6.5 | 9.7 | 8.9 |
| OC. | 15.0 | 7.2 | 4.3 | 11.1 | 8.0 | 10.4 | 10.4 | 3.9 | 11.1 | 9.4 |
| 108. $P$ | -6.6 | -0. 1 | 2.3 | 23.3 | 4.7 |  | -0.8 | 12.1 | 9.6 | 10.3 |
| momitht Livels (SBILLIOBS) 1987--JULI | 747.6 | 2848.0 | 2100.4 | 735.4 | 3583.* | 4224.7 | 2169.5 | 1848.9 | 6097.7 | 7986.6 |
| 10G | 751.1 | 2863.4 | 2112.4 | 741.1 | 3604. 5 | 4253.7 | 2189.0 | 1902.8 | 6135.3 | 8030.2 |
| SEPE. | 751.3 | 2877.1 | 2125.8 | 744.5 | 3621.6 | 4283.4 | 2206. 7 | 1913.1 | 6184.9 | 8098.0 |
| OCT. | 760.7 | 2894. 3 | 2133.5 | 751.4 | 3645.6 | 4320.7 | 2225.8 | 1919.3 | 6242.1 | 8161.5 |
| Mov. $P$ | 756.5 | 2894.0 | 2137.5 | 766.0 | 3660.0 |  | 2224. 3 | 1939.6 | 6292.0 | 823 t. 7 |
| MEEALH LEVELS (\$BILLIOUS) 757. |  |  |  |  |  |  |  |  |  |  |
| 1987-OCT. 5 | 757.6 |  |  |  |  |  |  |  |  |  |
| - 22 | 754.0 |  |  |  |  |  |  |  |  |  |
| 19 | 759.5 |  |  |  |  |  |  |  |  |  |
| 26 | 768.4 |  |  |  |  |  |  |  |  |  |
| Mov. 2 | 762.7 |  |  |  |  |  |  |  |  |  |
| 9 | 759.2 |  |  |  |  |  |  |  |  |  |
| 16 | 756.2 |  |  |  |  |  |  |  |  |  |
| 23 P | 759.2 |  |  |  |  |  |  |  |  |  |
| 30 P | 750.9 |  |  |  |  |  |  |  |  |  |

 BEGI MAIVG SEPTEMBER 26.1984.
$2 /$ DEBT DATL ABE ON A MOMTHLY to gemove discompimoititis.
p-pHELIMIMARY
PE-PMCLIMINARY ESTIMATE

Components of Money Stock and Related Measures
Billions of dollars, seasonally adjusted unless otherwise noted

 EROA SHALL TIAE DEPOSITS.
2/ EXCLODES LRA AMD KROGH ACCOUMTS.

P-YKELIAIMARY

| Period | Treasury bills net change ${ }^{2}$ | Treasury coupons net purchases ${ }^{3}$ |  |  |  |  | Federal agencies net purchases |  |  |  |  | Net change outright holdings total ${ }^{\prime}$ | Net RPs ${ }^{\text {® }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | within 1 -year | 1-5 | 5-10 | over 10 | total | within <br> 1-year | 1-5 | 5-10 | over 10 | total |  |  |
| 1981 | 5,337 | 294 | 1,702 | 393 | 379 | 2,768 | 133 | 360 | -- | -- | 494 | 8,491 | 684 |
| 1982 | 5,698 | 312 | 1,794 | 388 | 307 | 2,803 | -- | -- | -- | -- | -- | 8,312 | 1,461 |
| 1983 | 13,068 | 484 | 1,896 | 890 | 383 | 3,653 | -- | -- | -- | -- | -- | 16,342 | -5,445 |
| 1984 | 3,779 | 826 | 1,938 | 236 | 441 | 3,440 | -- | -- | -- | -- | -- | 6,964 | 1,450 |
| 1985 | 14,596 | 1,349 | 2,185 | 358 | 293 | 4,185 | -- | -- | -- | -- | -- | 18,619 | 3,001 |
| 1986 | 19,099 | 190 | 893 | 236 | 158 | 1,476 | -- | -- | -- | -- | -- | 20,178 | 10,033 |
| 1986--01 | -2,821 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -2,861 | -3,580 |
| Q2 | 7,585 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7,535 | -356 |
| Q3 | 4,668 | -- | -- | -- | --7 | - | -- | -- | -- | -- | -- | 4,577 | 4,044 |
| 04 | 9,668 | 190 | 893 | 236 | 158 | 1,476 | -- | -- | -- | -- | -- | 10,927 | 9,925 |
| 1987--01 | -2,714 | --7 | -252 | - | -- | -252 | -- | -- | -- | -- | -- | -3,075 | -14,254 |
| Q2 | 5,823 | 1,767 | 5,036 | 1,226 | 920 | 8,948 | -- | -- | -- | -- | -- | 14,735 | 2,121 |
| 03 | -3,539 | 143 | 2,356 | 619 | 493 | 3,610 | -- | -- | -- | -- | -- | 12 | -1,433 |
| 1987--June | 553 | 535 | 1,394 | 312 | 251 | 2,491 | -- | -- | -- | -- | -- | 3,044 | 2,954 |
| July | -4,909 | -- | -200 | -- | -- | -200 | -- | -- | -- | -- | -- | -5,168 | 906 |
| Aug. | 499 | -- | 5 | -- | -- | 5 | -- | -- | -- | -- | -- | 504 | -2,365 |
| Sept. | 871 | 143 | 2,551 | 619 | 493 | 3,805 | -- | -- | -- | -- | -- | 4,676 | 26 |
| Oct. | 795 | 300 | -- | - | -- | 300 | -- | -- | -- | -- | -- | 1,039 | 7,493 |
| Nov. | 3,388 | 670 | 50 | -- | -- | 720 | -- | -- | -- | -- | -- | 4,038 | -3,331 |
| Sept. 2 | 804 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 804 | -4,478 |
| 9 | 2,994 | -- | - | -- | -- | --- | -- | -- | -- | -- | -- | 2,994 | 2,023 |
| 16 | 309 | 443 | 2,551 | 619 | 493 | 4,105 | -- | -- | -- | -- | -- | 4,414 | -854 |
| 23 | 245 | -- | -- | -- | -- | - | -- | -- | -- | -- | -- | 245 | 19,582 |
| 30 | -3,246 | -300 | -- | -- | -- | -300 | - | -- | -- | -- | -- | -3,546 | -19,561 |
| Oct. 7 | 26 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | -1,025 |
| 14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1,152 |
| 21 | -50 | 300 | -- | -- | -- | 300 | -- | -- | -- | -- | -- | 194 | 2,600 |
| 28 | 285 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 285 | 8,557 |
| Nov. 4 | 644 | 150 | -- | -- | -- | 150 | -- | -- | -- | -- | -- | 794 | -14,095 |
| 11 | 198 | 195 | -- | -- | -- | 195 | -- | -- | -- | -- | -- | 393 | 3,744 |
| 18 | 2,953 | 185 | -- | -- | -- | 185 | -- | -- | -- | -- | -- | 3,068 | -4,309 |
| 25 | 51 | 120 | -- | -- | -- | 120 | * | -- | -- | -- | -- | 171 | 1,982 |
| Dec. 2 | 127 | 20 | 50 | -- | -- | 70 | -- | -- | -- | -- | -- | 196 | 9,998 |
| 9 | 100 | 479 | 2,589 | 596 | 445 | 4,109 | -- | -- | -- | -- | -- | 4,210 | -10,780 |
| LEVEL -Dec. 9 | 107.9 | 23.3 | 47.2 | 25.3 | 25.4 | 111.2 | 2.4 | 3.5 | 1.4 | . 2 | 7.6 | 231.3 | -4.5 |

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.
borrowing from the System.
Qutright transactions in market and with foreign accounts only. Excludes redemptions and maturity shifts.
5. 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
6. Includes changes in RPs ( + ), matched sale-purchase Iransactions ( - ), and matched purchase sale transactions ( + )


[^0]:    ${ }^{1}$ In some cases, original copies needed to be photocopied before being scanned into electronic format. All scanned images were deskewed (to remove the effects of printer- and scanner-introduced tilting) and lightly cleaned (to remove dark spots caused by staple holes, hole punches, and other blemishes caused after initial printing).
    ${ }^{2}$ A two-step process was used. An advanced optimal character recognition computer program (OCR) first created electronic text from the document image. Where the OCR results were inconclusive, staff checked and corrected the text as necessary. Please note that the numbers and text in charts and tables were not reliably recognized by the OCR process and were not checked or corrected by staff.

[^1]:    2. The issue of the relative emphasis to give the federal funds rate and discount window borrowing as guides to day-to-day open market operations is discussed in the accompanying memorandum by Donald L. Kohn and Peter D. Sternlight, "Strategies for Open Market Operations," dated December 11, 1987.
