Monetary Policy and Open Market Operations in 1978

Monetary policy shifted increasingly toward restraint in 1978, as the economy moved ahead strongly and price inflation accelerated in the fourth year of the current expansion. The Federal Reserve continued to exert upward pressure on the interest rates at which reserves are supplied to the banking system, forcing the Federal funds rate up by about 3½ percentage points and raising the discount rate by the same amount. However, the expansion of M_1 exceeded desired growth rates until late in the year as economic activity and credit demands often outran expectations. Rising inflation and a continuing large international payments deficit on current account sparked repeated bursts of speculation against the dollar in the foreign exchange markets, and monetary policy increasingly took the implications of these developments for the domestic economy into account.

Monetary expansion, already rapid in 1977, continued high through most of 1978—with M_1 growth exceeding the Federal Open Market Committee's (FOMC) longer run range and M_2 and M_3 growth often well up in their ranges. (The table on page 57 shows the longer run ranges voted during the year.) M_1 rose at an 8.1 percent annual rate[1] over the first ten months and slowed thereafter, apparently reflecting a combination of factors including the introduction of new transactions options. Thus M_1 growth ran ahead of its 1977 pace for much of the year but turned out to be a bit slower—at 7.3 percent—for the year as a whole (Chart 1). Growth of M_2 and M_3 slowed considerably on average from the previous two years. Interest rate ceilings held down growth of the savings and time deposit components, though both aggregates were boosted after midyear by the introduction of money market certificates on which ceiling rates were related to weekly rates for new six-month Treasury bills. M_2 and M_3 grew 8.5 percent and 9.4 percent, respectively, over the four quarters of 1978, within the upper halves of the FOMC's longer run objectives. The broader measures that contain large negotiable certificates of deposit (CDs)—M_4 and M_5—experienced rapid growth, as an acceleration in CDs took up the slack from the slowing of the smaller savings and time deposits.

Bank loans expanded rapidly during the year, and bank credit rose by 11.3 percent from the fourth quarter of 1977 to the fourth quarter of 1978, the same as in the previous year. The strong growth of commercial and industrial loans, evident the year before at regional banks, spread to the money center banks during 1978, with demand concentrated at the large New York City banks late in the year. Commercial banks added a moderate volume of tax-exempt securities to their

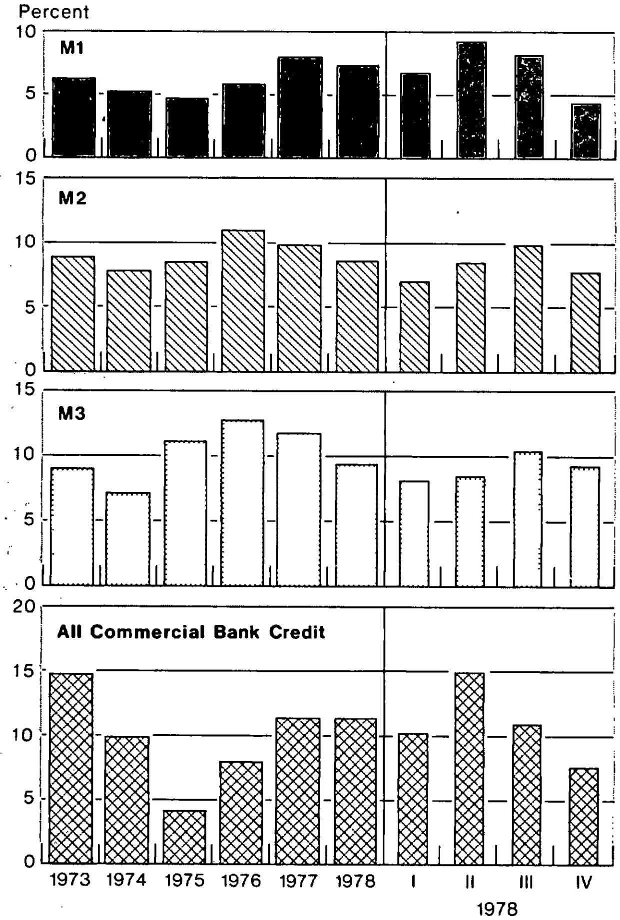
Adapted from a report submitted to the Federal Open Market Committee by Alan R. Holmes, Executive Vice President of the Federal Reserve Bank of New York and Manager of the System Open Market Account, and Peter D. Sternlight, Senior Vice President of the Bank and Deputy Manager for Domestic Operations of the System Open Market Account. Fred J. Levin, Manager, Securities Department, and Ann-Marie Meulendyke, Chief, Securities Analysis Division, were primarily responsible for preparation of this report. Nancy Marks and Connie Raffaele, members of the Securities Analysis Division staff, participated extensively in preparing and checking information contained in the report.

1 Data in the body of the report include the effects of seasonal and bench-mark revisions published on February 9, 1979. The chronological section makes use of data as published at the time, since Federal Reserve decisions were based on them.

Chart 1

Growth of Money Supply Measures and Bank Credit

Seasonally adjusted annual rates



portfolios but liquidated Treasury securities to meet loan demand. Commercial paper outstanding expanded at an increased pace during the year, attesting to the strength of business needs for credit.

The economy in 1978

Real gross national product (GNP) expanded by an estimated 4.4 percent over the four quarters of 1978, down from 5.5 percent in 1977 but still above the post-World War II average. Prices, as measured by the GNP deflator, rose 8.3 percent over the four quarters of 1978, the second consecutive speedup from the recent low of 4.7 percent in 1976.

Employment expanded rapidly so that by the year-end 59.1 percent of the working-age population was employed, an unprecedented rate for a peacetime period; a record 95.9 million persons had jobs. The gains in employment were accompanied by a continued rapid rate of entry into the labor force so that the unemployment rate, after declining from 6.4 percent of the labor force in December 1977 to 6.0 percent in April 1978, fluctuated thereafter in a fairly narrow band averaging 5.9 percent. Still, because of structural changes in the labor force, this unemployment rate appeared to represent relatively full employment in the economy, and there were reports of developing shortages of certain types of skilled labor.

The expansion of economic activity during the year was supported by heavy consumer spending, financed to an unusually large extent by mortgage and instalment debt. Demand for housing and durable goods was particularly strong, reflecting in part the buildup in inflationary psychology. Business fixed investment also expanded substantially during the year, although growth of capacity still lagged relative to the improvement posted in earlier cycles. Surveys of investment plans continued to suggest a sense of uncertainty about expected profitability of such investment, because of inflation and its distorting effects on tax liabilities and because of the adverse impact of the 1974 recession on profits.

Securities markets and interest rates

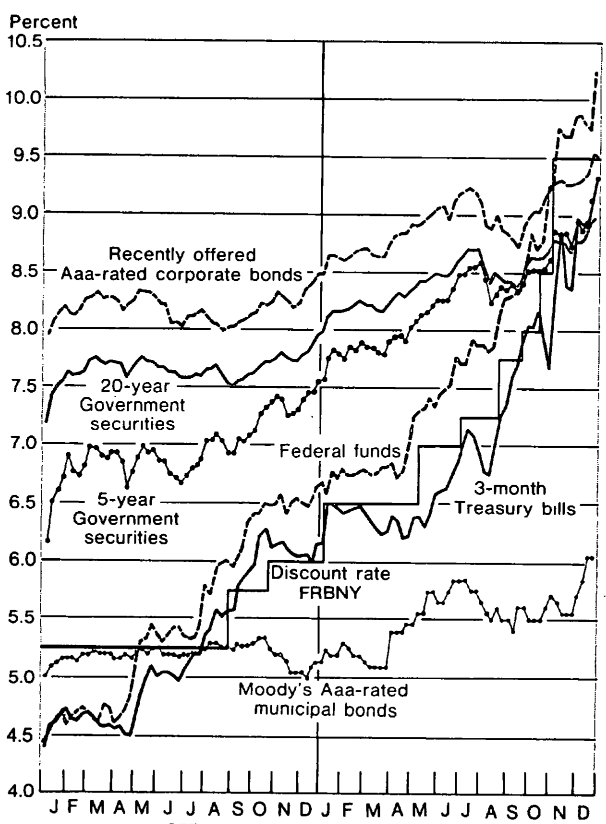
Interest rates moved up throughout the maturity spectrum in the face of strong credit demands and rising inflationary expectations. The most pronounced increases were in the short- and intermediate-term areas where demand factors and monetary policy initiatives combined to have their greatest impact. The 3½ percentage point increase in the Committee's Federal funds rate objective over the year was accompanied by increases of similar magnitude in most other short-term rates. Yields on Treasury securities maturing in one to three years generally rose 2¼ to 3½ percentage points. Yields on somewhat longer term issues increased by 1¼ to 2 percentage points, while those on long-term issues rose by ¾ to 1 percentage point. The overall upward movement and gradual flattening in the yield curve during the first half of the year were followed, after an extended summer rally, by a dramatic shift to an inverse yield curve, which peaked around the one-year maturity. (Charts 2 and 3 illustrate the major yield movements and changes in the yield curve over the year.)

Borrowings by the Treasury were substantial during the year. The Treasury added $21.4 billion to outstanding publicly held marketable coupon issues, while replacing $52.5 billion of publicly held maturing coupon securities. The Treasury's ongoing program of regularizing and lengthening the public debt through coupon offerings extended the average maturity of the debt by six months to three years eight months at the year-end. Treasury bills held outside the Federal Reserve and Government accounts, on the other hand, increased by only $772 million over the year. The demand of foreign official accounts for short-term bills often contributed to a market scarcity of bills when these accounts built up their holdings following dollar support activities. At such times, bill yields fell relative to other short-term market instruments, and secondary trading reflected resultant market shortages.

About one half of the net increase of $52.0 billion in the Treasury debt held outside the Government was financed through sales of Treasury issues to foreign official accounts. These institutions added $29.3 billion to their holdings, including $5.8 billion in nonmarketable securities. The Federal Reserve acquired $8.8 billion, and state and local governments bought $13.4 billion, largely of nonmarketable interest-arbitrage bonds. Commercial banks liquidated a substantial volume of securities, while the holdings of other financial and corporate investors showed small changes. Individuals made only slight additions to their marketable and nonmarketable debt holdings, reducing their share of the Treasury's debt.

Chart 2

Selected Interest Rates



Federally sponsored agencies that support the housing sector borrowed heavily during the year. Net new borrowing by the Federal Home Loan Banks and the Federal National Mortgage Association amounted to $13.9 billion. Pass-through mortgage certificates also continued to expand in volume. On the other hand, the various farm credit agencies raised little net new cash during the year.

The pace of business borrowing in the intermediate- and long-term sectors slackened somewhat, as businesses turned increasingly to the banks and the commercial paper market. Yields on long-term corporate issues moved up by nearly 1 percentage point, about the same as on long-term Treasury debt. Tax-exempt entities again borrowed substantially, especially through revenue-bond offerings. Tax-exempt yields moved up about ¾ percentage point in the long-term area. The yield curve for tax-exempt issues remained upward sloping.

International developments relating to the dollar

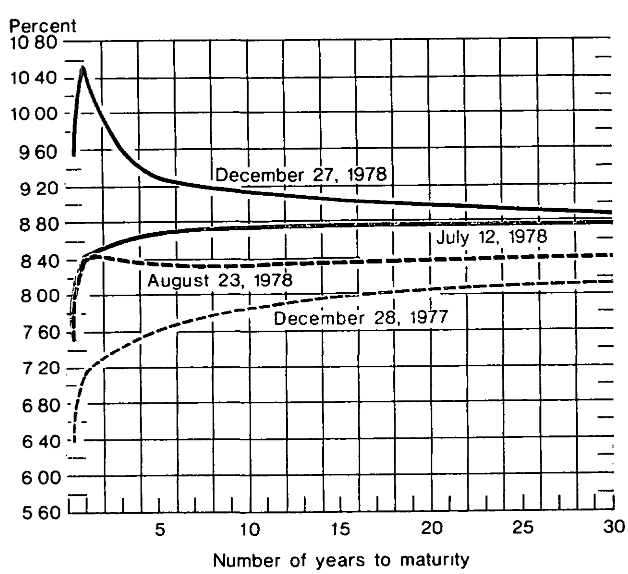
While domestic developments—especially the worsening problem of inflation—were the main focus of monetary policy during 1978, foreign exchange developments also came to bear increasingly on policy during the year. Indeed, the position of the dollar in the foreign exchange markets deteriorated sharply during the latter part of 1977, and the dollar encountered fresh sinking spells in 1978. This, together with domestic inflation, gave the Committee increasing cause for concern, as it underscored fundamental domestic as well as international imbalances. As the year began, a forceful response to domestic developments, desirable in its own right, bolstered the direct intervention in the exchange markets undertaken by the Federal Reserve and other central banks. The exchange markets stabilized for a time thereafter but, as inflationary pressures rose, participants became more and more concerned about the adequacy of the United States response. During the latter part of October, the situation became critical. The dollar dropped sharply as participants became deeply concerned that prices in the United States would continue to rise faster than those of other industrial countries—and by a widening margin.

On November 1, the Federal Reserve joined with the Administration in a series of dramatic actions to support the dollar and to dampen inflationary expectations. The Federal Reserve increased the discount rate by 1 percentage point and raised its Federal funds rate objective by about ½ percentage point. It also raised reserve requirements on large time deposits by 2 percentage points. These actions were accompanied by joint Federal Reserve-Treasury arrangements to facilitate expanded dollar support operations. Moreover, the Administration pledged to reduce the fiscal 1980 budget deficit below $30 billion.

In reaction to the new program, the dollar immediately rose sharply, as did prices of stocks and long-term bonds Short-term interest rates rose, however, as participants anticipated that further Federal Reserve action might be necessary to defend the dollar. Subsequently, long-term interest rates resumed their climb. Data becoming available during the final months of 1978 suggested the continuation of strong economic growth and underscored how entrenched inflation had become. The exchange markets remained very nervous, with the dollar under heavy pressure at times as the resolve of the Federal Reserve and other central banks to support the November 1 program in the exchange markets was tested. Analysts noted the slower growth of the monetary aggregates during the final quarter, but were unsure whether this represented the impact of restraint or largely reflected institutional changes occurring at the same time.

Chart 3

Yield Curves for United States Treasury Obligations



Monetary Policy and Its Implementation

In making policy in 1978, FOMC members confronted a domestic economic expansion plagued with more inflation, and an international financial system whose participants were becoming increasingly concerned about the outlook for monetary growth and inflation in the United States. The dollar's key position as a reserve currency and a major vehicle for financing international trade meant that the United States economy's problems attracted world attention. Of course, part of the continuing large deficit on current account reflected the robustness of the United States economy since 1975 relative to the other industrialized nations. But the pickup of inflationary expectations in the United States at a time when inflation rates were slowing in other leading industrial countries kept market participants at home and abroad apprehensive about this divergence. These fears culminated in a wave of pessimism in October and a rush out of dollars into other currencies. The promise of more restrained monetary and fiscal policy contained in the November 1 package initiated a continuing reassessment of official resolve that restored a tentative but hopeful sense of greater stability to the exchange markets as the new year began.

Policy objectives

The longer run objectives for monetary growth, expressed in terms of four-quarter growth ranges based on the level in the quarter just ended, changed little during 1978, although the FOMC maintained, as an ultimate goal, their gradual reduction to noninflationary rates of growth However, in view of previous overshoots, Committee members each quarter tended to place major emphasis on achieving existing growth-rate objectives. A majority felt that reductions of the ranges before achieving existing goals would lack credibility and, if achieved, might impose too much stringency on the economy Indeed, at midyear, when the Committee extended the earlier growth range for M_1, it was recognized that, in light of the recent behavior of money demand, growth of this aggregate over the year ahead might well be around its upper limit. Also, by moving forward the base period after the rapid growth of the quarter before, it allowed in effect somewhat faster growth than was consistent with the ranges set in the previous quarter.

The Committee continued to establish four-quarter growth ranges for M_1, M_2, and M_3, with an associated

Federal Open Market Committee's Annual Growth Ranges for Monetary and Credit Aggregates
Seasonally adjusted annual percentage rates

Period	Month established	M_1	Actual	M_2	Actual	M_3	Actual	Adjusted bank credit proxy	Actual
March 1975 to March 1976	April 1975	5 to 7½	5.3	8½ to 10½	9.7	10 to 12	12.3	6½ to 9½	3.2
June 1975 to June 1976	June 1975	5 to 7½	4.4	8½ to 10½	8.8	10 to 12	11.3	6½ to 9½	3.2
1975-II to 1976-II	July 1975	5 to 7½	5.4	8½ to 10½	9.6	10 to 12	12.0	6½ to 9½	3.1
1975-III to 1976-III	October 1975	5 to 7½	4.6	7½ to 10½	9.3	9 to 12	11.5	6 to 9	3.7
1975-IV to 1976-IV	January 1976	4½ to 7½	5.8	7½ to 10½	10.9	9 to 12	12.7	6 to 9	4.3
1976-I to 1977-I	April 1976	4½ to 7	6.5	7½ to 10	11.0	9 to 12	12.8	6 to 9	5.0
1976-II to 1977-II	July 1976	4½ to 7	6.8	7½ to 9½	10.8	9 to 11	12.5	5 to 8	5.8
1976-III to 1977-III	November 1976	4½ to 6½	8.0	7½ to 10	11.1	9 to 11½	12.7	5 to 8	11.4*
1976-IV to 1977-IV	January 1977	4½ to 6½	7.9	7 to 10	9.8	8½ to 11½	11.7	7 to 10	11.3*
1977-I to 1978-I	April 1977	4½ to 6½	7.7	7 to 9½	8.8	8½ to 11	10.5	7 to 10	11.3*
								Bank credit	
1977-II to 1978-II	July 1977	4 to 6½	8.2	7 to 9½	8.6	8½ to 11	10.0	7 to 10	12.0
1977-III to 1978-III	October 1977	4 to 6½	8.1	6½ to 9	8.6	8½ to 10½	9.6	7 to 10	11.9
1977-IV to 1978-IV	February 1978	4 to 6½	7.3	6½ to 9	8.5	7½ to 10	9.4	7 to 10	11.3
1978-I to 1979-I	April 1978	4 to 6½		6½ to 9		7½ to 10		7½ to 10½	
1978-II to 1979-II	July 1978	4 to 6½		6½ to 9		7½ to 10		8½ to 11½	
1978-III to 1979-III	October 1978	2 to 6		6½ to 9		7½ to 10		8½ to 11½	

* The Board of Governors of the Federal Reserve System ceased publication of the credit proxy in August 1977. Bank credit growth is given as a guide thereafter.

range for bank credit.[2] The table presents a historical summary of growth ranges established since 1975. The existing objective for M_1 was maintained until October. At that time, the band of growth rates was reduced and widened to allow for the expected though uncertain impact of automatic transfer services (ATS). The new range was felt to be consistent with the same rates of expansion as the one in effect before adjustment for ATS. For M_2 and M_3, which should have felt little or no effect from ATS, the Committee extended the previous growth ranges throughout the year, although the M_3 range set in February was below that set in the final quarter of 1977. The Committee lifted the range for bank credit at its April meeting and again in July in recognition of the greater share of borrower demands being directed toward banks.

[2] Beginning with the October meeting, the Committee indicated it would track M_1+—defined as the sum of M_1, negotiable order of withdrawal (NOW) accounts, credit union share drafts, and savings deposits at commercial banks. An associated range of 5 to 7½ percent was chosen

Intermeeting instructions to the Account Manager

The directives given by the FOMC to the Federal Reserve Bank of New York retained the format of other recent years. The Committee instructed the Manager to raise or lower the Federal funds rate within a band of tolerance whenever growth rates of M_1 and M_2 for the two-month period ending the month after the meeting appeared to be going off course. For just over half of the year the Committee used an "aggregates" directive, which called for responding to significant deviations of the aggregates from the midpoints of their two-month ranges, giving approximately equal weight to M_1 and M_2. From December 1977 through February 1978 and again in July, the Committee specified a "money market" directive, calling for a response only if projected growth was closely approaching or moving beyond the upper, or lower, bounds specified for M_1 and M_2.

In October and November, the directives took account of likely distortions to M_1 from automatic transfers, giving primary consideration to M_2, with M_1 to be considered only if its upper bound were exceeded. In December, the Committee felt that the transition was understood sufficiently to specify a range for M_1 and to resume giving it equal weight as a guide to setting Federal funds rate objectives.

With the aggregates so strong for a large part of 1978, the Committee frequently instructed the Trading Desk to raise the Federal funds rate following the meeting without waiting for additional estimates of aggregate growth. Also, the two-month ranges set on the aggregates more often than not led to further upward adjustment in the Federal funds rate; indeed, it would have taken a sizable shortfall in growth from expected rates to have produced a reduction in the objective.

The width of the intermeeting range for Federal funds variation generally was ½ percentage point. It was twice widened at regular meetings to ¾ percentage point and twice narrowed to only ¼ percentage point, the narrowest that had ever been specified. In several months, use of the full range was subject to prior consultation. Partly as a result, further guidance was needed on eight occasions during the year and, as the directive provides, involved interim instructions from the Committee by telephone meeting or wire vote. In one case, prior to announcement of the November 1 program, a special meeting of the FOMC was called in Washington.

While the Federal funds rate and the behavior of the monetary aggregates remained the primary focus of the instructions to the Account Manager, the behavior of domestic financial markets and developments in the foreign exchange markets also figured in the directive. In January, and again in November and December, the Committee's decision to raise the Federal funds rate responded, in significant measure, to the weakness of the dollar in the foreign exchange markets. (Of course, that weakness was, in itself, partly a result of greater inflationary pressures in the United States economy than abroad.) In these instances, growth of the monetary aggregates appeared to have slackened and by themselves would not have led to restrictive policy moves. In January, the Federal Reserve expressed the hope that the higher rates would prove temporary. However, when the money measures resumed their rapid growth, and the dollar remained shaky over succeeding months, both domestic and international considerations pointed toward the need for additional restrictive steps.

Open market operations were conditioned to a significant degree by international developments. In December 1977, the Committee inserted a phrase into the domestic policy directive, instructing the Desk to give specific attention to the unsettled conditions in foreign exchange markets. Such an instruction was included monthly except in May, June, and July, when the exchange markets were relatively steady. Operationally, this meant that the Committee was prepared, in certain circumstances, to see somewhat tauter reserve conditions than otherwise. At the time of the January and November initiatives to support the dollar, the Desk avoided drastic action to push the Federal funds rate down to the stated funds rate objective. When the dollar was under particular selling pressure, aggressive actions to push the funds rate down, or even an appearance of tolerating some downward drift, could have risked aggravating the weakness in the exchange markets.

Operations

The increase in the Federal funds rate objective from 6½ percent at the start of the year to 10 percent or a shade higher by the year-end was accompanied by an overall upward adjustment in the discount rate from 6 percent to a record 9½ percent. Discount window borrowing tended to be sensitive to changes in the spreads between the two rates. Whenever the Federal funds rate moved more than about ½ percentage point above the discount rate, borrowing rose substantially. This variability occasionally made it difficult to estimate the appropriate volume of nonborrowed reserves consistent with Federal funds rate objectives. It is possible that such bulges in short-term use of the window reflected some erosion of the discipline traditionally associated with adjustment borrowing.

The forecasting of noncontrolled factors affecting nonborrowed reserves, so called market factors, continued to be difficult. Unexpected variation in the Treasury balance at the Federal Reserve persisted, and Federal Reserve float became considerably more variable. These factors were chiefly responsible for the fact that the market factor estimates made at the beginning of the week differed by about $900 million on average from the final outcome. This compared with an average difference of about $500 million in the previous year. In most weeks, open market operations were able to adjust to the bulk of the uncertainty and to maintain reasonable stability in the Federal funds rate. However, unexpected shortfalls or overshoots in reserve availability did at times cause the Desk to reverse the direction of its operations and the market to experience wider than usual fluctuations in the funds rate, particularly on settlement days.

In managing reserves, the Desk sometimes encountered difficulty in making a sufficiently large volume of repurchase agreements (RPs), particularly at times when the Treasury balance at the Federal Reserve rose sharply. For the most part, large reserve scarcities tended to develop after quarterly tax-payment dates. Government securities dealers and other market participants continued to hold small inventories, given the negative carry on them and the expectations of further interest rate increases. The Treasury assisted on a number of occasions by reducing calls on the commercial bank tax and loan accounts or making occasional redeposits.

Reserve management was aided by the Treasury's implementation in November of the note investment option that had been approved by the Congress late in 1977.[3] This gradually returned the bulk of variation in Treasury cash balances to the commercial banks, while leaving greater stability in the Treasury balance at the Federal Reserve. However, some commercial banks chose to remit their tax and loan receipts daily to the Federal Reserve, while others imposed caps on the amount of investment funds they would accept. Predicting the amount of remittances, as well as the rate at which checks clear against Treasury balances at the Federal Reserve, remained somewhat troublesome as the new system got under way. The new system, however, held the promise of providing relief, in time, to the earlier difficulties with sharply fluctuating Treasury balances at the Federal Reserve.

Regulatory factors affecting monetary behavior

At the beginning of November, commercial banks were permitted to offer automatic transfer accounts to individuals, and banks in New York State were authorized to offer NOW accounts.[4] Both options permit households to hold interest-bearing transactions balances and thus to keep demand balances at or close to zero. Their introduction reduced the growth rate of M_1 from what it would have been otherwise.[5]

During the latter part of 1977, market interest rates began to exceed ceilings applied to small time and savings deposits. In 1978, as in past periods when such ceilings began to impinge, depositors gradually redirected their funds into other instruments, which tended to hold down the rate of expansion of M_2 and M_3. As savings and time deposit growth slowed, banks stepped up their bidding for CDs, and depositors sought out market instruments and money market mutual funds. In June, banks and thrift institutions were authorized to issue money market certificates having a $10,000 minimum, a maturity of six months, and an interest rate tied to average rates in the weekly six-month Treasury bill auction (with a 25 basis point advantage to thrift institutions). Consequently, the pace of M_2 and M_3 expansion picked up sharply through the summer and into the autumn. This regulatory change also made it difficult to assess growth of the broader aggregates relative to their behavior in the past.

Open Market Operations in 1978

January to mid-April

As the year opened, the value of the dollar in foreign exchange markets was falling sharply in increasingly disorderly market conditions. To check speculation and to reestablish order, the Board of Governors of the Federal Reserve System and the Treasury announced on January 4 that the Exchange Stabilization Fund of the United States Treasury would be used actively in market intervention, together with the $20 billion swap network linking the Federal Reserve and foreign central banks. Late on Friday, January 6, the Board approved a ½ percentage point increase in the discount rate to 6½ percent at two Reserve Banks; the other Reserve Banks quickly followed suit. The following Monday, the Account Manager, in accord with the Committee's wire instructions, began to seek reserve conditions associated with a Federal funds rate of 6¾ percent within a newly adopted range of 6½ to 7 percent. Previously, the Manager had been aiming for a Federal funds rate of about 6½ percent within the 6¼ to 6¾ percent range specified at the December meeting, although funds had actually traded above that rate at times, owing to holiday and statement-date pressures in the money market around the turn of the year (Chart 4).

The financial markets reacted quickly to the Federal Reserve's moves. Money market rates jumped by as much as 45 basis points from the time the discount rate increase was announced on January 6 to the close of business January 9, while smaller, although still substantial, advances were also registered in intermediate- and long-term yields. Subsequently, most of these increases were retraced as market participants began to feel that the Federal funds rate would stabilize at its higher level rather than rise further over the near term.

In response to the early-January initiatives, the dollar had recovered somewhat by the time the Committee met on January 17, although the foreign exchange

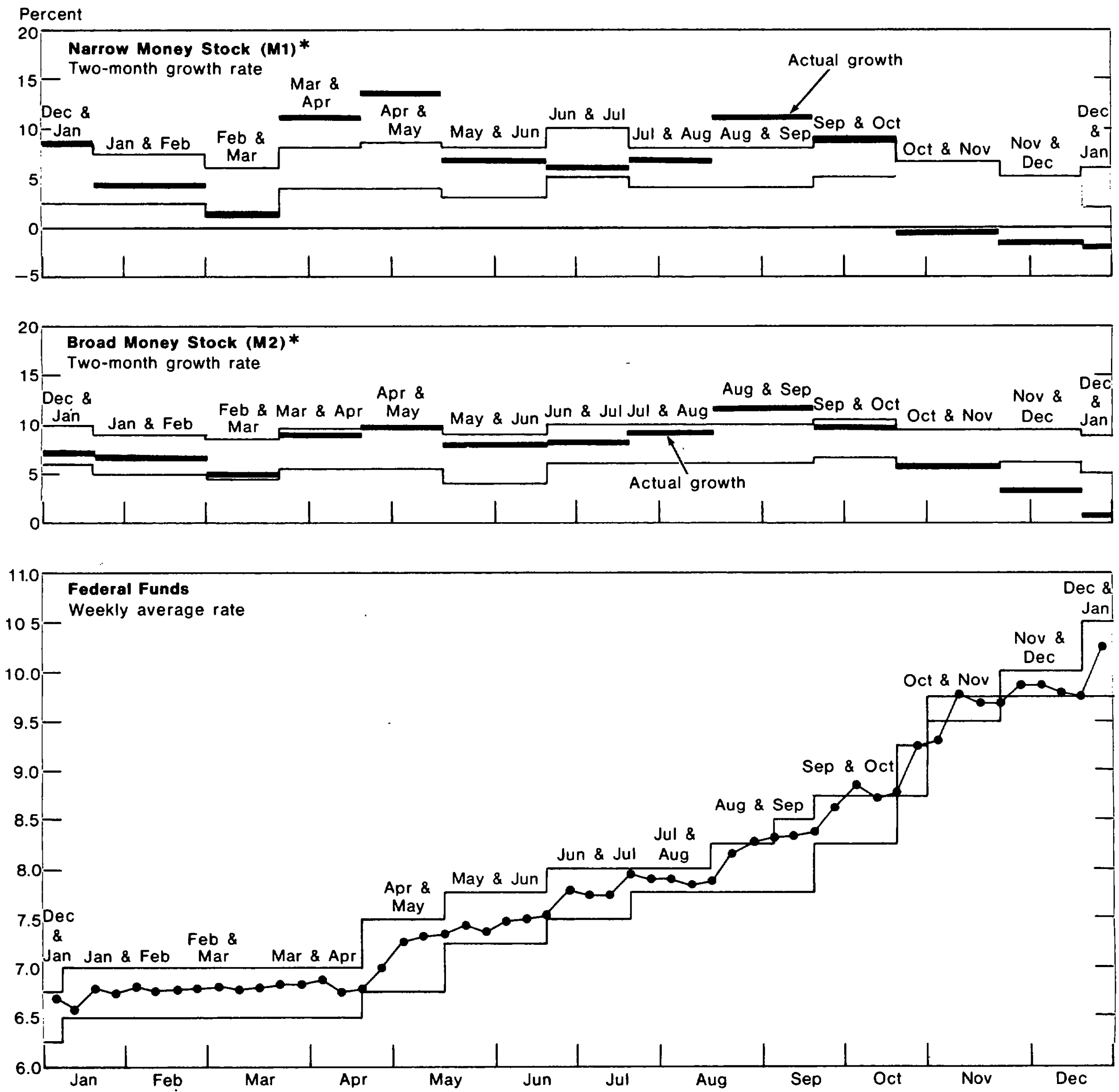
[3] A description of the new procedures can be found in an article by Joan E. Lovett, entitled "Treasury Tax and Loan Accounts and Federal Reserve Open Market Operations", this *Quarterly Review* (Summer 1978), pages 41-46.

[4] Automatic transfer accounts allow depositors to keep funds in a savings account on which a bank may offer an interest rate of up to 5 percent, with the bank transferring these funds to the depositors' checking accounts only when needed to cover clearings. NOW accounts—previously only available in New England—permit drafts directly against interest-bearing accounts.

[5] In light of the distortions to M_1 anticipated from the introduction of automatic transfers, the Committee began to track M_1+ (defined in footnote 2), an experimental measure that attempted to capture all transactions balances. The savings deposit component of this measure declined very sharply in the final months of 1978, despite the shifts into savings accounts because of the automatic transfer option. Consequently, the behavior of M_1+ was even weaker than the traditional M_1.

Chart 4

FOMC Ranges for Short-run Monetary Growth and for the Federal Funds Rate, 1978



Shaded bands in the upper two charts are the FOMC's specified ranges for money supply growth over the two-month periods indicated. No lower bound was established for M1 at the October and November meetings. In the bottom chart, the shaded bands are the specified ranges for Federal funds rate variation. Actual growth rates in the upper two charts are based on data available at the time of the second FOMC meeting after the end of each period.

*Seasonally adjusted annual rates.

markets remained in a sensitive state. Information available at that meeting presented a mixed economic outlook for the year. Most members agreed with the staff assessment that growth of economic activity would be sustained at a good pace throughout 1978. It was also felt that the unemployment rate would decline moderately further over the year, but prices were expected to rise faster than in 1977. Growth of the monetary aggregates had slowed somewhat in the fourth quarter of 1977 from the very high rates registered over the previous two quarters. Nevertheless, for the year as a whole, the expansion of M_1 had been considerably above the FOMC's projected range for the period, set one year before, while growth of the broader aggregates was near the upper bounds of their corresponding ranges.[6]

Against this background, the Committee members felt that any significant easing in money market conditions would be inappropriate, especially in view of the continued weakness of the dollar in foreign exchange markets. On the other hand, there was little sentiment for further firming action unless the monetary aggregates appeared to be growing at rapid rates. Consistent with these views, the Committee directed the Manager to continue aiming initially for a Federal funds rate of 6¾ percent and to vary the funds rate in an orderly fashion within a 6½ to 7 percent range if growth of the aggregates over the January-February period appeared to be approaching or moving beyond the limits of their specified ranges. Growth ranges of 2½ to 7½ percent for the two months were established for M_1 and 5 to 9 percent for M_2.

In the weeks that followed, projected growth of M_1 and M_2 in fact remained reasonably well within the Committee's ranges, and the Desk kept the Federal funds rate unchanged at 6¾ percent. Open market operations in the latter half of January and early February were hampered by severe snowstorms. These caused reserve management problems for banks and large reserve projection errors for the Desk as a result of unexpected bulges in float. The rise in float, along with seasonal declines in required reserves and currency in circulation, more than offset the reserves absorbed by an increasing Treasury balance at the Federal Reserve. Consequently, with few exceptions, the Desk was in the position of draining reserves over the period. To absorb reserves on a temporary basis, the Desk arranged repeated rounds of matched sale-purchase transactions in the market when the funds rate tended to drift below the System's objective. Since the reserve excess was expected to persist for several weeks, the Desk's outright transactions were also largely on the selling side. A substantial amount of the System's maturing Treasury bills was run off at the regular weekly and monthly auctions. The Desk also absorbed reserves by selling bills to foreign accounts, which continued to acquire dollars through intervention in the foreign exchange markets.[7]

Starting in late January, the Desk became able to pass through foreign account temporary investment orders to the market as customer-related RPs.[8] Thus, it could choose to execute part or all of such orders in the market under appropriate conditions of reserve availability and cost. At other times, when there was a need for the System to arrange its own RPs, the Desk could adjust the amounts made in the market to take account of the foreign orders which were arranged as matched sale-purchase transactions with the System. Over time, participants came to view the arrangement of customer-related RPs in the market as suggesting that reserve conditions—rate and availability—were reasonably close to those desired.

At both the February and March meetings, the Committee retained the 6½ to 7 percent range for Federal funds. Although economic activity had faltered in the early months of the year, the sluggishness appeared to reflect the unusually severe winter weather and a lengthy coal strike. The staff expected the resultant losses to be made up in the second quarter. Data

[6] At the time of the January meeting, M_1 was estimated to have advanced by 7.4 percent from the fourth quarter of 1976 to the fourth quarter of 1977, above the 4½ to 6½ percent range announced by the Committee for the period. Over the same interval, M_2 growth was placed at 9.6 percent and M_3 growth at 11.6 percent, compared with the Committee's ranges of 7 to 10 percent and 8½ to 11½ percent, respectively. Subsequent revisions boosted growth over the four-quarter period to 7.9 percent for M_1, 9.8 percent for M_2, and 11.7 percent for M_3.

[7] A System sale of bills to a foreign account absorbs reserves indirectly. Dollars acquired by a foreign country in the exchange markets are credited to the foreign account at the Federal Reserve and deducted from member bank reserve accounts. If the foreign account's orders to buy bills are executed in the market, the payment for the bills returns reserves to the banking system. Implicitly, this is the standard assumption made in preparing reserve projections, so that foreign countries' gains or losses of dollars are considered "neutral" in their impact on United States bank reserves. But if, instead of executing the foreign orders in the market, the System sells to the foreign account, bank reserves remain lower by the amount of the sale. Similarly, System purchases from a foreign account provide the deposits that are paid out by the account and that add to member bank reserves.

[8] During much of 1977, the Desk met such orders entirely through matched sale-purchase transactions with the System Account. In November 1977, the Internal Revenue Service ruled that income from foreign account RPs arranged with the Federal Reserve Bank of New York, which might have corresponding back-to-back RPs with dealers, as well as from those arranged as matched sale-purchase transactions with the System Account, was free of tax liability. This ruling paved the way for the above-mentioned arrangements initiated on January 23.

available at the February meeting suggested a decline in M_1 that month from its level in January and slow growth of M_2. The weakness in the monetary aggregates appeared to be related to the sluggishness in the economy. In view of the uncertainties over the economic outlook and the behavior of the aggregates, the Committee continued to specify a money market directive at the February meeting for the fifth consecutive month, reducing the likelihood that the Federal funds rate would change. At the March meeting, after new money stock estimates for the first two months of 1978 showed significantly greater growth than previously thought, the Committee returned to an aggregates directive, thus increasing the likelihood that the funds rate would rise quickly in response to indications of monetary strength.

Soon after the February 28 meeting, data and new projections for the February-March period suggested that growth of M_1 and M_2, taken together, would closely approach the lower bounds of the Committee's tolerance ranges. Ordinarily, this might have prompted the Desk to seek some reduction in the funds rate within its specified range. However, the weakness of the monetary aggregates still appeared temporary, and the dollar meanwhile had come under another heavy bout of selling pressure in the foreign exchange markets after more than a month of relative calm. Under these circumstances, the Committee decided at a telephone meeting on March 10 to retain the 6¾ percent funds rate objective for the time being.

Projections of the monetary aggregates available immediately after the regular March meeting showed a pickup in growth, and for a short while estimates for the March-April period were on the high side of the Committee's tolerance ranges. Subsequently, the unexpected strength evaporated, and the estimates fell back to rates well within the specified ranges. The Federal funds rate continued to hover close to 6¾ percent until mid-April.

Following the sharp advances in early January, most interest rates fluctuated within a narrow range over the remainder of the winter. Market participants were encouraged by the stability of the Federal funds rate, while the slowing in business activity and apparent sluggish growth of the monetary aggregates tended to offset concern over inflation and the weak performance of the dollar in foreign exchange markets. Toward the end of March, however, intermediate- and long-term yields resumed their climb, as market participants reacted to signs that the economy was rebounding and inflationary pressures were strong. Investor concerns mounted following reports of a record trade deficit in February and the significant upward revisions to the monetary aggregates for the first two months of the year. Expectations grew that monetary policy would soon have to exert greater restraint.

Mid-April to mid-October

By the time the Committee met on April 18, it was clear that the economy was recovering strongly from the weather- and strike-plagued winter. Prices had already advanced very rapidly in the early months of the year. To some extent the acceleration of inflation reflected special factors, such as curtailed food supplies associated with the harsh weather and the January boosts in payroll taxes and the minimum wage. But there was also evidence that inflationary expectations had shifted upward, and the Committee was deeply concerned about the prospects for prices. In the financial markets, upward pressure on interest rates appeared to be building. Households were continuing to take on instalment and mortgage debt at a rapid rate. Business borrowing at commercial banks had accelerated from the already brisk pace of 1977. And, to finance heavy loan demand, banks in turn were stepping up their issuance of large CDs. Although the expansion of the monetary aggregates had slowed in the first quarter, it seemed likely to strengthen along with the economy. There were already indications that M_1 would grow rapidly in April.

Under these circumstances, all the members agreed that operations designed to achieve firmer money market conditions needed to be undertaken promptly if monetary growth were to be held in a path reasonably consistent with the Committee's long-run objectives. At the same time, they felt that any initial action should be modest pending further evidence as to whether the aggregates were growing at rapid rates. Accordingly, the Committee established 7 percent as the initial Federal funds rate objective. It also raised the intermeeting range for funds to 6¾ to 7½ percent, while instructing the Manager not to aim for funds trading above 7¼ percent until the members had an opportunity for further consultation. At this meeting, the Committee restructured the language of the domestic policy directive, giving added weight to the objective of restraining inflationary pressures by placing it ahead of the objectives of encouraging continued moderate economic expansion and contributing to a sustainable pattern of international transactions.

After the Tuesday meeting, the Desk moved quickly to signal the System's firmer posture in advance of the Treasury's two-year note auction the next day and the upcoming announcement of its May refunding a week later. Early on Wednesday the Desk arranged matched sale-purchase transactions in the market when Federal funds were trading at 6¾ percent, a level at which the Desk has passed through customer RP orders to the market on some occasions earlier in the week. The clear evidence of an increase in the funds rate caught market participants by surprise. Although many had been anticipating a rise for some weeks, they thought it would be deferred since the statistics for the first week in April—published on the thirteenth—had shown no large jump in M_1.

While an objective of around 7 percent was kept for the funds rate at the start of the April 26 week, the Desk permitted expected reserve deficits to cause the money market to firm somewhat further, given indications that money growth in April and May was likely to be strong. After it had passed through a portion of foreign account RP orders to the market when funds were at 7 percent before the weekend—thus indicating some satisfaction with that rate—it arranged such orders as matched transactions with the System when similar conditions prevailed later. Enlarged member bank borrowings over the weekend had added to reserves and, on Tuesday, the Desk was quick to respond to a softening in funds to below 7 percent by arranging matched sale-purchase transactions in sufficient volume to generate some reserve need. By the settlement day, with new data suggestive of greater strength in the aggregates, the Desk began seeking funds trading at 7⅛ percent, which became evident when it let the rate move somewhat above that level before providing reserves. With the auctions of Treasury refunding issues slated for the start of May and, after appraising the strength in the projections of the aggregates near the start of the May 3 statement week, the Desk adopted an objective of 7¼ percent for the funds rate. While interest rates had been rising since the initial firming move about two weeks earlier, sizable adjustments had proceeded smoothly and demand for the new securities was reasonably good.

On Friday, May 5, estimates of the aggregates were even stronger, with M_1 seen well above its specified range of 4 to 8½ percent and M_2 close to the top of its 5½ to 9½ percent range for April and May combined. A telephone meeting of the FOMC was held that day to discuss whether the funds rate should be permitted to rise above 7¼ percent. Staff analysis suggested that the surge in the monetary aggregates largely reflected the economic rebound, as well as several transitory factors. The majority of the members preferred to wait for additional evidence on the economic outlook and the behavior of the aggregates before tightening further. Hence, the Committee voted to retain the funds rate objective at 7¼ percent, but it indicated a preference for resolving doubt on the high side of that objective.

At each successive meeting over the spring and summer, the Committee sought a further firming in money market conditions as the monetary aggregates rose rapidly and inflationary pressures remained strong. Growth of the aggregates came in spurts, making it difficult to determine the underlying trend. The advances in April and September were particularly sharp, with more moderate increases registered in the intervening months. The Committee sought to provide for a quick Desk response to evidence that the aggregates were accelerating. Except for the July meeting, it adopted aggregates directives through September. The allowable range for the Federal funds rate remained narrow, however, ranging from ¼ to ¾ percentage point but most often at ½ percentage point for the intermeeting periods.

With M_1 and M_2 rising rapidly, the Desk often found itself operating in the upper portion of the intermeeting ranges for Federal funds specified by the Committee. On several occasions, available data suggested that growth of the aggregates would approach or exceed the upper limits of the Committee's two-month tolerance ranges at a time when the Desk was already seeking Federal funds trading at the highest level authorized without further instruction from the Committee. In a wire vote in mid-June, the Committee retained the existing Federal funds rate objective in view of the proximity of the regularly scheduled June meeting. In early September, however, the Committee raised the objective further through a special telephone meeting. By mid-October, the firming in the System's policy stance had brought the Federal funds rate up to 8¾ percent, 2 percentage points above the early-April level.

On five separate occasions over the spring through the early fall, the Board approved actions by the Reserve Banks to raise the discount rate. The cumulative effect of these actions was to increase the rate by 2 percentage points to 8½ percent by mid-October. The Board stated that the actions were taken primarily to bring the discount rate in closer alignment with other short-term rates. In announcing the October boost, it stressed its concern with continued high inflation, the rapid rate of monetary expansion, and conditions in the foreign exchange markets.

The April-October period was marked by wide shifts in investor sentiment, and interest rates showed great variation, particularly on intermediate- and long-term issues. While rates rose across the maturity spectrum during the spring and into the summer, a sharp price rally emerged toward the end of July. Two successive declines in the weekly money stock statistics, coupled with the release of data suggesting a slowdown in the pace of the economic expansion, convinced many participants that the System was likely to maintain a steady posture over the near term rather than to seek additional firming in money market conditions. Feeling developed in some quarters that yields in the capital markets could be near their cyclical peaks. In this climate, investors rushed to lock in current yields in long-term securities, while Government securities dealers scrambled to cover short positions—which had become very large in the predominantly bearish atmosphere of the spring and early summer. Bidding interest in the Treasury's sale of three- and seven-year notes and thirty-year bonds in early August was especially strong, and average issuing yields set in the auctions were well below the levels anticipated at the time the offerings were announced in the previous week.

The rally in the money markets was brief. After dropping about 10 to 30 basis points over a two-week period, short-term rates began to rise around mid-August when the Federal funds rate resumed its climb, and they continued to advance through the remainder of the summer and fall. In contrast, the capital markets extended the rally until the middle of September. By that time, longer term yields had fallen by 25 to 40 basis points from the levels of mid-July. At first, the rise in money market rates appeared to have little effect on the long-term sectors. However, in the face of continued strong growth of the monetary aggregates and the likelihood that short-term rates would have to rise further, participants began to reassess the interest rate outlook. A further revision in the money stock measures, which boosted the growth of M_1 over the first eight months of the year, contributed to the more bearish sentiment. The turnaround in long-term yields occurred quickly. By the time the Committee met in mid-October, most of the previous declines had been retraced.

Mid-October to the year-end

The Committee faced more than the usual uncertainties at its October meeting. In the first place, starting November 1, commercial banks were authorized to begin offering their nonbusiness customers a transfer option that would allow funds to be shifted from savings accounts to checking accounts automatically. While ATS seemed certain to slow M_1 growth relative to that of GNP, the size and the speed of its effects on M_1 were difficult to estimate. Second, the precise shape of President Carter's new anti-inflation program was still to be announced. The members agreed, however, that monetary and fiscal restraint would have to accompany the program if it were to succeed in reducing the rate of inflation.

In this connection, concern was expressed about the rapid growth of the monetary aggregates over the previous calendar quarters, and most members agreed that additional firming in System policy was necessary to assure a slowdown in growth over the period ahead. Accordingly, the Committee directed the Manager to seek a Federal funds rate of around 9 percent—up from its prevailing level of 8¾ percent—while increasing the intermeeting range for funds to 8¾ to 9¼ percent. To deal with the uncertainties involved in ATS, primary weight was given to M_2 as a guide to open market operations in the intermeeting period, with M_1 entering only if its upper bound were exceeded. No lower bound was specified. The staff also began, on an experimental basis, to track M_1+ to provide the Committee and the Desk with additional background on the behavior of transactions balances until experience with the effects of ATS could be obtained.

After the October meeting, the Desk sought an increase in the funds rate to the 9 percent midpoint of the FOMC's range. In the October 25 statement week, the Desk waited for a large projected reserve need to show through in the money market but this did not develop until relatively late. To meet large reserve deficiencies, the Desk arranged repeated rounds of RPs on the last three days—announcing them in the afternoon before the day they were to be executed and extending the time limit for receiving propositions when offerings proved modest. With interest rates rising and auctions of issues offered in the Treasury's November refunding slated to begin October 31, dealer positions were very low. The Treasury assisted in easing the reserve scarcity on the final two days by making redeposits with commercial banks from its balances at the Federal Reserve. Still, the funds rate rose by nearly 50 basis points that week to just under 9¼ percent.

The firmness in the money market carried into the next statement week, though the Desk became gradually more willing to tolerate this in view of the weakness evident in foreign exchange markets and mounting indications that new policies to aid the dollar were being formulated. The higher level of funds trading—in the area of 9⅛ to 9¼ percent—imparted a sense of impending higher interest rates and caution in the market as it prepared to take on the Treasury's new offerings.

Meanwhile, the situation in the foreign exchange markets was nearing crisis proportions. President Carter's anti-inflation program, announced on October 24, had been greeted unenthusiastically in the exchange markets, and selling pressure against the dollar intensified. By the end of October, the dollar had dropped in value from its beginning-of-the-year levels by 36 percent against the Japanese yen, 35 percent against the Swiss franc, and 22 percent against the German mark. The depreciation of the dollar threatened to undermine the nation's efforts to curb inflation and to throw the international financial system into disarray. Consequently, in the closing days of October, Federal Reserve and Treasury officials, partly in consultation with foreign officials, began to formulate measures to deal with the situation, and by the beginning of November a broad dollar defense program was ready to be put in place.

The new program, announced jointly by President Carter, the Treasury, and the Federal Reserve on the morning of November 1, involved a series of concerted actions designed, not only to halt the dollar's slide in foreign exchange markets, but also to correct the excessive declines that had taken place. It featured a marked tightening of monetary policy and the announcement that the United States, in coordination with other countries, was prepared to intervene forcefully and on a sustained basis in the exchange markets. The discount rate at the New York Federal Reserve Bank was raised immediately by 1 percentage point—the steepest increase since 1931—to a record 9½ percent. The other Reserve Banks joined the move shortly thereafter. A supplementary reserve requirement of 2 percent was placed on time deposits in denominations of $100,000 or more to help moderate the expansion of bank credit and increase the incentive for member banks to borrow funds abroad. In line with Committee discussion the previous day, with final activation of the decision left to Chairman Miller following announcement of the full program, the range for Federal funds was raised to 9½ to 9¾ percent. To finance United States intervention in the exchange markets, a $30 billion package of foreign currencies was mobilized. This included a $7.6 billion increase to $15 billion in the Federal Reserve swap lines with the central banks of Germany, Switzerland, and Japan. The Treasury announced that it would draw $3 billion from the United States reserve position with the International Monetary Fund, sell $2 billion equivalent of special drawing rights, and issue up to $10 billion equivalent of foreign currency-denominated securities. Finally, the Treasury also announced that it would expand its gold sales.

The announcements had immediate and dramatic effects on financial markets. The dollar rebounded strongly against other major currencies, the bond markets rallied, and stock prices, as measured by the Dow Jones industrial average, registered their largest one-day gain on record. In the enthusiastic atmosphere, a 3½-year Treasury note auctioned the day before as part of the November refunding rose quickly to a high premium. The remaining two auctions were postponed for a day to allow the markets a little time to adjust to the actions taken. The auction of ten-year notes on November 2 encountered weak demand, as some participants felt that the rally was being overdone, but strong interest developed for the thirty-year bond sold one day later.

In the wake of the announcements, short-term interest rates increased sharply, and trading in Federal funds on November 1 jumped immediately to the 9⅞ to 10 percent area—somewhat above the Committee's newly adopted 9½ to 9¾ percent range. In order not to blunt the impact of the dollar defense program, the Desk avoided aggressive action to push the funds rate down to the new range, and trading in funds hovered above 9¾ percent for several days. By the end of the following week, market factors began releasing reserves in substantial volume, and the funds rate eased down to a level within the specified range, but again, consistent with the dollar defense program, the Desk acted to keep trading largely in the upper portion of the range.

Desk outright sales of Government securities to foreign customers were unusually heavy in the first three statement weeks of November, amounting to over $4 billion. The sales helped absorb reserves released by a sharp drop in Treasury balances at the Federal Reserve, which arose partly because of the implementation of the new cash management program. The sales also helped meet foreign account demand for Treasury bills at a time when market supplies of these issues were scarce. On several occasions, to avoid pressing further demands for short-term bills on a virtually depleted market and adding to the downward pressure on rates, the Desk sold bills with short-term maturities to foreign accounts while purchasing a similar amount of longer term bills in the market.

At the final two meetings of 1978, the Committee voted for additional tightening of money market conditions in recognition of the intensity of inflationary pressures and in further support of the dollar defense program. It moved cautiously, however, as incoming economic and financial data presented conflicting signals on the outlook. On the one hand, the pace of business activity quickened in the closing months of the year, suggesting underlying economic strength. At the same time, however, growth of the monetary aggregates slowed sharply, especially M_1 which was much weaker than could be attributed to the effects of ATS alone. At the November meeting, the Committee raised the intermeeting range for Federal funds from the 9½ to 9¾ percent objective set on November 1 to 9¾ to 10 percent, while instructing the Manager to aim for an initial level of funds trading at 9⅞ percent. The Committee continued to deal with the uncertainties involved with ATS in the same way that it had at the October meeting—namely, by specifying only an upper bound for the two-month growth of M_1 and by directing the Manager to place more weight than usual on the behavior of M_2 as a guide to open market operations. At the December meeting, the range for Federal funds was set at 9¾ to 10½ percent and an initial objective of 10 percent or slightly above was established. In light of the experience obtained with the effects of ATS by the December meeting, the Committee returned to setting a range for M_1 growth over the two-month period and to placing equal emphasis on the behavior of M_1 and M_2. However, the directive was structured to make the Manager more responsive to relatively high, than to relatively low, monetary growth rates. In fact, the Committee later took action to avoid having the funds rate decline when the aggregates weakened.

Money stock growth was sluggish over the final months of the year, and the weakness continued into early 1979. Following both the November and December meetings, growth estimates for M_1 and M_2 were progressively lowered to rates near or below the bottom of the Committee's corresponding ranges, raising questions about whether the Desk should modify its approach to the Federal funds rate. Other factors, however, argued for no change—including the still fragile state of the dollar, the lack of evidence that either inflation or economic activity was abating, and uncertainty about the reasons for the slowdown in monetary growth. In wire votes on December 8 and again on December 29, the Committee agreed with the Chairman's recommendations to keep the funds rate objective unchanged at the prevailing level. As the year ended, the objective remained at 10 percent or slightly above.

Yields on fixed-income securities pressed higher over the closing months of 1978. Most short-term rates moved up in rough alignment with the advance in the Federal funds rate. The rise in CD rates, however, was initially more pronounced, as banks aggressively sought to issue CDs during November. Prime lending rates were boosted further in several steps to close the year at 11¾ percent, only ¼ percentage point below the peak in 1974. The rally in the capital markets that followed in the wake of the November 1 announcements soon faded. Yields in the long-term sectors rose through most of December in reaction to indications of greater than expected strength in the economy and further evidence of the persistence of inflation. Some encouragement was taken from the moderation in the growth of the monetary aggregates, but market analysts were not confident that it would last. Toward the year-end, however, the markets stabilized as participants again debated whether long-term yields might finally be nearing their cyclical peaks.