Monetary Policy and Open Market Operations in 1977

Federal Reserve policy in 1977 worked to encourage a healthy expansion in economic activity without a renewed burst of inflation. Over the year, the economy experienced substantial real growth at a rate that was somewhat above its long-run average. The expansion contributed to a significant reduction in the unemployment rate, from 7.8 percent in December 1976 to 6.4 percent a year later, even though the labor force continued to increase rapidly. Consumer demand remained impressively strong, and a pickup in residential construction provided further impetus to the economy. On the negative side, inflation averaged about 6.5 percent, according to the consumer price index, although there was some slowing in the second half of the year.[1] Gains were uneven in the various domestic sectors, and the United States trade balance with other countries showed a record deficit.

The sustained expansion of aggregate demand gave rise to stronger demands for money than had occurred earlier in the recovery. In 1977, the Federal Reserve System moved to a position of moderating the pace of monetary expansion. The System responded to several spurts in monetary growth by limiting the availability of bank reserves in relation to demand, so that short-term interest rates rose and exerted a restraint on monetary expansion.

Over the year, growth of M_1—demand deposits plus currency in the hands of the public—came to 7.8 percent, compared with 5.7 percent in 1976 (Chart 1)[2] and was above the top of the range for longer term growth that the Federal Open Market Committee (FOMC) had projected earlier. Still, the System's response to this expansion appeared to have an effect over time, and growth of M_1 slowed somewhat toward the end of 1977 and in the opening months of 1978. Rising interest rates also dampened the expansion of time and savings deposits subject to interest rate ceilings. Hence growth of the broader monetary measures—M_2 and M_3—remained within or only slightly above the upper end of earlier anticipated ranges and was at a slower pace than in 1976. M_2—which adds time and savings deposits at commercial banks to M_1—increased by 9.8

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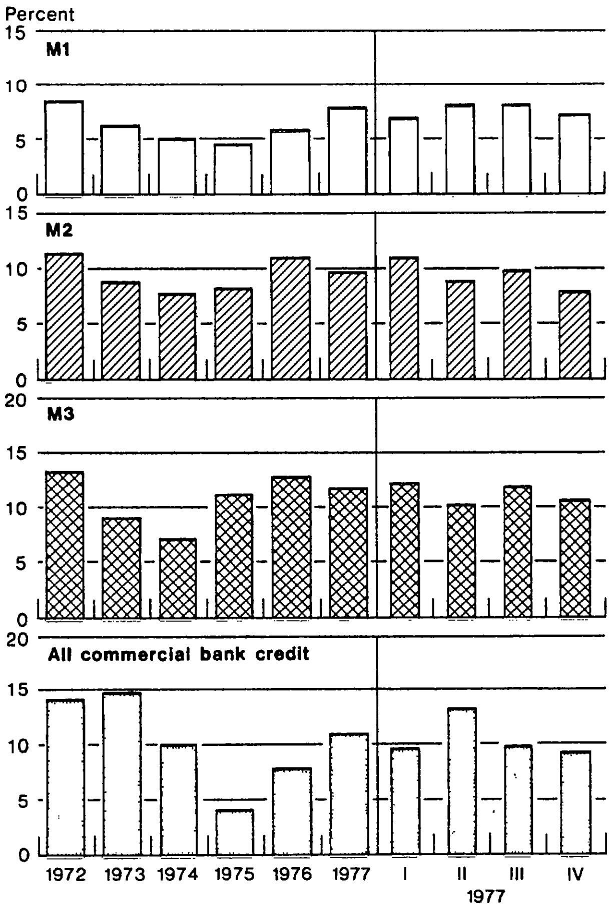
[1] Data on economic activity and prices reflect information available as of April 1978.

[2] Data in the body of the report include the effects of seasonal and bench-mark revisions published on March 23, 1978, which had the effect of lifting the annual growth for M_1 in 1977 from 7.4 percent reported initially and M_2 and M_3 growth from 9.6 and 11.6 percent reported previously. The revisions also raised the first- and fourth-quarter growth rates and lowered the second- and third-quarter growth rates. The chronological section of the report makes use of the data as published at the time, since Federal Reserve decisions were based on them. Growth rates are based on daily average levels in the fourth quarter of 1977, compared with the fourth quarter of 1976.

Chart I

Growth of Money Supply Measures and Bank Credit

Seasonally adjusted annual rates



percent, less than the 10.9 percent of the year before, while M_3—which adds deposits at thrift institutions to M_2—increased by 11.7 percent, down from the 12.8 percent of 1976.

A record volume of funds was available in financial markets during 1977 to meet expanded borrowing by all economic sectors. Funds raised in credit markets by nonfinancial sectors swelled to an all-time peak of $336 billion, or nearly 18 percent of nominal gross national product (GNP). Businesses borrowed heavily at banks and in the open market, after repaying short-term debt in 1975 and borrowing very little in 1976. Business bond flotations, at over $24 billion, remained nearly as high as in the period of debt restructuring earlier in the recovery. Households increased installment debt sharply, reflecting substantial purchases of durable goods. The unprecedented level of single-family home building led to strong growth of mortgage credit, as did increased commercial and school construction. State and local government financing in the bond market set a record—$45 billion. Much of this latter total reflected prerefunding of debt issued a few years before when interest rates had been higher.

Financing by the Federal Government receded further in 1977 from the high 1975 total, but borrowing needs remained relatively large for the third year of an economic expansion. Treasury net cash borrowing came to nearly $57 billion in 1977, and virtually all of this was obtained through offerings of notes and bonds. In January the Treasury sold the final new issue in its cycle of twenty-four monthly auctions of two-year notes. Then in most subsequent months, as outstanding two-year notes came due for rollover, it added to their size to raise marginal amounts of new money. The Treasury also sold new notes with maturities of about four years in a cycle of quarterly auctions, and alternated between five-year notes and fifteen-year bonds in a second quarterly cycle. Additional cash was obtained in the midquarter refinancings, which generally included short- and intermediate-term notes and a long-term bond. In many of its financings, additional new money was raised by selling extra allotments of new coupon securities to foreign central banks and monetary authorities. Altogether, these overallotments totaled $10.7 billion. Finally, $9.4 billion of special Treasury issues (or interest arbitrage securities) was sold to states and municipalities in conjunction with their advance refunding of outstanding debt that carried high interest rates.

Because this expanded regularization of Treasury coupon offerings enabled market participants to anticipate such financings, the distribution of the new issues usually proceeded smoothly. As in 1976, the sale of intermediate- and long-term issues led to an increase in the average maturity of the privately held Government debt. Between 1965 and 1975 the average maturity had declined.

With the Federal Reserve seeking to moderate growth in the money and credit aggregates, the heavy demands for credit that developed in 1977 tended to exert upward pressure on interest rates (Chart 2). The yield curve became flatter (Chart 3), as is typical in an economic expansion, even though borrowing in longer term issues was proportionally heavier than in previous economic expansions. Short-term rates trended higher over most of the year, posting net advances of about 2 percentage points Yields on intermediate-term securities rose 65 to 100 basis points in January and early February but then showed little net change on five- to ten-year maturities until the closing months of 1977, when they moved up by another 40 basis points. Yields on long-term securities followed a pattern similar to those on intermediate-term issues and rose about 70 basis points for the year. Yields in the note and bond markets were volatile at times, as participants responded to uncertainties about the outlook for the economy and inflation. These worries—and the caution they generated—were also reflected in prices of equity issues, which fell over the year. Prices for tax-exempt securities, in contrast, rose through much of the year, with the largest gains occurring on less than top-rated issues as the earlier market concerns generated by the New York City financial crisis of 1975 receded further into the past. Demands from financial corporations and individuals—including in the latter case buying reflected through bond funds—also tended to strengthen the market.

Monetary Policy in 1977

Long-term ranges for aggregates

The FOMC continued gradually to reduce its twelve-month ranges for monetary growth during 1977, in order to move toward the slower expansion in money needed to dampen inflation and inflationary expectations over the longer run. While aiming at growth rates compatible with price stability over a number of years, the Committee was, nevertheless, able to foster current financial conditions conducive to growth in real income and employment. Once each quarter the Committee reviewed its twelve-month growth ranges for the monetary and credit aggregates and set new ranges for the period ahead, starting from the average level in the quarter just ended (table).

In setting these twelve-month growth ranges, the FOMC sought to take account of the likely effects of market interest rate levels, as well as financial and technological changes, on the public's demands for different types of depository assets. For this reason, the Committee made the largest downward adjustments in ranges for the broader aggregates—M_2 and M_3. By 1977, the influence of regulatory actions that had encouraged transfers from demand into savings and thrift deposits during 1975 and 1976 had begun to wane, and the higher levels of interest rates that developed on short-term market instruments as the year progressed made these instruments increasingly attractive relative to deposits.

Downward adjustment in the range for M_1 was more modest. In 1975 and 1976, growth of M_1 had been low relative to growth of nominal GNP, because changes in financial and cash management technologies had permitted the velocity of money to rise more than was the

Chart 2

Selected Interest Rates

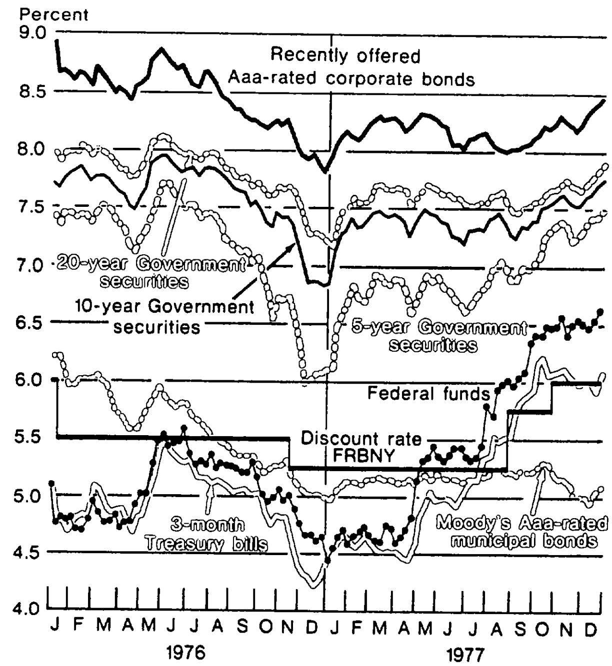
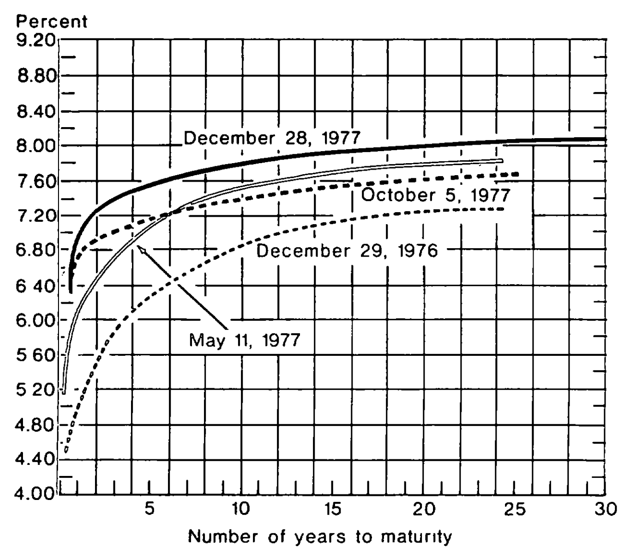


Chart 3

Yield Curves for United States Treasury Obligations



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	Credit proxy
March 1975 to March 1976	April 1975	5 to 7½	5.0	8½ to 10½	9.6	10 to 12	12.3	6½ to 9½
June 1975 to June 1976	June 1975	5 to 7½	4.2	8½ to 10½	8.7	10 to 12	11.2	6½ to 9½
1975-II to 1976-II	July 1975	5 to 7½	5.2	8½ to 10½	9.5	10 to 12	12.0	6½ to 9½
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
1975-IV to 1976-IV	January 1976	4½ to 7½	5.7	7½ to 10½	10.9	9 to 12	12.8	6 to 9
1976-I to 1977-I	April 1976	4½ to 7	6.3	7½ to 10	10.9	9 to 12	12.8	6 to 9
1976-II to 1977-II	July 1976	4½ to 7	6.6	7½ to 9½	10.7	9 to 11	12.4	5 to 8
1976-III to 1977-III	November 1976	4½ to 6½	7.8	7½ to 10	11.0	9 to 11½	12.7	5 to 8
1976-IV to 1977-IV	January 1977	4½ to 6½	7.8	7 to 10	9.8	8½ to 11½	11.7	7 to 10
1977-I to 1978-I	April 1977	4½ to 6½	7.3	7 to 9½	8.6	8½ to 11	10.4	7 to 10
								Bank credit
1977-II to 1978-II	July 1977	4 to 6½		7 to 9½		8½ to 11		7 to 10
1977-III to 1978-III	October 1977	4 to 6½		6½ to 9		8½ to 10½		7 to 10

case in previous economic expansions. In 1977, however, growth of M_1 apparently reestablished a relationship to GNP closer to the one that had prevailed more generally prior to 1975. In these circumstances, the FOMC elected to make less downward adjustment in the growth range for M_1 than for M_2 and M_3.

Instructions to the Account Manager

In the implementation of monetary policy between FOMC meetings, the Committee's focus continued to be on two-month growth ranges for M_1 and M_2 After each monthly meeting, the FOMC supplied the Trading Desk with ranges of tolerance for these aggregates—defined as the seasonally adjusted annual growth rate from the month before the meeting just held to the month after the meeting The FOMC also indicated how the Manager was to vary his objective for the Federal funds rate if incoming data caused revisions in the projections of M_1 and M_2 relative to their ranges. In comparing projected behavior against the ranges of tolerance, the Desk was expected to weigh M_1 and M_2 about equally It is the Manager's visible efforts to adjust the Federal funds rate as new data on the monetary aggregates become available that trigger reactions at financial institutions and in financial markets that ultimately affect the economy

In 1977, the Committee often established two-month tolerance ranges for the aggregates that had mid-points below the growth actually expected for them at the time of its meeting, recognizing that if strong expansion in the aggregates persisted this would call for a further limitation on reserve availability. The Committee also lowered the bottom of the aggregate ranges at times, thus reducing the likely need for a temporary drop in the Federal funds rate.

The Committee's ranges for the Federal funds rate were raised as the year progressed. However, at four meetings the Committee expressed a preference for the Manager to keep money market conditions unchanged, unless the aggregates were approaching or exceeding the end points of their ranges. This money market emphasis was adopted in June and October, immediately after there had been substantial increases in the funds rate. Then, in November and December, the Committee again elected to stress money market stability when members found it particularly difficult to judge the significance of the short-run behavior of the aggregates At times when financial markets were under strain, the FOMC instructed the Manager to take market reactions into account in implementing its objectives. In December, the Committee also instructed the Desk to consider developments in international markets in framing its response to the aggregates, since the weakness of the dollar and the unsettlement in the exchange markets had become a matter of concern

Implementing policy

Following his instructions, the Manager responded to the strength of the monetary aggregates at several points during the year by seeking an increase in the Federal funds rate. During the first three months, the funds rate was relatively steady, starting around 4⅝ percent as the year began and then moving toward 4¾ percent by mid-April. Between the April and May FOMC meetings, M_1 continued to grow following a large April bulge, reaching an expansion rate above the Committee's range, and the Manager fostered a 50 basis point rise in the funds rate to 5¼ percent.[3] A modest further rise in the funds rate to 5⅜ percent then developed between May and June. Additional strong money supply growth in early July was not reversed in succeeding weeks to the degree expected, and the funds rate was allowed to rise to 6 percent in the weeks just prior to the August Committee meeting.[4] A more gradual rise brought the funds rate to 6½ percent by mid-October, because estimates of the aggregates had tended to work toward the high side of the ranges specified at the August and September FOMC meetings. At the end of October, the Desk briefly sought a slight further rise in the funds rate because it appeared that a bulge in the aggregates during that month would not be worked down subsequently and that growth of the aggregates would be near or beyond the upper limits of the specified ranges. In early November, however, projections were revised lower, and the Desk returned to the 6½ percent funds rate objective, which it then retained over the rest of the year.

Financial markets remained acutely sensitive to the short-run behavior of M_1 throughout the year. Large increases in M_1—sometimes anticipated and sometimes not—usually precipitated upward adjustments in short- and even long-term interest rates. Initial market reactions were typically overdone and partially reversed subsequently. As a result, even by early October, yields on intermediate issues due after about five years and on long-term bonds were little different from the higher levels reached in early February, although fluctuations between February and early October were often substantial. Over the longer run, the System's willingness to let credit demands raise interest rates and the moderation in the pace of the economic expansion helped to bolster confidence that the recovery could proceed without generating the surging inflationary pressures seen earlier in the 1970's.

[3] The Committee raised the upper limit of the range for the Federal funds rate to 5½ percent from 5¼ percent, with the understanding that the Manager would use the additional leeway only if new data indicated significant further strengthening in the aggregates before the next meeting. Such strengthening did not develop in that period, and the additional leeway did not need to be used.

[4] On August 5, the top of the range for the Federal funds rate was raised to 6 percent from 5¾ percent.

Open market operations

System open market operations in 1977 limited the growth of nonborrowed reserves to around 3½ percent. As the Federal funds rate rose above the discount rate, member bank borrowing increased. In 1977, bank use of the discount window proved less predictable than in similar periods in the past. In some weeks, banks borrowed large amounts on Friday, which resulted in unanticipated reserve excesses after the weekend. At other times, borrowing would be light on Friday and reserve scarcities would develop by the end of the statement week. Borrowing also escalated more rapidly than in previous cycles in response to Desk moves to limit reserve growth, notably in August and in October. Increases in the discount rate from 5¼ to 5¾ percent in late August and to 6 percent toward the end of October reduced use of the discount window significantly.

Daily open market operations continued to be shaped by large fluctuations in factors that affect bank reserves, principally the Treasury's balances at Reserve Banks, float, and "as of" adjustments to bank reserve positions. A change in the procedures for arranging short-term transactions on behalf of foreign and international accounts also affected System operations during the year.

The high variability of Treasury cash balances continued to cause huge week-to-week changes in reserve availability, which needed to be offset through open market operations. In 1977, the average absolute change in the weekly balance at the Federal Reserve was $2.1 billion. This was similar to the experience in 1976 but high when compared with average swings of $0.5 billion in 1973 before the Treasury instituted its policy of keeping most of its balances at the Federal Reserve.

The Trading Desk was generally successful in offsetting these large variations, though difficulties did arise following major tax receipts in April, September, and to a lesser extent in December. On these occasions, the Desk was unable to make repurchase agreements (RPs) in sufficient volume to offset the rise in Treasury balances, primarily because available supplies of securities were low given market expectations of further increases in interest rates. The Treasury at those times helped alleviate the reserve shortages by temporarily redepositing funds in Tax and Loan Accounts at commercial banks.

On October 28, 1977, President Carter signed into law a bill which provides the Treasury with the authority to invest its cash balances with commercial banks. Those banks that choose to participate will receive funds flowing into their Tax and Loan Accounts that the Treasury does not immediately need for payment purposes. They may also receive occasional redeposits from balances at the Federal Reserve. The banks will pay interest on these investment funds. It is hoped that the new procedures, when implemented, will enable the Treasury to maintain reasonably steady balances at the Federal Reserve, thereby reducing the need for frequent and massive intervention in the open market by the Desk.

Starting in May 1977, the Desk began to meet all temporary investment orders from foreign central banks by making System matched sale-purchase transactions with them. This action, undertaken after Committee discussion, followed an Internal Revenue Service (IRS) ruling which raised a question as to the taxable status of income earned on RPs by foreign official accounts if the transactions were arranged in the market rather than with a governmental instrumentality, such as the Federal Reserve. For the rest of the year, the Desk essentially treated overnight matched sale-purchase transactions with foreign accounts as a market factor, which it took into account along with the anticipated impacts arising from variations in other factors when assessing reserve availability.[5]

Securities held outright by the System Open Market Account increased by about $10 billion in 1977, nearly $3.5 billion more than in the previous year. Most of the increase in growth resulted from larger net purchases of Treasury bills—$4.4 billion, compared with $863 million in the previous year. Purchases of coupon issues—at $4.7 billion—were about $500 million smaller than in 1976, and net acquisitions of agency securities—at $1.2 billion—were $300 million larger. In March 1977, the FOMC voted to discontinue outright purchases of bankers' acceptances under ordinary circumstances, but it continued to authorize RPs against acceptances. Outright holdings of acceptances which totaled $196 million at the start of the year had all matured by the end of October.

Trading relationships with Government securities dealers

In the past few years, there has been a substantial increase in the number of Government securities dealers that have had a trading relationship with the Desk. One of the steps in the establishment of a trading relationship with the Federal Reserve is inclusion on the list of dealers formally reporting their holdings and activity to the Federal Reserve. At the end of 1974, twenty-seven dealers reported activity daily to the Federal Reserve, while thirty-seven dealers were on the reporting list in February 1978. Several other dealers were making such reports informally, with the intent of becoming more active in the market and being added to the official reporting list.

Several factors have led to this growth. The sustained expansion in Treasury coupon offerings prompted several investment banking firms to enter the market, so that they could provide alternative investment outlets to their customers. Increased emphasis on performance by portfolio managers contributed to far greater buying and selling activity, particularly when prices of debt securities were rising during 1975 and 1976. Disenchantment with the equities markets also contributed to greater interest in fixed income securities.

The Government securities market has become more efficient and competitive and more able to handle large Treasury financings and Federal Reserve operations smoothly. The linkages between it and other debt markets have strengthened. Spreads between bid and offer prices have narrowed significantly for actively traded Treasury issues, and the liquidity of coupon securities—the ability to be converted into cash—has been enhanced. Technological development, involving electronic communications, has led to a broader and more rapid dissemination of prices and has also contributed to the narrowing of spreads.

The rapid expansion in the market has not been free of disadvantages, however. To many dealers the narrowing of trading spreads has reduced one source of income, making the successful anticipation of interest rate movements all the more important. At the same time, the expansion in the market seems to have made it more difficult for individual dealers to perceive actual or potential market supplies of issues and thus to act as buffers for the ebb and flow in customer demands. Daily activity declined somewhat over 1977, and prices often moved significantly in limited trading as participants reduced the size of the markets they were willing to make because of their perception of increased position risk. Dealer losses were widespread in 1977.

Because the expansion of the market was rapid and the availability of financing plentiful, not all participants gave adequate attention to the risks inherent in such activity, particularly with regard to the implicit extension of credit that arises in many transactions. In recent years, the Federal Reserve has increased its surveillance of market activity. In 1977, a number of on-site visits were made to dealer firms to evaluate

[5] In late 1977, the IRS formally determined that income received by foreign official accounts from repurchase transactions with the System Account or with the Federal Reserve Bank of New York was not subject to Federal withholding tax.

market practices and policies, as well as to check on the accuracy of dealers' statistical reports. Further visits are planned for 1978.

The Federal Reserve has sought to encourage free entry into the market. At the same time, it has been cognizant of the need to evaluate each firm's activity —not just to assess its market practices but also to evaluate the services it provides to the Federal Reserve and the Treasury. Much of the expansion in trading activity in recent years has represented trading among dealers—some directly, but mostly through brokers. Thus, it is not always clear that expanded activity enhances the distributive services of the market. For this reason, when evaluating an individual dealer's performance, the Manager has tended to place increasing emphasis on that firm's trading with customers and not merely on its total market activity.

Observations

In recent years, the System's procedures for establishing and pursuing growth ranges for the monetary aggregates have become more widely understood by the public and by participants in financial markets. As a result, market participants have tried to anticipate movements in the monetary aggregates that might trigger shifts in the System's weekly objective for the Federal funds rate. They have been acutely sensitive to the weekly publication of money supply data and to any nuances they perceive in the Desk's conduct of daily open market operations.

The preoccupation of market observers with the short-run behavior of the monetary aggregates reflects, of course, the System's techniques of operation. Market observers carefully follow evidence on the economy's prospective behavior to reach a judgment about the likely course of interest rates over the long run. But for the operations of Government securities dealers and other short-term holders of securities, a correct forecast of the timing of changes in interest rates is critical to profitability.

In 1977, interest rates evidenced substantial short-run fluctuations, to a considerable extent because market participants found it difficult to identify underlying tendencies in the inherently volatile weekly data on the monetary aggregates. Money supply statistics tend to be highly erratic over periods of a week—and quite volatile for periods of a month or more—partly because the current knowledge of seasonal adjustment techniques does not permit the effective separation of recurring patterns of fluctuation from other information in the data. The market's resulting difficulty in anticipating monetary movements thus tends to be reflected in considerable short-run volatility of interest rates.

In these circumstances, there is much to be said for the System's use of wider short-run tolerance ranges for M_1—the most volatile of the aggregate measures—as was done over part of the year. Alternatively, ranges might be used that rely upon an averaging technique that is not so sensitive to incoming short-run data. If the System's time horizon were so extended, this would soon be perceived and there might be less emphasis placed on volatile data that frequently contain little information about trends and sometimes even mislead.

While the behavior of M_1 still bulks large in shaping the thrust of System open market operations over the short run, the relative emphasis on M_1 has nevertheless been reduced in recent years. Changes in the financial structure and payments mechanism and in the pattern of regulatory constraints suggest that observed holdings of demand deposits—the major component of M_1—may not now be serving the same economic purpose as in earlier years. Under present arrangements, demand deposits may now be a rather incomplete measure both of transactions demands for money and of money as a store of liquidity. For example, the availability of investments, such as RPs, to large economic units and the growing possibilities for smaller economic units to use savings deposits for transactions purposes suggest that the narrow money supply—as currently defined—may now be different than in the past. In these changing circumstances, it thus becomes necessary to give added emphasis to the broader measures of money when formulating and implementing policy.

At the same time, however, it must be recognized that the broader measures of money possess certain drawbacks of their own as operating ranges for open market policy. For example, many of the time deposits included in M_2 and M_3 are certificate accounts, with maturities of several years and heavy penalties for early withdrawal. Accounts of this type are not too well adapted to either the transactions or liquidity purposes of money. In addition, time and savings deposits subject to statutory interest rate ceilings can develop a rather erratic growth performance when yields on competitive market securities fluctuate around those ceilings.

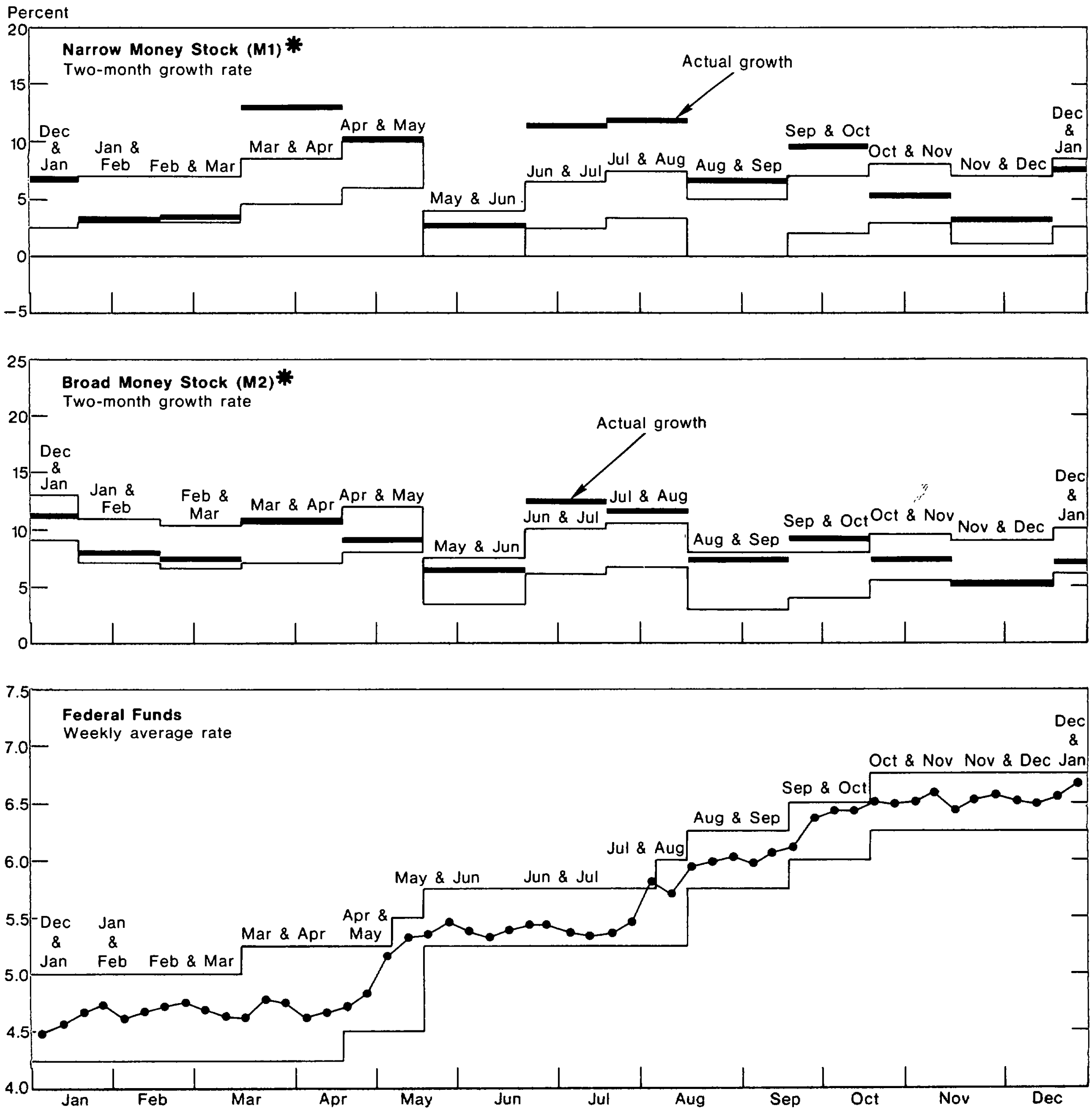
Open Market Operations in 1977

January to mid-April

Early in 1977, FOMC members were generally anticipating a strengthening of the economy. As the first quarter evolved, a vigorous expansion did develop. With the restraints of severe winter weather and fuel shortages receding, it seemed likely that economic growth would accelerate further in the second quarter

Chart 4

FOMC Ranges for Short-run Monetary Growth and for the Federal Funds Rate, 1977



Shaded bands in the upper two charts are the FOMC's specified ranges for money supply growth over the two-month periods indicated; in the bottom chart they 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.

and then remain relatively strong over the rest of the year. On the other hand, there were signs that price inflation was accelerating, and participants in financial markets were expressing concern that the Administration's fiscal proposals might be overly stimulative.

In specifying its instructions to the Manager during this period, the Committee was conditioned by expectations that the demand for money would strengthen along with economic activity. The FOMC moved cautiously in modifying its policy stance, however, because of the sharp increases in market interest rates that suddenly developed after the turn of the year. In January, the FOMC instructed the Desk to seek a slight upward adjustment in the Federal funds rate from around 4⅝ percent to the 4⅝ to 4¾ percent area, within the same 4¼ to 5 percent range adopted in December. It also established tolerance ranges for M_1 and M_2 that were on the low side of the possibilities discussed by the Committee (Chart 4). When growth of the aggregates temporarily faltered in February, the FOMC established tolerance ranges that surrounded the growth expected at the time and many members expressed a preference for the Federal funds rate to remain steady. By the time of the March meeting, monetary expansion appeared to be picking up and tolerance ranges for the aggregates were lowered relative to expected growth; the upper end of the range set for the Federal funds rate was increased by ¼ percentage point to 5¼ percent.

The Desk sought Federal funds trading within the area of 4⅝ to 4¾ percent after the January meeting, though the slight change in its objective was scarcely perceptible. After being lowered during the final months of 1976, the funds rate had leveled out at 4⅝ percent by the year-end. By mid-January the Desk had become a bit more tolerant of funds trading slightly above this level than below, since growth of M_1 and M_2, taken together, had edged toward the high side of the specifications adopted in December. Daily operations during January were conditioned to a degree by the unsettled state of the Government securities market. Between the January and February meetings, the behavior of the aggregates gave no cause for the Manager to modify his approach to reserve provision. In the weeks leading up to the March meeting, estimates were revised lower but both M_1 and M_2 were again reasonably within their ranges.

Securities prices tumbled dramatically just after the start of the year. Dealers in Government securities had increased inventories substantially as 1976 drew to a close, anticipating that the funds rate would move a little lower and that banks and other investors would resume their purchases after a seasonal lull. But the lower funds rate and the expected demand failed to materialize and, in fact, banks liquidated issues for a while, given the emergence of heavier demand for credit. Interest rates across the maturity spectrum climbed amid the realization that the Federal funds rate was not likely to decline further and that more robust economic growth was likely to lead in time to a less accommodative monetary policy. Concern over the size of prospective Treasury deficits and of long-term financing by corporations and municipalities deepened the pessimism in the market for coupon securities. Yields on intermediate-term Treasury issues rose as much as 65 to 100 basis points from the end of December to early February to around 7 percent in the five-year area, while yields on longer term bonds increased by about 50 basis points to around 7.80 percent. Auction rates on three- and six-month bills rose by about 40 and 50 basis points to 4.72 and 5.01 percent, respectively. The sharp price declines imposed very large losses on the dealer community and in some cases equaled the profits earned in all of 1976, a rather good year for dealer profitability.

The debt markets stabilized during February. Short-term rates moved slightly lower, as the funds rate held fairly steady and data on the aggregates showed modest growth. Just before the March FOMC meeting, three- and six-month bills were auctioned at 4.55 and 4.81 percent, respectively. Intermediate- and long-term rates fell for a few weeks but began to rise again, reflecting caution over the prospects for containing inflationary pressures in the face of expanding business activity and credit demands. While dealers made substantial reductions in their positions in coupon issues after the Treasury's quarterly refunding in February, yield increases were far more modest than at the start of the year, with those on one- to ten-year issues moving up 10 to 15 basis points between early February and mid-March.

Monetary growth accelerated significantly in April, and data available shortly before the FOMC meeting indicated that this bulge was not receding. It appeared that growth of M_1 would exceed its March-April range, while M_2 would be in the upper part of its range. The Desk—which had been aiming for a Federal funds rate in the 4⅝ to 4¾ percent area—adjusted its weekly objective for the Federal funds rate to 4¾ percent. The extent of the Desk's response was tempered somewhat because of the proximity of the next FOMC meeting, and the change in the Desk's objective was barely perceptible, in part because market attention was focused elsewhere.

Market participants were preoccupied with the Administration's withdrawal of its proposed tax rebate program. The release of data showing the unusually large increase in the narrow money supply over the first week of April—$5 billion—and the large rise in industrial production reported for March did little to temper the shift in market expectations toward the view that interest rates would recede. Dealers rebuilt positions in coupon issues significantly, anticipating that Treasury financing needs would be reduced. In the days leading up to the April FOMC meeting, yields on intermediate-term issues fell by about 20 to 30 basis points, well below early-February highs, while those on bonds declined by about 15 basis points. Rates on Treasury bills fell somewhat less.

Mid-April to mid-July

When the Committee met in April, estimates showed that the performance of the economy in the first quarter had been even stronger than anticipated. Expansion over the next few quarters was still expected to be substantial even though fiscal programs seemed likely to be less stimulative than thought earlier. The unemployment rate had been moving lower amid rapid labor force growth. At the same time, however, the outlook for inflation was worrisome in view of upward pressure on food prices and the prospects for an increase in the minimum wage. The Administration was planning to present its energy program to the Congress the day after the meeting. Although the need for an energy program was clear, its effects on business investment and other key components of aggregate demand were difficult to appraise and uncertainties seemed likely to intensify while the Congress deliberated actual measures.

In financial markets, participants generally expected upward rate pressures to emerge as the year unfolded. A seasonal Treasury surplus was anticipated during the second quarter, but private credit demands at banks and in the debt markets seemed likely to continue their brisk expansion. Growth of M_1 and M_2 was very rapid in April, although the unusual increase early in the month was expected to be offset later. At the April meeting, the FOMC acknowledged that near-term monetary growth was likely to be rapid and set 6 to 10 percent and 8 to 12 percent growth ranges for M_1 and M_2, respectively, for the April-May period. It also set a 4½ to 5¼ percent range for the Federal funds rate. With the midpoint of the range a little higher than the 4¾ percent rate sought just prior to the meeting, the new range left some room for the Desk to respond to any tendency for rapid money growth to persist.

While initial estimates of the aggregates showed April-May growth within the specified ranges, revisions toward the end of April placed M_1 considerably above its range and M_2 in the middle of its range. Taking both together, the Manager began in the final days of April to seek a rise in the Federal funds rate to 5 percent, anticipating that a further firming would ensue if additional data were to confirm the strength of money growth. It was decided to make this firming in the System's stance evident to the market promptly, since the Treasury was just about to begin its May refunding, the terms of which were announced on April 27.

A sharp rise in the Treasury's balance at Federal Reserve Banks and an increase in the required reserves of member banks had begun to exert pressure on the money market during the latter part of April. The Desk encountered difficulty in offsetting these reserve drains, since dealers and other active market participants had sharply reduced their securities positions in anticipation of higher interest rates. The Treasury had helped alleviate the reserve scarcity by moderating calls on Tax and Loan Accounts and, at one point, made a temporary redeposit to its balances at commercial banks.

Since the Desk expected substantial reserve needs to persist, it announced late on April 27 that it would arrange four- and seven-day RPs at the start of the May 4 week. After the System had concluded this operation and had bought bills from foreign accounts, the money market firmed from an opening rate of 4⅞ percent to trading levels of 4 15/16 and 5 percent. No further response from the Desk ensued that day, and the market readily concluded that a further rise in the Federal funds rate was under way. This view was bolstered on April 28, when the weekly monetary statistics published late that day showed that the money supply was remaining high. Funds opened at 5 to 5 1/16 percent on Friday morning, and when they had risen to 5⅛ percent the Desk arranged over-the-weekend RPs. But trading moved up later on—to as high as 5¾ percent—and some banks turned to the discount window.

The Desk supplied additional reserves after the weekend, as trading in funds generally remained higher than 5 percent. By the end of the May 4 statement period, the Desk provided only modest resistance to this firming since it began to appear that a further increase in the objective for the funds rate to around 5¼ percent would soon be appropriate. Over the May 4 week, the average effective Federal funds rate rose by 33 basis points to 5.15 percent.

Estimates of monetary growth in the following week were still strong, and the Desk adopted a 5¼ percent objective. On May 6, the FOMC raised the top of the range for the funds rate to 5½ percent but indicated that the additional leeway was to be used only if later estimates for monetary growth were significantly higher. When this did not occur, the Desk maintained the 5¼ percent objective until the May meeting.

The view that yields would decline, evident in securities markets shortly before the April meeting, faded quickly once participants began to expect the System to move toward a less stimulative posture, given the evidence of unusual acceleration in monetary growth and a further quickening in the economy. By the time the Treasury conducted its refunding auctions in early May, the market had largely adjusted to the higher funds rate and good bidding interest for new issues developed at the higher rate levels. The adjustment process was facilitated by the fact that the Treasury was paying down $0.5 billion of maturing debt and needed to sell only two issues, a 6¾-year note and additional bonds due in 2007. While dealers acquired sizable amounts of the new issues, they sold them quickly—though at a loss—amid evidence of further Federal Reserve tightening. By the time of the May 17 meeting, they had a net short position of $425 million in issues due after one year—$1.2 billion below the amount held four weeks earlier—despite $1.8 billion of new refunding issues taken into position. Over the intermeeting period, yields on five- to ten-year issues rose by 30 basis points, while those on longer maturities increased by about 15 basis points. Rates on Treasury bills rose some 50 basis points, but steady and sizable paydowns by the Treasury and a decline in dealer positions helped alleviate the market's adjustment to rising short-term rates.

Information available at the May FOMC meeting continued to suggest a more vigorous economic expansion in the second quarter than had been anticipated earlier. This was confirmed by the data reviewed at the June meeting, although at that time it began to appear that growth in subsequent quarters might slow. While employment was continuing to expand, declines in the unemployment rate had moderated.

The Committee concluded that relatively slow growth of the monetary aggregates over the May-June period would be appropriate after the exceptionally rapid expansion early in the second quarter. It set the tolerance range for M_1 toward the low side of the options discussed. The FOMC narrowed the range for the Federal funds rate to 5¼ to 5¾ percent, instructing the Manager to seek a rate of 5⅜ percent after the meeting. While most members preferred to avoid a decline in this rate, there was also concern that a further increase of 50 to 60 basis points—the magnitude of the rise between mid-April and mid-May—could have more significant repercussions on financial markets.

In the days following the May meeting, the Desk sought to establish a funds rate of around 5⅜ percent. This represented only a slight increase, since market pressures had already brought the rate to within a 5¼ to 5⅜ percent range. Expansion in the monetary aggregates slowed considerably over the May-June period, though they stayed well within their ranges.

By the June meeting there was considerable uncertainty about the outlook for growth in the near term. The early distribution of social security checks in July could raise M_1 growth in that month, as it had in April. The FOMC decided to give greater weight than usual to money market conditions in the conduct of open market operations over the June-July period and retained a 5¼ to 5¾ percent range for the funds rate. It instructed the Manager to maintain a funds rate of around 5⅜ percent unless growth of the aggregates should approach or move beyond the limits of the ranges specified for the aggregates. In early July, growth did strengthen substantially but not enough to call for a Desk response under the money market directive. Thus, the Manager retained the 5⅜ percent objective until the July meeting.

The securities markets reacted briefly but significantly to the slight upward adjustment in the Desk's objective for the funds rate in mid-May as participants expected the change to continue. When the funds rate soon stabilized, interest rates across the maturity spectrum began to work steadily lower. Treasury bill rates fell by about 5 basis points between late May and the end of June to 4.98 percent and 5.19 percent, respectively, for the three- and six-month issues. Yields on notes and bonds declined by about 10 to 20 basis points into early June and were relatively steady for some weeks thereafter. For five- and ten-year issues, for example, yields moved back to levels that were not much different from those observed after their January rise. While Treasury financing needs had moderated, business demands for longer term funds and mortgage-related borrowing by financial intermediaries had risen to fill the gap. Tax-exempt debt offerings had continued at a record pace.

Mid-July to mid-October

The economic situation appeared fairly strong when the Committee met in July. While growth of real GNP in the second half of the year appeared unlikely to be so rapid as in the first, a gradual slowing was viewed as desirable in many respects. Actual developments over the summer suggested that the economic expansion had become more balanced, with business capital investment gaining momentum for a while and needed inventory adjustments being undertaken promptly. By September, it was clear that the expansion had lost some of the exceptional vigor displayed earlier in the year, although the continued strength in final sales suggested that the slowing might be temporary.

Growth of the monetary aggregates had moderated during the second quarter but was high for the three months as a whole. Growth had speeded up again in early July. At its July meeting the FOMC specified an aggregates directive, with tolerance ranges for M_1 and M_2 that did not permit room for a continuation of the early-July bulge. The 5¼ to 5¾ percent range for the Federal funds rate adopted at the two previous meetings was retained. Monetary data available shortly after the July FOMC meeting suggested overly strong growth, and it later appeared that M_1 and M_2 were moving above the specified ranges.[6] The Manager again faced the need to indicate the System's response to strong monetary growth quickly and clearly in the days before a Treasury refunding. Therefore, in the last few days of July the Desk started to encourage a gradual rise in the funds rate from 5⅜ percent to the 5¾ percent top of its specified range. Since the market had already perceived the rapid growth in the aggregates, the Desk's response was expected. On August 5 the FOMC raised the upper bound for the funds rate to 6 percent, noting that the additional leeway should be used gradually and cautiously if further data still pointed to excessive monetary growth. When estimates of money growth strengthened, the Desk sought a rate of 5¾ percent for a few more days and then raised the objective to 6 percent. At its meetings in August and September the FOMC moved the allowable range for the Federal funds rate upward. Funds were trading at about 6⅛ percent just before the September meeting and at 6½ percent from then until the October meeting, since estimates of growth of the aggregates moved toward the top of the ranges specified at both meetings.

The rise in the funds rate that developed over the summer brought it to levels that were significantly above the 5¼ percent discount rate. Member bank borrowing rose sharply, especially in August, amid expectations that the discount rate would soon be raised. Daily average borrowing at the discount window rose to $1.7 billion late in August from about $400 million in mid-July. The Desk found it difficult to anticipate how much banks would borrow from day to day. Enlarged borrowings over weekends generated reserve excesses toward the end of some statement periods, often placing the funds rate under downward pressure.

The Board of Governors of the Federal Reserve System approved an increase in the discount rate to 5¾ percent at the end of August. After an initial sudden drop in discount window use, borrowing behavior returned to a more predictable pattern. When the funds rate rose again in September and into October, use of the discount window quickly expanded once more, from daily averages of less than $350 million to nearly $1.9 billion, and weekly fluctuations also grew. In late October, the discount rate was increased to 6 percent and borrowing receded again.

The securities markets anticipated—and at times overanticipated—the rise in interest rates that rapid growth in the aggregates would bring. Rates on money market instruments adjusted higher, but other rates were less affected so that the yield curve continued to flatten. By mid-September, rates on issues due after six years were below levels observed in the spring. Investor demand for the Treasury coupon issues sold in the August refunding and for subsequent offerings of two- and four-year notes was impressively strong. Dealers quickly moved to establish fairly large short positions after each note or bond auction, only to encounter sustained investor interest.

During September, however, expectations shifted again. Market participants feared that the aggregates could again bulge in early October, repeating the earlier quarterly patterns, and that economic expansion could pick up from the more moderate pace experienced in the third quarter. While demands for short-term credit had slowed in the third quarter, borrowing in debt markets had again been quite substantial. The Treasury had moved from a cash surplus to a deficit position. State and local government borrowing remained unusually heavy, as they continued to prerefund issues. External financing by business exceeded the gap between capital outlays and cash flow, suggesting some anticipation of higher borrowing costs in the future. By the time the Committee met in October, interest rates were moving upward across the maturity spectrum.

Mid-October to year-end

The picture of the economy presented at the October meeting was mixed. Staff projections suggested that growth in real GNP would pick up over the remainder of the year and would then continue at a moderate, though diminishing, pace. The rate of inflation was expected to remain high, although lower than in the first half of 1977, while the unemployment rate had shown no significant change since April. Pressure on the dollar in the exchange markets, which had first emerged early in the summer after a year of relative stability, began to build up again near the end of September. The dollar had fallen significantly despite substantial support operations by foreign central banks. The unemployment rate stayed near 7 percent, though after the year was over figures for August through November were revised lower and a decline to under 6½ percent was reported for December. The dollar weakened considerably further in exchange markets

[6] The Manager awaited further clarification since data for the middle of July might have been distorted by the power blackout in New York City.

in the final months of the year, and this became a matter of concern to the FOMC.

At its final three meetings of the year, the Committee gave relatively more weight to money market conditions in the implementation of monetary policy. Financial flows tend to become more volatile toward the year-end, making it more difficult than usual to assess the significance of short-run behavior of the aggregates. There was also uncertainty about the underlying causes of the strength in money demand over the second and third quarters and the prospects for its velocity. Reflecting these uncertainties, the short-run tolerance ranges for M_1 adopted at these meetings were, for the most part, somewhat wider than typically had been the case. For the Federal funds rate, a 6¼ to 6¾ percent range was specified at the October meeting and was retained through the year-end.

Estimates of monetary growth strengthened after the October FOMC meeting. By the end of the month they became sufficiently strong, with M_1 projected at rates above its range of tolerance and M_2 not far from the top, to call for some response from the Desk. It was desirable to move promptly since the Treasury was beginning its quarterly financing. Consequently, the Desk began seeking a Federal funds rate in the area of 6½ to 6⅝ percent in late October until a softening in the aggregates, reported a short while later, led it to return to the 6½ percent objective. Thereafter, estimates of growth of the aggregates remained within the ranges specified by the FOMC, and the Desk sought a funds rate of 6½ percent through the end of the year.

Interest rates rose at the end of October and into early November, as market participants concluded that a further shift in the course of monetary policy was emerging. When the money market firming proved temporary, the increases were retraced for a while. The yield curve in the market for Government securities continued to steepen, however. The investment of the proceeds of exchange market intervention by foreign monetary authorities put Treasury bill rates under some downward pressure. At the auctions on December 21, three- and six-month bills were awarded at average rates of 5.99 percent and 6.34 percent, down by nearly 30 and 15 basis points, respectively, from levels two months earlier though some drift upward occurred subsequently. Between mid-October and the year-end, yields on most Treasury issues due after five years rose by about 20 to 25 basis points while those on long-term corporate bonds were up by 20 basis points. Evidence that economic growth was not so sluggish as many had thought, worries that inflation would accelerate, and that Treasury deficits as well as private credit demands would grow led to expectations that interest rates would need to rise further in the new year.