Monetary Policy and Open Market Operations in 1984

In 1984, monetary policy sought to promote sustainable growth in economic activity while encouraging further progress toward price stability. In pursuing the objectives of the Federal Open Market Committee (FOMC), the Desk adapted operations to the new milieu of contemporaneous reserve requirements (CRR) beginning in February, and had to take account of a variety of economic and financial developments throughout the year Monetary policy was successful in keeping the narrower money measures—M1 and M2—within their annual growth ranges throughout the year, although the broadest measure of money and the credit aggregate generally tracked above their ranges.

The first half of the year was marked by very rapid economic expansion, followed by a period of more modest growth. Inflation remained subdued—impressively so by the standards of the 1970s. Although price increases were still larger than consistent with long-run stability, the persistence of modest inflation numbers helped to lower inflationary expectations. Interest rates generally rose during the first half of the year when money growth was pushing upward, the economy was expanding at an unusually rapid pace, and monetary policy was working to counter the excessive expansion. Rates declined thereafter as both money growth and economic activity fell off for a time and policy became more accommodative. Short-term rates declined the most and ended the year well below their starting levels. Long-term rates were little changed to slightly lower on balance.

The economic expansion was accompanied by disturbing structural imbalances. The large ongoing Federal budget deficit absorbed both domestic and foreign savings. Spurred by a rush of foreign investment, the dollar strengthened in the foreign exchange market despite the large current account deficit. Meantime, the dollar inflows facilitated the financing of the Federal budget deficit. These deficits and the resulting imbalances among economic sectors were a source of deep concern to members of the FOMC. Monetary policy had little scope for modifying these effects, and the FOMC continued to focus primarily on avoiding excessive monetary expansion When monetary growth turned sluggish in the second half, the FOMC's more accommodative posture was reinforced by a desire to temper further strengthening of the dollar.

The Committee restored some of the weight to M1 that had been taken away in the latter part of 1982 when a spate of financial innovations brought the measure's reliability into question. In drawing up annual growth ranges at its meeting in late January 1984, the FOMC indicated it would continue to give substantial weight to M2 and M3 and would evaluate M1 relative to the broader measures By the July review of the annual ranges, most Committee members felt that M1 should be given roughly equal weight to the broader

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measures, as its recent cyclical relationship to nominal GNP had become more consistent with that of earlier periods Nonetheless, many uncertainties remained about the behavior of all of the aggregates The Committee continued to appraise the aggregates in light of developments in the economy and the financial markets, both domestic and international, as well as the outlook for inflation and credit growth

The Committee maintained essentially the targeting procedure used in 1983, in preference to a quasi-mechanical targeting procedure such as prevailed between October 1979 and October 1982 The earlier procedure had built closely on the linkage between money and reserve growth, and allowed deviations of M1 relative to its specified growth paths to show through, more or less automatically, in changed levels of adjustment plus seasonal borrowing at the discount window The introduction of CRR raised the subject again, and the Committee considered potential modifications Under CRR, deposits and reserves are more closely related in time than they were under lagged reserve requirements (LRR), and perhaps more conducive to some type of short-run money targeting using reserve aggregates. However, the Committee remained skeptical about the desirability of trying to mold the short-run behavior of M1 given the uncertainty about velocity behavior and the meaning of week-to-week variability

Instead, in 1984 the Committee established at each FOMC meeting a desired degree of reserve pressure, interpreted as an initial amount of adjustment plus seasonal borrowing The directive then indicated desired money growth, stating the conditions under which it would be appropriate to respond to stronger or weaker money growth by altering the degree of reserve pressure As in 1983, the extent of business expansion and the behavior of prices were regularly included as conditioning elements From time to time, credit and financial market behavior were also listed explicitly, and toward the end of the year, international financial markets and the strength of the dollar were included as well

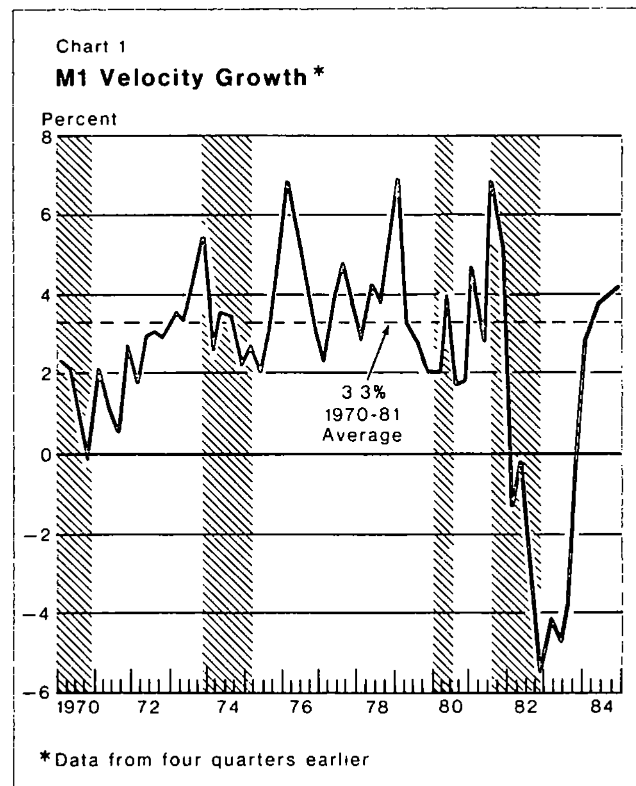
The switch to CRR at the beginning of February involved several changes in the rules for reserve accounting Under the old system of LRR, reserve requirements were applied to deposit levels of two weeks earlier Under CRR, requirements were applied to transactions deposits with only a two-day lag (Reserves on non-transactions deposits and vault cash to be counted towards meeting reserve requirements continued on a lagged basis) The length of the reserve computation and the maintenance periods was doubled to two weeks Under the new system, both the banks and the Federal Reserve had to make estimates of required reserves Both also had to adjust to managing reserves over a longer period.

With occasional exceptions, estimating required reserves went reasonably well, although there were instances when revisions proved large enough to modify the appropriate reserve strategy. The lengthening of the period over which requirements were to be met altered both Federal Reserve and bank strategies for meeting reserve goals For the Open Market Trading Desk, it meant more options for offsetting a reserve excess or shortage For the banks, it meant more flexibility in dealing with technical supply factors or changing interest rate expectations As the year went on, it became apparent that expectations about future interest rates had greater influence than before on the Federal funds rate The rate often moved in the direction that the market expected monetary and economic developments to produce, without a shift in the Desk's actual allowance for borrowing necessarily having occurred

Beginning in May and continuing over succeeding months, a crisis of confidence concerning Continental Illinois National Bank and Trust Company of Chicago (Continental) had considerable effects on Desk operations and bank reserve management As depositors withdrew funds in response to actual and prospective loan losses, the bank had to borrow heavily at the dis-

Chart 1

M1 Velocity Growth*



*Data from four quarters earlier

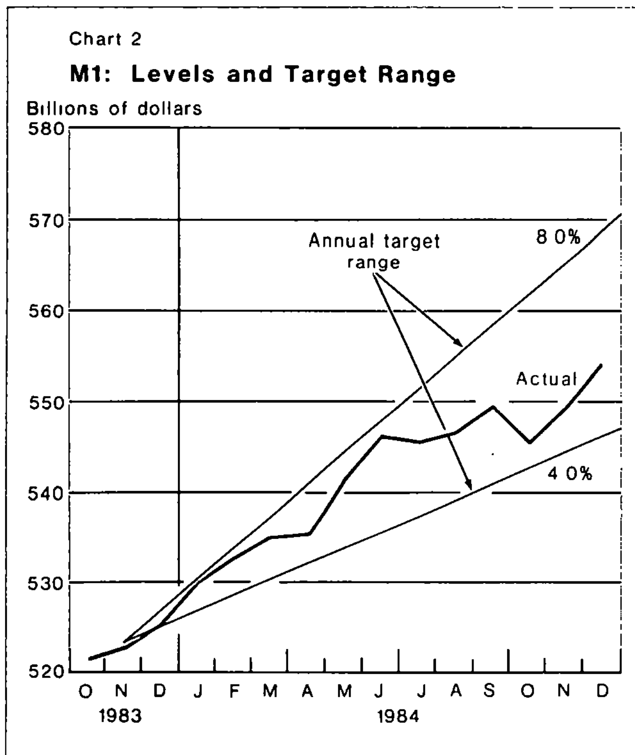


Chart 2

M1: Levels and Target Range

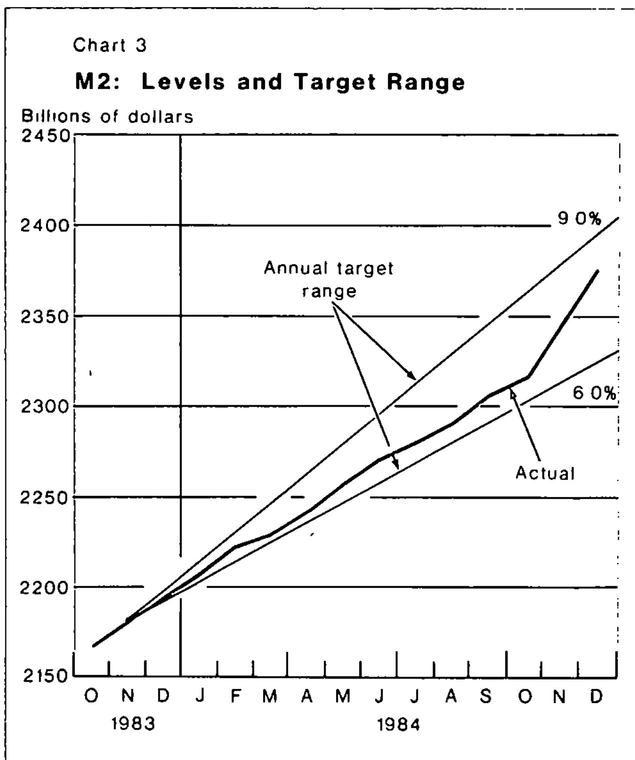


Chart 3

M2: Levels and Target Range

count window to support its ongoing operations. Borrowings grew as the search continued on several fronts for a lasting solution. As it became clear that the difficulties would take considerable time to resolve, these borrowings were classified as extended credit and treated for policy purposes as nonborrowed reserves. The Desk had to cut back on provision of reserves through open market operations to compensate for the injection of reserves from the extended credit borrowing. During the summer, many other banks became increasingly reluctant to use the discount window, as use might be interpreted as a sign of weakness. Given the Desk's pursuit of the reserve paths, conditioned on about unchanged borrowing levels through this period, the special effort banks made to avoid borrowing put increased upward pressure on the Federal funds rate.

The borrowing allowance was raised once, near the end of March, before the Continental difficulties, and then was held at $1 billion until late August. During the summer the Federal funds rate continued to rise as the reluctance to borrow intensified. The Committee accepted the increased pressures in the money markets, given the strong money and economic growth during most of the period. In late summer, as evidence developed that money and economic growth were slowing, the Committee sought more accommodative conditions, which were reflected in a series of reductions in the borrowing assumption. Later the discount rate also was reduced. As pressures on the banking system eased and Continental's problems moved toward resolution, the unusual reluctance to borrow seemed to fade away.

Monetary policy—formulation and implementation

In restoring M1 to target status in 1984, the FOMC took account of that measure's long-term record as a reasonably good predictor of nominal GNP and prices—at least as good as other measures. Initial adjustments in the underlying relationships to income and interest rates associated with recent financial innovations appeared largely to have been completed. While M1 behavior seemed to be returning to normal, with velocity rising again (Chart 1), some uncertainties remained. The presence of interest bearing instruments in M1 could either increase or decrease the sensitivity of M1 demand to interest rate changes.[1] Furthermore, the NOW and Super NOW accounts represent a mix of savings and checking vehicles. Since savings accounts have lower velocity than checking accounts, the pres-

[1]NOW accounts pay interest at a rate that generally has been well below market rates. But, since the rate is greater than zero, a change in rates will have a large proportionate impact on the difference between market and ceiling rates. This factor should increase the interest sensitivity of the demand for money. Meantime, since Super NOWs pay market interest, sensitivity of money demand to rate changes from this source should decline.

ence of NOW accounts could lower the trend of M1 velocity growth Indeed, some of the velocity decline in late 1982 and early 1983 was probably from this source, although declining inflation and interest rates played a role as well NOWs also could have contributed to shifting seasonal factors The revisions to seasonal factors for 1983 were unusually large

Given the remaining uncertainties about M1's behavior, in January the Committee retained the relatively wide 4 to 8 percent growth rate range it had tentatively established in July 1983 (Chart 2) The range was a full percentage point below the monitoring range that had applied in the second half of 1983 It was consistent with actual growth during that period and allowed for a range of velocity behavior while still leaving room for economic expansion

The growth rate ranges for M2 and M3 were established at 6 to 9 percent (Charts 3 and 4), representing a one percentage point reduction for M2 and a one-half percentage point reduction for M3, compared to the 1983 ranges Historically, M3 had expanded more rapidly than M2. However, in 1983, the relationship had shifted as the introduction of money market deposit accounts (MMDAs) had inflated M2 relative to the other monetary aggregates For 1983, the Committee had set the base period for M2 in February-March following the initial shifts of funds into MMDAs, but the range for M2 still left room for some residual shift of deposits By setting equal ranges for M2 and M3 in 1984, the Committee provided room for a partial return of the historic relationship between these two measures The FOMC established a monitoring range for domestic nonfinancial debt of 8 to 11 percent (Chart 5)

At its July 1984 meeting, the Committee reaffirmed all of the ranges it had set in January At the time, M1 was tracking in the upper part of its range, having expanded at a 7½ percent annual rate from the fourth quarter of 1983 through June 1984 [2] M2 was modestly below the middle of its range, during the first half of the year, having expanded at about a 7 percent annual rate from the fourth quarter of 1983 through June 1984 M3 had recently moved above its range, having risen at almost a 10 percent annual rate over that period Domestic nonfinancial debt had run persistently above its annual range, recording a 13 2 percent annual growth rate over the same period The Committee noted that M3, and especially the debt measure, were likely to end the year high in their ranges or above them A majority of the

[2]All money growth rates cited in this report are based on the data available before the February 14, 1985 benchmark and seasonal revisions These revisions raised overall growth rates slightly However, the growth rate from the fourth quarter through June was lowered modestly for M1 to 6 9 percent For M2 and M3, the revised growth rates for the same period were 7 3 and 10 2 percent, respectively

Chart 4

M3: Levels and Target Range

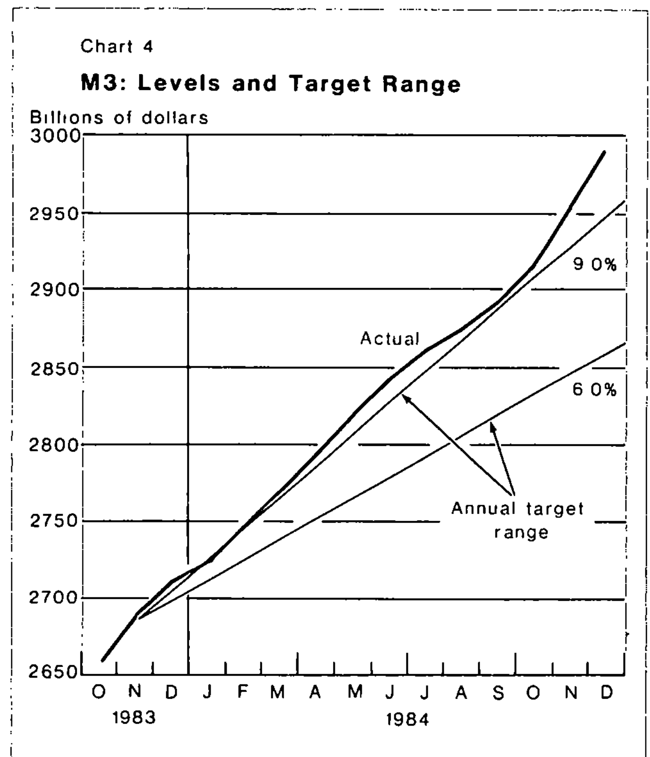
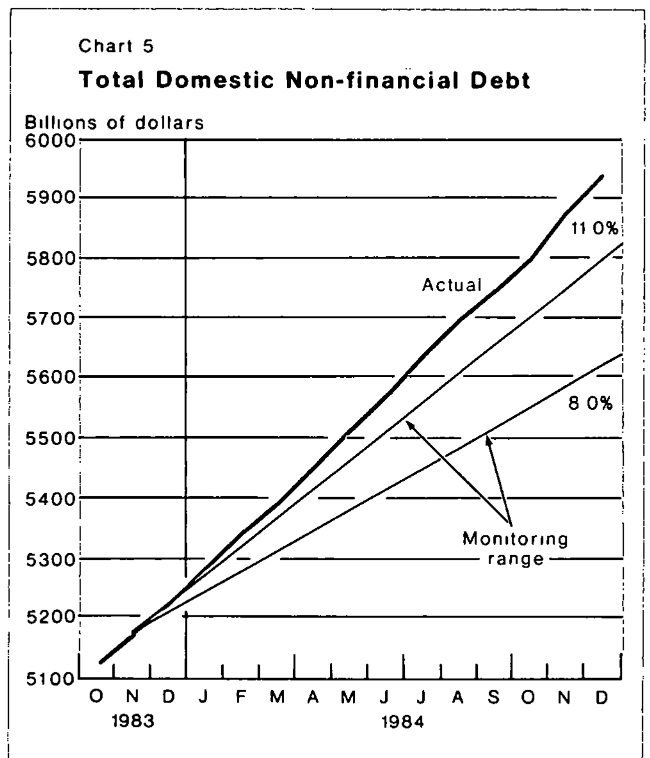


Chart 5

Total Domestic Non-financial Debt



Committee did not favor raising the ranges of those measures to accommodate the rapid growth, since acceptance of such growth was not believed to be consistent with the Committee's longer term objective of a return to price stability

M1 growth slowed after midyear M1 actually declined in July and October, but growth resumed at a fast clip in the final two months From the fourth quarter of 1983 through the fourth quarter of 1984, M1 grew 5.0 percent, placing it at the lower quartile of its range [3] M2 rose sharply in the final two months of the year after tracking in the lower half of its growth rate range over much of the year From fourth quarter to fourth quarter, M2 grew 7 5 percent, the middle of its range.

M3 grew on a fourth quarter to fourth quarter basis at a 9 9 percent rate, nearly one percentage point above its range A year-end spurt in the broader money measures was supported by rapid growth in money market mutual funds Rates on these instruments declined with a lag relative to market rates, making them more attractive *vis-à-vis* alternative investments M3 was boosted over much of the year by the rapid growth of large CDs, primarily at thrift institutions The temporary sluggishness of M3 in the late summer reflected a brief deceleration in the growth of these CDs in the face of the widely publicized difficulties of Financial Corporation of America and its thrift subsidiary, the American Savings and Loan Association Domestic nonfinancial debt grew at a reasonably steady pace over most of the year, persistently exceeding the upper end of its monitoring range From the fourth quarter of 1983 to the fourth quarter of 1984 it grew 13 5 percent

At each of its meetings the Committee specified three-month growth rates for the monetary aggregates to serve as guides for policy implementation They were designed to be generally consistent with the longer run objectives but also took account of developments that had already occurred. Table 1 shows specified growth rates and actual rates of growth for the corresponding periods Consistent with the longer run patterns, M1 tended to overshoot the specified rates in the first half of the year and fall short in the second half, particularly in the third quarter. M2 lagged the specified growth rates until the final quarter, while M3 overshot them except in the third quarter

The economy and financial markets

Economy

Real economic growth was quite strong during the first half of the year, tapered off dramatically in the summer, then picked up moderately in the final quarter From the fourth quarter of 1983 to the fourth quarter of 1984, real GNP grew by 5 7 percent, somewhat stronger than the average performance at the comparable stage of recent recoveries Substantial increases in nonfarm payroll employment were also achieved but with the civilian labor force mirroring the growth in real GNP, the declines recorded in the unemployment rate were more modest than in 1983 The civilian unemployment rate ended the year at 7 2 percent, compared to 8 2 percent in December 1983

The economy's strong performance in the first half largely reflected a huge inventory buildup in the first quarter, followed in the second quarter by a surge in consumer and government spending, and a pickup in business fixed investment Housing starts also were strong in 1984, particularly in the first half, and for the year reached their highest level since 1979. Rising net imports were important in meeting final demand, so that domestic production grew more slowly, particularly in the third quarter The strikes against General Motors Corporation in September and October apparently had only a small temporary negative impact on GNP

Business fixed investment grew at a healthy pace, rising to nearly 13 percent of real GNP in the fourth quarter, a record high for the postwar period. The broad-based strength was distributed among commercial and industrial structures and producers' durable equipment expenditures

Inflation remained generally subdued during the year Most measures showed advances either lower than, or little different from, the reduced rates recorded in 1983. From the fourth quarter of 1983 to the fourth quarter of 1984, the implicit GNP deflator increased by 3.6 percent, the smallest advance since 1967. From December 1983 to December 1984 the consumer price index rose 4 0 percent, just slightly higher than the increase of the previous year. The producer price index rose 1.8 percent over the same period. A further strengthening in the dollar and declines in fuel prices and wage cost pressures aided the favorable price performance. Capacity utilization in manufacturing also remained below the average levels in postwar recoveries

Financial Markets

Interest rates rose during the first half of the year, pushed higher by the strong economy, by rapid credit growth, by concerns about rapid money expansion, and by the firming response of the System Sizable Federal budget deficits and the absence of significant action to curb future deficits continued to weigh on market sentiment Heavy supplies of Treasury issues burdened the markets at times In the early spring the Board of Governors of the Federal Reserve System approved an

[3]Revised growth rates over the four quarters of 1984 were 5 2 percent for M1, 7 7 percent for M2 and 10 5 percent for M3 The larger revision to M3 reflected inclusion of new RP survey information pertinent to term RPs at thrift institutions

increase in the discount rate from 8½ to 9 percent, confirming to many market participants that the uptick in the Federal funds rate indicated a firmer System policy rather than merely temporary reserve shortages The liquidity problems experienced by Continental in May caused some nervousness in the markets and a "flight to quality" For a short time this benefited the Treasury bill market, contributing to a steeper Treasury yield curve (Chart 6) For a time, CD rates came under upward pressure, and spreads to Treasuries generally remained wide until the autumn

As a slowdown in the economy emerged in the summer and autumn, rates reversed course, falling almost in a mirror image of the pattern in the first half of the year (Chart 7) Chairman Volcker's Humphrey-Hawkins testimony in July did much to alleviate fears of further System tightening With the slowing economy came some lower money supply growth, continued favorable inflation data, and the belief that the Federal Reserve might ease its policy stance Initially, the rally was confined largely to the longer term sectors Short-term rates began their descent only in late summer as the expected easing in System policy materialized Lower Federal funds rates were followed by two half percentage point cuts in the discount rate to 8 percent late in the year However, market views oscillated from about November to mid-December, as the economic and money supply data painted a blurred picture of the outlook for the economy and System policy In the final months of the year, long-term rates followed a mixed course while short-term rates fell along with the Federal funds rate, resulting in a steepening yield curve For the year as a whole, short-term interest rates ended lower by about three-quarters to one- and one-quarter percentage points Most longer-term rates on taxable instruments ended with declines of about one-quarter to one-half percentage point while municipal bond yields actually rose a bit on balance

Corporations borrowed more heavily in the bond market than in 1983 Domestic corporate sector offerings rose by over $25 billion to a total of $73 billion. In addition, U S corporations stepped up offerings sold abroad to about $23 billion, almost tripling their 1983 total as they took advantage of the attractive borrowing costs available in foreign markets

New issuance in the tax-exempt sector rose from about $86 billion in 1983 to about $102 billion in 1984, with the offerings heavier in the second half of the year. These included industrial development revenue issues marketed before tighter Federal tax restrictions went into effect in 1985 and housing bonds, which had been prohibited in the first half of 1984 Tax-exempt yields rose less than Treasury yields in the first half of the year, reflecting light issuance Heavier tax-exempt sales in the second half led to a narrowing of the rate spread of Treasury over tax-exempt yields and contributed to the slight increase in municipal bond yields over the year

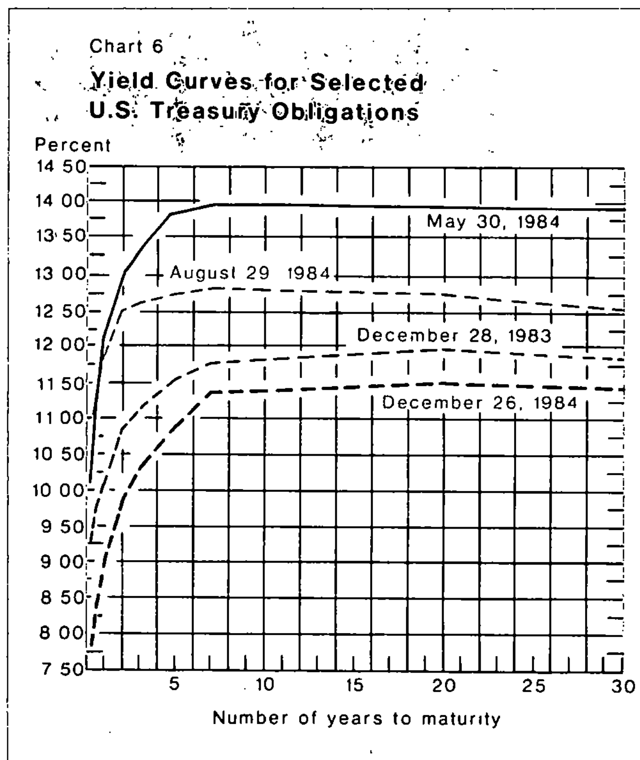
Innovations in the securities markets during the year represented mostly blends of features that have appealed to investors in the past Zero-coupon instruments continued to grow in popularity, helping to absorb

Table 1

Short-term Money Growth Rates Specified at FOMC Meetings and Actual Growth Rates*

Meeting Month	Period Covered	M1 Specified	M1 Actual	M2 Specified	M2 Actual	M3 Specified	M3 Actual
Dec '83	Nov-Mar	6	7 0	8	6 6	8	8 7
Jan '84	Dec-Mar	7	7 5	8	6 1	8	8 4
Mar '84	Mar-June	6½	8 2	8	7 6	8½	10 8
May '84	Mar-June	6½	†	8	†	10	†
July '84	June-Sept	5½	1 9	7½	5 9	9	7 0
Aug '84	June-Sept	5 ‡	†	7½	†	9	†
Oct '84	Sept-Dec	6	4 1	7½	12 3	9	13 5
Nov '84	Sept-Dec	3 §	†	7½	†	9	†

*Actual growth rates are based on data available February 7, 1985
†Not applicable
‡Or slightly less
§Or more



the mounting volume of long-term Treasury coupon offerings From January 1984 to January 1985, the estimated total volume of Treasury securities used to create zero-coupon issues nearly tripled to about $45 billion (This includes both custody receipts and physically stripped issues) The Treasury's new STRIPS program, announced in general terms in October 1984 and in greater detail in January 1985, was designed to take advantage of the demand for zero-coupon issues by providing a direct Treasury liability The program allows for separate trading of the interest and principal components of selected Treasury issues, in book entry form, as direct obligations of the U S Treasury Issuance of zero-coupon corporate securities also increased during the year Net proceeds from such offerings totaled $837 million, up from $309 million in 1983

Shortly after Congress' repeal of the 30 percent "withholding tax" charged on foreigners' holdings of U S securities, the Treasury began to offer "foreign-targeted" coupon issues in order to expand markets and reduce borrowing costs by incorporating features more appealing to foreign investors The foreign-targeted issues are sold through foreign institutions and foreign offices of U S financial institutions which certify that the investors are not U S citizens or residents, but do not disclose the identity of the buyer to the Treasury The first such offering of $1 0 billion of three-year eleven-month notes was sold in October at a yield about 32 basis points below the yield on a companion domestic offering with the same maturity A month later, the second foreign-targeted issue, $1 0 billion of notes due in just over five years, drew much less aggressive demand It yielded only seven basis points below a companion domestic issue Subsequently, yields on these special issues moved in line with, or slightly above, those on the comparable domestic issues

Federally sponsored agencies sold zero-coupon issues and engaged in a number of innovative financing techniques For example, in March the Federal National Mortgage Association offered 12½ percent, seven-year debentures with the option to investors of exchanging the debentures for preferred stock with a 12½ percent minimum dividend for an additional three years This option thus permitted the exchange of a fixed-rate issue for a variable-rate issue The offering proved attractive and its size was raised to $450 million from an originally scheduled $250 million

Dealer Surveillance

During 1984, the activities of several participants in the Government securities market reminded others of the need for care when selecting counterparties Although the markets took in stride the failure of two small, non-primary dealer firms—Lion Capital Group and RTD Securities—considerable attention was given to the losses suffered by several school districts that did not have adequate possession of collateral in dealing with those entities Trading losses suffered by Marsh & McLennan (a large insurance brokerage firm) and the City of San Jose, California, also provided object lessons for participants on all sides of the market, pointing to the importance of close monitoring of risk positions

The scope of dealer surveillance activities by the Open Market Operations Function was broadened in 1984 to gain a better understanding of the market and to encourage more prudent practices In particular, a capital adequacy guideline and system of voluntary compliance for unregulated Government securities dealers was developed with the participation of the dealer community through the Public Securities Association In addition to strengthening self regulation in the market, the proposal was designed to assist customers and other market participants in judging whether their counterparties act in accordance with generally accepted prudential standards The proposal was published for comment in February 1985

A report on "when-issued" trading by primary dealers was implemented in April 1984 after approval by the Board of Governors The report was designed to provide insight into current market practices and the nature of

customer participation in when-issued trading It should also provide important information on whether these unmargined forward commitments pose a threat of systemic risk to the market Voluntary reporting of positions and financial condition by non-primary dealers was also formally implemented in early 1984 About 30 dealers now participate in the program, broadening our knowledge of the market and providing some communication with smaller dealers with which the Bank does not otherwise have contact.

The ongoing surveillance of primary dealers was also strengthened during 1984 A second full cycle of dealer visits was completed and enhancements were made to the review of capital and daily positions of these dealers Several dealers responded to the Bank's concern about the adequacy of their liquid capital relative to their risk positions by increasing their capital base The number of primary dealers remained at 36, unchanged from year-end 1983 However, A G Becker Paribas, Inc. was deleted from the list when their activities were absorbed by Merrill Lynch Government Securities, Inc A new dealer, Greenwich Capital Markets, Inc , was added following its acquisition of New York Hanseatic Corporation

Policy implementation

Procedures

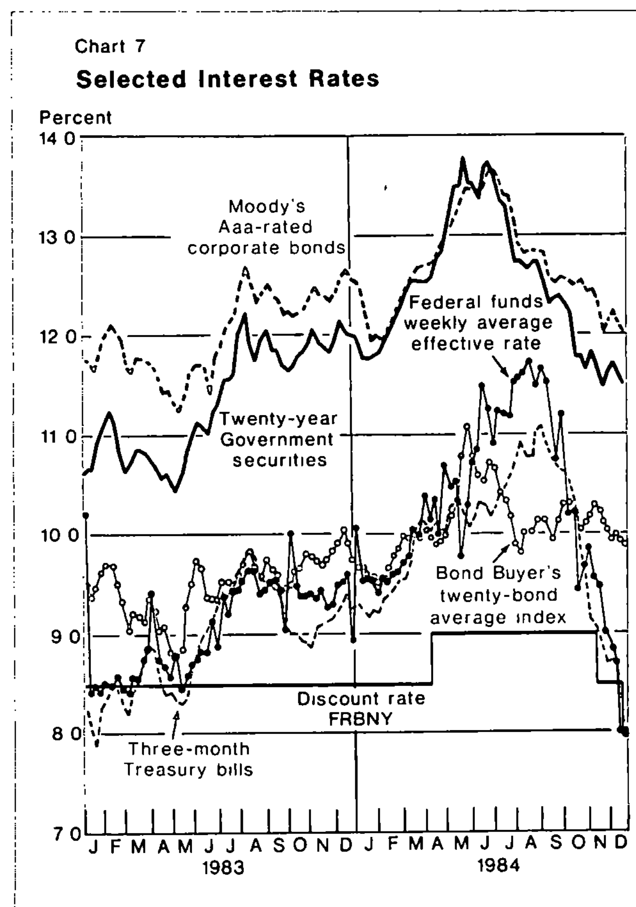
The FOMC retained the same basic approach to implementing policy that had evolved in 1983, but with some changes designed to adapt to the beginning of CRR and the return of M1 to target status In instructing the Open Market Desk, the FOMC continued to indicate desired degrees of reserve pressure, interpreted as initial levels of adjustment plus seasonal borrowing to be used in constructing targets for nonborrowed reserves The policy directive stated conditions to be considered in weighing any change in reserve restraint during the intermeeting period Operationally, this meant reviewing the assumption about borrowing at the start of each two-week maintenance period and again at midperiod when new information about the monetary aggregates became available In practice, most of the changes in the borrowing assumption were made in the latter half of the year The assumption was raised at the March meeting and lowered in a series of steps both at and between FOMC meetings starting at the end of August

With the advent of CRR in February, some procedures were changed so the Desk could continue to seek an average level of borrowing consistent with desired reserve restraint Under LRR, the nonborrowed reserve objective could be set near the beginning of a reserve week on the basis of known required reserve levels, which were rarely revised significantly during the period However, under CRR, required reserves for the period in progress were estimated, and revised periodically as new deposit data became available If the level of borrowing allowed for in constructing the nonborrowed reserve path were to be held at the initially planned level, it was necessary to change the nonborrowed reserve objective during the maintenance period whenever required reserve estimates changed, since nonborrowed reserves equal required reserves plus excess reserves less borrowed reserves While some new information on deposits became available daily, it was found that only on Tuesdays, Wednesdays, and Thursdays was the incoming information sufficient to justify revisions to required reserve estimates, and hence to the nonborrowed reserve objective.

In the initial maintenance period following the introduction of CRR—that ending February 15—estimating required reserves proved very difficult, in part because a phase-in of reserve requirement changes under the Monetary Control Act of 1980 (MCA) took place at the same time Subsequently, the revisions became more

Chart 7

Selected Interest Rates



manageable, although occasionally they were large enough to call for a change in the approach to reserve management part way through a period Between the statement period ended February 29, 1984, and that ended January 2, 1985, the average absolute revision to the Board staff's required reserve estimate between the first and last days of the maintenance period was $220 million The maximum revision was $435 million While the Desk still had one day to respond to revisions in the nonborrowed reserve objective on the last morning of the period, borrowing could easily end up being different than intended, since the latest required reserve estimate could prove faulty Also, as under the previous reserve accounting regime, errors in estimates of nonborrowed reserves or the demand for excess reserves could lead to deviations in borrowed reserves Over the same late-February to January 2 interval, the average absolute revision to required reserves after the reserve period ended was $65 million The largest revision was $175 million [4]

The excess reserve assumption used in building the nonborrowed reserve objective also had to be reevaluated in the face of the shift to CRR Models developed for estimating excess reserves under LRR had shown that banks generally were reasonably successful in keeping average excess reserves modest Excess reserve holdings would tend to rise temporarily in weeks containing holidays, ends of quarters, and payments of social security benefits. Large banks took account of excesses or deficits carried into the period and ran offsetting deficits or excesses Beyond these short-run "seasonal" influences and the carryovers, average excess reserve levels were lifted by the changes in reserve requirements under the MCA and the Garn-St Germain Act More institutions were subject to requirements above the levels they met with vault cash and thus had the potential for showing measured excesses In some cases reductions in requirements for members led them to hold more excesses, as they may have felt a need to aim for some minimum level of balances to avoid overdrafts

Under CRR, the potential existed for either an increase or a decrease in the average demand for excess reserves Uncertainty about requirements could make banks more cautious and raise average excess reserve holdings On the other hand, the change to two-week reserve settlement periods should reduce the need for excess reserves on average by giving banks more flexibility to adjust The magnitude of the temporary increases related to short-term "seasonal" factors should be reduced by the longer maintenance period The fact that deposit flows resulted in complementary changes in required reserves (except on the last two days of the period) could offset a fraction of the undesired swings in excess reserves Finally, the carryover privilege provided increased flexibility as the dollar amount was enlarged automatically by the lengthening of the reserve settlement period and was raised further for the first year

Preliminary studies of the early experience suggest that average excess reserve levels were little affected by the shift to CRR The "seasonal" influences were muted, particularly if they occurred early in a maintenance period. Excess reserves were higher in 1984 than they had been the year before, but the increase can be explained by changes in reserve requirements that also occurred on February 2 under MCA [5] For the statement periods ending late February through January 2, 1985, excess reserves averaged about $670 million. Omitting all the periods that contain special "seasonal" factors lowers the average to about $580 million In developing nonborrowed reserve objectives, the excess reserve assumption typically used was $600 million, although it was sometimes set higher in periods expected to be distorted

In advance of the switch to CRR, the question arose whether it would affect the demand for adjustment plus seasonal borrowing at the discount window The uncertainty associated with not knowing requirements might increase the surprises that would lead banks to borrow On the other hand, large banks do the bulk of their borrowing on settlement days and, with half as many settlement days as under LRR and larger carryover, they might borrow less In the absence of any clear convictions about the direction or magnitude of the impact of CRR on borrowing, it was assumed that the switch to CRR would not change bank borrowing behavior

In practice it proved difficult to get a good reading on the effect of CRR on bank borrowing behavior The funding difficulties encountered by Continental, beginning in May, and related concerns felt by a number of other institutions about their potential funding ability, appeared to inspire additional caution by many banks in their approach to the window The three-month period between the start of CRR and the beginning of Continental's funding difficulties was too short to offer any meaningful conclusions about the impact of CRR on the

[4]These figures omit the period ended July 4 Since that day was a holiday, no Wednesday estimate was made From the estimate at the middle of the maintenance period to the final number, the average absolute revision was $155 million

[5]For a more extensive discussion of the behavior of excess reserves under CRR, see Kausar Hamdani, "CRR and Excess Reserves An Early Appraisal", Federal Reserve Bank of New York *Quarterly Review*, Autumn 1984, pages 16-23

might not be able to work off.[7] In practice, the banks made considerable allowance for variations in requirements and reserve supplies within the period. To dampen possible distortions to market perceptions of the short-run availability of reserves, the Desk often timed its operations within a reserve period to smooth out the variations somewhat

A final consideration entering into the strategy for meeting the nonborrowed reserve objective was the thrust of policy at the time. If there were reason to place emphasis on the accommodative side, the Desk would attempt to meet estimated reserve needs promptly or accomplish needed absorptions slowly or unobtrusively On the other hand, if emphasis were being placed on the restraining side, the Desk would tend to meet needs grudgingly or accomplish absorption promptly so as to make a sense of reserve shortage more apparent.

Putting all of these factors together led the Desk to use a mix of outright and temporary transactions Outright purchases of Treasury securities totaled $23.8 billion, $14.1 billion in the market, and the rest from foreign official accounts. The System sold $8 7 billion, all but $1.1 billion to foreign accounts, and allowed $8.0 billion of bills and agency issues to mature without replacement The Desk made considerable use of temporary transactions to respond flexibly to estimated needs to adjust reserves "System" repurchase agreements totaled $144.8 billion while customer-related repurchase agreements came to $126 7 billion, and matched sale-purchase agreements arranged in the market totaled $55.0 billion.

The System portfolio showed a net increase of only $7.2 billion, compared to an increase of $16.4 billion in 1983. The use of extended credit borrowing which stood at $2.6 billion in December and the Federal Reserve's acquisition of a $3.5 billion FDIC capital note in September in return for the FDIC's assumption of that amount of Continental's borrowing held down the portfolio growth Currency outside the Federal Reserve rose $13.4 billion and required reserves increased $1.5 billion. Together, these more than accounted for the portfolio increase.

[7]In recent years, vulnerability to overdrafts has grown as reserve requirement ratios have declined while total payments through the Federal Reserve increased with an expanding economy and financial system In 1984, the average level of reserve balances at the Federal Reserve of about $21 billion (excluding the portion of reserves in the form of applied vault cash but including required clearing balances) supported an average daily volume of transfers over Fedwire of about $370 billion, these balances turned over about 18 times a day Three years earlier, average reserve balances of $27 billion supported daily Fedwire transfers averaging about $200 billion, with balances turning over about seven times a day

Conducting open market operations

January to Early May

Over the first four months of the year, Desk operations adapted to the introduction of CRR and also achieved an increase in reserve pressures on the banks. Uncertainty surrounded the onset of CRR and a phasedown of required reserves under MCA, complicating reserve management in February for both the Desk and the banks. Both adopted a more cautious approach to reserve management. The Desk took measured steps in filling reserve needs or draining surpluses amid an often shifting outlook for reserve availability. In the initial period, the reserve paths made an allowance for some increase in excess reserves, but the banks held even higher levels By March, excess reserve demand settled back and recurring patterns of reserve management began to develop.

As the period unfolded, evidence accumulated that the economy was expanding at an unsustainably rapid pace. Under the FOMC's direction, the Desk held back on reserve provision. Market participants, reacting as well to the incoming information on the economy, marked down securities prices, reinforcing the Desk's efforts. A rise in the discount rate to 9 percent in April confirmed the System's intentions and the market's expectations.

In the last few weeks of LRR the Desk continued to incorporate $650 million of seasonal plus adjustment borrowing in the *weekly* nonborrowed reserve objectives At its December 1983 meeting, the Committee had indicated that it preferred to maintain at least the degree of reserve restraint prevailing at the time of the meeting (Table 2). In this way, the Committee allowed for the possibility of tightening depending on new information on the economy and the aggregates. Over the interval, the broader aggregates appeared to grow broadly in line with the rates indicated at the meeting. In addition, data on the economy available during late December and January indicated some moderation of earlier strength. Consequently, operations sought to maintain existing reserve restraint.

Following year-end money market pressures, the Federal funds rate settled down to the area of 9½ percent during most of January. Excess reserves and borrowing ran high over the week containing the New Year's Day holiday, but, excluding that surge, borrowing at the discount window tended to average fairly close to the path level of $650 million. Despite year-end firmness, interest rates generally declined in late 1983 and early 1984 The markets, buoyed by a perceived slowing in the economy, reacted bullishly to the "flash" GNP data on the fourth quarter of 1983, released in late December, and to the report of virtually flat retail sales in December.

The start of CRR in early February introduced a new

might not be able to work off [7] In practice, the banks made considerable allowance for variations in requirements and reserve supplies within the period To dampen possible distortions to market perceptions of the short-run availability of reserves, the Desk often timed its operations within a reserve period to smooth out the variations somewhat

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Table 2

Specifications from Directives of the Federal Open Market Committee and Related Information

Date of meeting	M2	M3	M1	Initial assumption for borrowings in deriving nonborrowed reserve path	Discount rate	Notes
	Short-term annualized rate of growth specified for period indicated					
	(percent)			(millions of dollars)	(percent)	
12/19-12/20/83	November to March					
	8	8	6*	650	8½	The Committee sought to maintain at least the existing degree of reserve restraint The Committee noted that depending on evidence about the continuing strength of economic recovery and other factors bearing on the business and inflation outlook, somewhat greater restraint would be acceptable should the aggregates expand more rapidly
1/30-1/31/84	December to March					
	8	8	7	650	8½	The Committee sought to maintain the existing degree of pressure on bank reserve positions It was noted that lesser restraint would be acceptable in the event of a shortfall in money and credit growth over the period ahead, while somewhat greater restraint might be acceptable in the context of a more rapid monetary growth In any case, the appropriate degree of restraint would be evaluated in light of the strength of the business expansion and inflationary pressures The Committee instructed the Manager for Domestic Operations to take account of the uncertainties associated with the introduction of the system of more contemporaneous reserve requirements, particularly including the possibility that depository institutions, during the transition period, may desire to hold more excess reserves
3/26-3/27/84	March to June					
	8	8½	6½	1,000	8½ 9 on 4/6/84†	The Committee sought to maintain reserve pressures deemed consistent with the indicated monetary growth rates from March to June The Committee noted that greater reserve restraint would be acceptable in the context of more substantial growth in the aggregates while somewhat lesser restraint might be acceptable if monetary growth slowed significantly. In either case, such a change would be considered in the context of appraisals of the continuing strength of the business expansion, inflationary pressures, and the rate of credit growth

*At the meeting in December 1983, the Committee agreed to continue to monitor the behavior of M1 until velocity characteristics resumed a more predictable pattern

†Announcement date

Table 2

Specifications from Directives of the Federal Open Market Committee and Related Information *(continued)*

Date of meeting	M2	M3	M1	Initial assumption for borrowings in deriving nonborrowed reserve path	Discount rate	Notes
	Short-term annualized rate of growth specified for period indicated (percent)			(millions of dollars)	(percent)	
5/21-5/22/84		March to June				The Committee sought to maintain the existing degree of reserve pressure Somewhat greater reserve restraint might be acceptable of the event of more substantial growth of the monetary aggregates, while somewhat lesser restraint might be acceptable if growth of the monetary aggregates slowed significantly It was agreed that any potential adjustment in the degree of reserve restraint would be considered only after an appraisal of the strength of economic activity, inflationary pressures, conditions in financial and banking markets, and the rate of credit growth It was also recognized that operations might need to be modified if unusual financial strains developed
	8	10	6½	1,000	9	
	M1	**M2**	**M3**			
	(percent)					
7/16-7/17/84		June to September				The Committee sought to maintain the existing degree of reserve pressure, noting that somewhat greater restraint would be acceptable in the event of more substantial growth in the aggregates, while somewhat lesser restraint might be acceptable if monetary growth slowed significantly In discussion concerning the long-run ranges for the aggregates, the Committee noted that the behavior of M1 in recent quarters was more in line with historical experience and therefore should be given a roughly equal weight with M2 and M3 in the implementation of monetary policy
	5½	7½	9	1,000	9	
8/21/84		June to September				The Committee decided to maintain existing reserve pressures, noting that somewhat greater or lesser restraint would be acceptable depending on whether more substantial or significantly slower monetary growth emerged In either case, any change would be considered only in the context of the strength of the business expansion, inflationary pressures, financial market conditions, and the rate of credit growth
	5 (or slightly less)	7½	9	1,000	9	

Table 2

Specifications from Directives of the Federal Open Market Committee and Related Information *(continued)*

Date of meeting	M1	M2	M3	Initial assumption for borrowings in deriving nonborrowed reserve path	Discount rate	Notes
	Short-term annualized rate of growth specified for period indicated (percent)			(millions of dollars)	(percent)	
10/2/84		September to December				
	6	$7^1/_2$	9	750	9	The Committee sought to maintain the lesser degree of reserve restraint sought in recent weeks It was noted that a somewhat further lessening of restraint would be acceptable in the event of significantly slower growth in the aggregates, evaluated in relation to the strength of business expansion and inflationary pressures, conditions in domestic and international financial markets, and the rate of credit growth Conversely, greater restraint might be acceptable in the event of substantially more rapid monetary growth and evidence of significant strengthening of economic activity and inflationary pressures
11/7/84		September to December				
	3 (given the appreciable decline in October) More rapid M1 growth acceptable for the quarter	$7^1/_2$	9	575	9 $8^1/_2$ on 11/21/84†	The Committee sought to reduce somewhat existing reserve pressures Lesser reserve restraint would be sought in the event of significantly slower monetary growth, evaluated in relation to the strength of the business expansion and inflationary pressures, domestic and international financial markets, and the rate of credit growth Conversely, greater restraint might be acceptable in the event of substantially more rapid monetary growth and indications of significant strengthening of economic activity and inflationary pressures
12/17-12/18/84		November to March 1985				
	7	9	9	300	$8^1/_2$ 8 on 12/21/84†	The Committee sought to reduce existing reserve pressure consistent with the specified short-run monetary growth targets. Somewhat more rapid growth of M1 would be acceptable in light of the estimated shortfall in growth for the fourth quarter relative to the Committee's expectations at the beginning of the period, particularly in the context of sluggish growth in economic activity and continued strength of the dollar in exchange markets Greater restraint on reserve positions might be acceptable in the event of substantially more rapid monetary growth and indications of significant strengthening of economic activity and inflationary pressures

†Announcement date.

uncertainty for reserve managers at banks. Like the Desk, they needed accurate and timely data on reservable deposits to project their requirements. The two-week averaging process and the enlarged carryover provision allayed their concerns about deposit volatility and reporting errors Desk conversations with liability managers at major money center banks suggested that the uncontrollable factors affecting reserve flows would remain their major problem. Even those managers expressing a good deal of confidence in their reserve projections indicated that they would initially manage their positions cautiously so that they would not accumulate large intraperiod deficiencies or excesses.

For its part, the Desk faced not only the usual uncertainties inherent in any reserve projections, whether they are nonborrowed or required estimates, but also questions concerning how banks in the aggregate would behave. The degree to which banks wanted to hold precautionary excess balances over the period would influence their willingness to purchase or sell funds. In addition, the start of CRR coincided with a phasedown of reserve requirements under MCA. Experience indicated that previous phasedowns had been accompanied by a tendency for excess reserves to rise, possibly reflecting some banks' lagged response to the new requirements.

Accordingly, allowance was made for $750 million of excess reserves in the first two-week maintenance period. (In the two subsequent intervals the nonborrowed reserve objective scaled back the excess allowance to $650 million and then $550 million.) As it turned out, bank demand for excess reserves soared well above the assumed level, although it is hard to say how much of the increase was attributable to CRR and how much to the reserve requirement changes. Nonborrowed reserve projections early in the interval suggested a surplus for the period as a whole, but much of the surfeit was expected to emerge late in the period. In view of the uncertainties during the first few days of CRR, the Desk chose to provide reserves in the first week by executing customer-related repurchase agreements Late in the second week projections suggested that nonborrowed reserve supplies were well above the indicated objective; however, the money market tended toward the firm side with Federal funds trading around 9 5/8 to 9 7/8 percent. Rather than try to absorb reserves, the Desk remained on the sidelines. Borrowing averaged somewhat below the $650 million allowance for the period while excess reserves, once a variety of reporting errors were sorted out, averaged over $1 billion.

In light of this experience, the Desk proceeded cautiously during the next maintenance period. The Desk filled much, but not all, of a moderate projected reserve need gradually by arranging customer-related repurchase agreements on six of the nine business days. Purchases of Treasury bills from foreign accounts also served to provide reserves However, reserves became overly abundant at the end of the period as required reserve estimates were scaled down, estimates of vault cash applied against reserve requirements rose, and the Treasury balance dipped below expected levels. With the money market confirming the excess as funds traded comfortably around 9 1/4 percent, the Desk drained reserves in the market. Initial data indicated that nonborrowed reserves ran slightly above the objective, while subsequent revisions to the data increased the overrun. Borrowing averaged about $565 million, compared with the $650 million assumption.

The considerable day-to-day uncertainty about reserve needs and availability evident in the first month of CRR continued to engender a wary attitude in March. The Desk made moderate short-term adjustments to reserve availability over the four maintenance periods from early February to late March During that period, it executed 23 rounds of customer-related repurchase agreements over the 38 business days plus a total of four rounds of System RPs and matched sale-purchase transactions in the market.

The step-by-step approach to supplying reserves compared to the expected needs appeared appropriate as new economic data showed signs of vigorous growth. At its meeting in late January, the Committee voted to maintain the existing degree of reserve restraint, retaining a $650 million borrowing assumption for the nonborrowed reserve paths. While calling for no immediate change, the directive leaned toward an easier posture, as it set more rigorous conditions for firming than for easing. The directive stated that lesser restraint *would* be acceptable if the aggregates slowed significantly while greater restraint *might* be acceptable if money grew more rapidly than desired (emphasis added). In any event, the appropriate degree of restraint was to be evaluated in light of the strength of the business expansion and inflationary pressures. While the aggregates grew at about the rates expected, the economy proved to be quite strong. As a result, the Desk was restrained in meeting reserve needs in mid-March.

A sharp rise in the Treasury balance around the mid-March tax date drained a sizable amount of reserves and contributed to pressures in the money market. The flow of funds into the Treasury's balance took place at the beginning of the March 28 statement period. With the Desk feeding in reserves gradually, the money market firmed and borrowing rose to $1.4 billion on Friday, March 16. The tightness continued after the weekend with Federal funds trading around 10 percent or somewhat higher. Borrowing backed off from the high

weekend levels, but averaged above the $650 million path level.

Borrowing surged again on the following Friday as market participants began to anticipate a rise in the discount rate based on the tightness in the money markets and rising evidence of a substantial pickup in business activity. In these circumstances, it was clear toward the end of the March 28 maintenance period that pursuing a nonborrowed reserve objective consistent with $650 million of borrowing would produce an unwanted surfeit of reserves, given the borrowing that had already taken place Moreover, the Committee, at its meeting on March 26 and 27, voted to maintain the greater reserve restraint then prevailing, approving a new borrowing allowance of $1.0 billion. Thus, the Desk moved to drain reserves late in the March 28 period to be consistent with the lower nonborrowed reserve objective.

The Committee's decision to exert more restraint than envisioned at the January meeting reflected concern that the rapid pace of the expansion, if sustained for some time, would lead to stronger price and wage pressures and to outsized credit demands (In April, the Board of Governors followed suit by approving an increase in the discount rate to 9 percent from 8½ percent.) Market interest rates rose as well over the late-January to late-March interval, reacting to the firming in the Federal funds market, the incoming information on economic strength, and continuing fiscal deficits Sizable increases in employment and production and the lack of lasting progress in reducing the Federal budget deficit engendered apprehension about growing credit demands and further interest rate increases Revisions to monetary data for the latter half of 1983, reported in early February, appeared to rule out an easing in Fed policy and diminished the fears some had had of an economic slowdown. In this environment two major Treasury financing packages in early February and late March attracted less-than-enthusiastic investor interest. Three-month bill rates rose from the area of 9 percent in late January to about 9¾ percent toward the end of March while long-term Treasury bond yields rose from about 11⅞ percent to the area of 12½ percent.

In the interval following the March meeting, the Desk endeavored to maintain the degree of reserve restraint associated with seasonal and adjustment borrowing of $1.0 billion Major money market banks adapted quickly to CRR, tending to run deficiencies in the first half of the two-week periods and covering them in the second half. Banks as a whole economized on excess reserves, which dropped from two-week average levels around $750 million in late February and March to around $300 to $600 million through early May

Desk operations were complicated in April by market expectations of a discount rate increase early in the month, which contributed to banks' heavy use of the window. The buildup in borrowing left the Desk with little choice but to undershoot the nonborrowed reserve objective. Wide swings in the Treasury balance, a common occurence in April, were also a disturbing influence Over the latter half of the month Treasury receipts bulged with income tax payments and the banks soon reached their limits for holding the money. The overflow spilled back to the Treasury's accounts at the Federal Reserve, draining a substantial amount of reserves The Desk tried to replenish reserves, buying nearly $4.9 billion of Treasury bills in the market and from foreign accounts, plus an additional $1.5 billion of Treasury coupon securities in the market System and customer-related repurchase agreements were used as well

At the end of the April 25 interval, however, the Desk's efforts to inject reserves through System repurchase agreements fell short of intended levels when collateral in the market proved to be in short supply. Borrowing rose sharply on the last night as banks scrambled to fill their needs, lifting the average to about $1.2 billion for the period compared to the $1.0 billion path level. The Federal funds rate varied over a wide range in these circumstances, swinging between a daily low average of 9 55 percent and a high of 10.67 percent. The average rates of 10.27 and 10 18 percent for the April 11 and April 25 periods, respectively, were close to, but slightly below, the levels expected given the degree of reserve restraint in the paths The Treasury balance at the Federal Reserve remained high over the rest of April, peaking at $16 8 billion on May 1. The Treasury balance plunged in early May and the Desk reversed course, selling and running off bills at auction

Early May to Late August

The funding problems of Continental cast a long shadow over the financial markets during the late spring and summer. Anxieties generated by the rapid runoff at that bank of deposits by large institutional customers prompted many depository institutions to adopt highly conservative postures in the management of their liabilities Rapid monetary growth and a vigorous economy also contributed to the belief that interest rates would rise and prompted banks to extend the maturities of their liabilities Consequently, some banks did not find themselves in the position where they needed to borrow at the discount window while others apparently eschewed any use of the window out of concern that the borrowing would be taken as a sign of financial weakness. Rumors about problems at other banks exacerbated these worries from time to time. This shift

in bank liability management and the reluctance to borrow meant that the $1.0 billion borrowing levels, initially indicated at the March meeting and reaffirmed at the May meeting, became consistent with higher trading levels for Federal funds (Chart 8). The Committee did not resist this tendency, given the continuing evidence over most of the period of rapid growth in money and in the economy.

Continental's long simmering problems boiled over in the first half of May. The bank's deposit outflows began to build late in the maintenance period ending May 9, as rumors of serious problems at the bank surfaced. The runoff continued in the two-week maintenance period ending May 23. Continental turned to the discount window for adjustment credit and to a safety net of funding provided by other major banks. As the bank later reported, its overnight borrowing needs from all sources rose to approximately $8 billion in about one week because of the deposit runoffs. On May 17, the FDIC, a group of major banks, and the Federal Reserve stepped in with a rescue package including a $2 billion capital infusion, promise of full protection for depositors, an expanded credit line from banks, and commitment by the Federal Reserve "to meet any extraordinary liquidity problems of the Continental Illinois Bank."

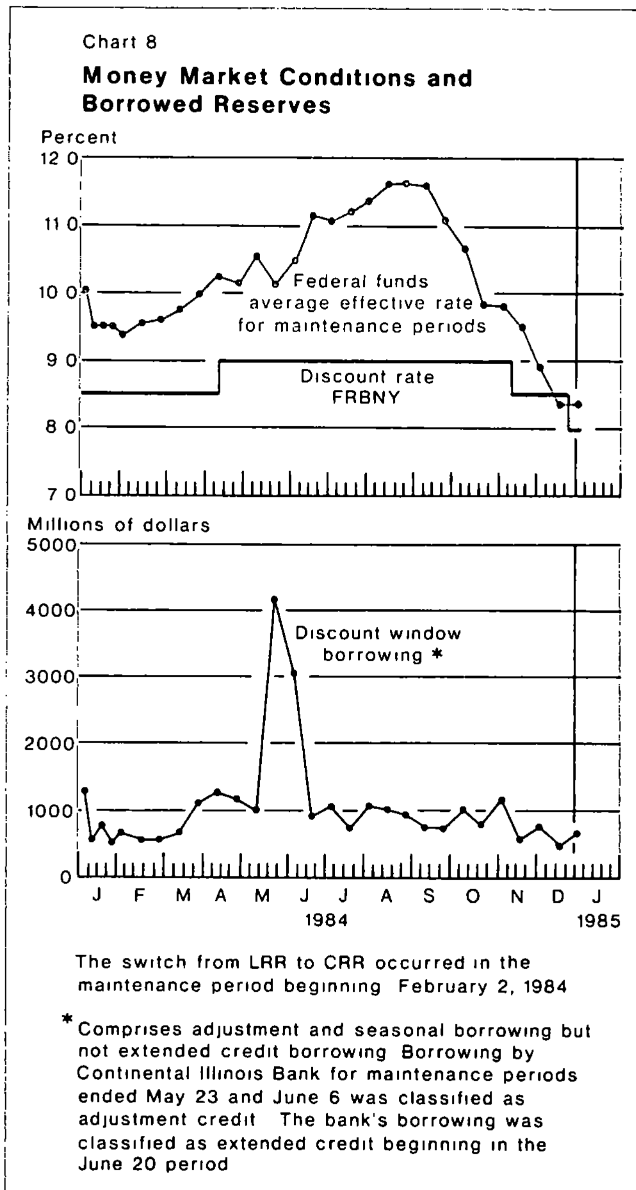
Continental's difficulties affected the Desk directly. The bank's borrowing was initially classified as adjustment credit. Since Continental's borrowing did not result from the Desk's pursuit of the nonborrowed reserve paths, the Desk made full allowance for Continental's borrowing, lowering the nonborrowed reserve objectives accordingly. Implicitly, special nature of borrowing meant that it was treated as nonborrowed reserves from the beginning. The borrowing was officially designated as extended credit in early June and became a variable source of nonborrowed reserves, bearing on the Desk's pursuit of the nonborrowed reserve objective.

The Desk was sensitive to the markets' fragility during the height of Continental's problems in May. Market participants were not only anxious about the health of particular financial institutions but also about investors' tepid response to the Treasury's quarterly refunding auctions of $16.5 billion of notes and bonds early in May. Early in the May 10 to May 23 maintenance period, the Desk delayed overt operations to absorb expected reserve excesses while the markets wrestled with these concerns. On May 17, a round of matched sale-purchase transactions in the market was postponed until the next day, pending announcements about the rescue package arranged for Continental.

At the end of the interval, the Desk allowed for the likelihood that, because of cautious bank behavior, excess reserves would run higher than the level contained in the nonborrowed reserve path. The Desk

Chart 8

Money Market Conditions and Borrowed Reserves



The switch from LRR to CRR occurred in the maintenance period beginning February 2, 1984.

*Comprises adjustment and seasonal borrowing but not extended credit borrowing. Borrowing by Continental Illinois Bank for maintenance periods ended May 23 and June 6 was classified as adjustment credit. The bank's borrowing was classified as extended credit beginning in the June 20 period.

accelerated its injections of reserves in the May 24 to June 6 period, taking account of anticipated cautious reserve management in advance of the long Memorial Day weekend and the market nervousness generated by spreading rumors about problems at other major banks.

Amid these market concerns, large banks appeared to reverse their previous behavior of building reserve deficiencies early in maintenance intervals to be covered by surpluses later in the period. As rumors about a number of banks made the rounds of the market, the

major banks bid through CDs and other channels for longer dated funds. Also, banks were reluctant to be seen as necessitous bidders for funds. The possible profits from intraperiod arbitrage of the Federal funds market paled in comparison to the costs of a run generated by rumors of funding difficulties. Liability managers at banks built surpluses early in the two-week intervals and ran them off toward the end or managed to keep their positions close to even throughout the interval.

The Desk took into account market anxieties and the banks' behavior during the two-week interval in mid-June. The path for nonborrowed reserves plus extended credit borrowing was constructed by adding $600 million of excess reserves to the estimates of required reserves and then by subtracting a $1.0 billion allowance for seasonal plus adjustment borrowing (The special borrowing which had bloated adjustment credit in the previous two periods was transferred to the extended credit category on the first day of the new period.) The degree of reserve restraint implied by the reserve path was expected to be associated with Federal funds trading around 10½ percent or perhaps somewhat above that level.

Initial estimates of nonborrowed reserves suggested a moderate need to add reserves with more of the need concentrated late in the period. In the money market, the period began on a firm note with Federal funds trading in a range of 10¾ to 11¼ percent. At the same time, however, seasonal and adjustment borrowing ran on the low side, averaging only about half of the $1.0 billion path level. Taken together, the evidence indicated strong demand by banks for reserves, but a marked unwillingness to seek accommodation at the window. Given this situation the Desk injected reserves on the first three business days of the interval, arranging customer-related repurchase agreements on Thursday and Friday, and overnight System repurchase agreements on Monday. In the process, the Desk overfilled the projected need for the entire period, indicating that it could address an overabundance later in the period. The injections appeared to relieve the strains for a while as Federal funds tended to trade in a range of 10⅝ to 10⅞ percent over the next couple of days Midway in the period, available data indicated that large money center banks had posted a surplus, contrary to their behavior before early May, and none had sought adjustment credit.

Banks continued to bid aggressively for funds in the latter half of the interval. Federal funds traded at about 11 to 11¼ percent before the second weekend However, the Desk refrained from market action to affect reserves as the nonborrowed reserve projections suggested a surplus for the period and borrowing continued to run well below the path allowance.

The reserve outlook changed dramatically after the second weekend, indicating a substantial deficit for the period. Reserves had fallen short of projected levels on Friday, the estimates of the foreign RP pool were revised higher, and the outlook for the Treasury balance after the June 15 corporate tax payment date suggested significantly higher levels. The money market tightened further with funds trading around 11½ percent on Monday and Tuesday. Uncertainties arising out of the international debt situation may have contributed to the desire for liquidity. Advance preparation for the quarter end may also have added to the heightened pressures. The Desk again overfilled the projected need, making overnight System repurchase agreements on Monday and then two-day contracts on Tuesday. It accepted nearly all propositions offered in the latter market entry.

By the last day of the interval, June 20, the projections indicated that nonborrowed reserves were close to path. While borrowing had expanded to $1.8 billion over the weekend it still averaged about $850 million through Tuesday. Consequently, a bulge in borrowing that night to about $3.0 billion would have been needed to bring the average for the interval to the $1.0 billion path level. Federal funds traded that morning at about 12 percent, indicating continuing strong bank demand for funds. In this situation the Desk aimed for nonborrowed reserves a little above the path level rather than force a sharp rise in borrowing. It entered the market to offer System repurchase agreements at about 10:45 a.m., an hour before its normal operating time, because of the tight collateral situation encountered on Tuesday. The dealer propositions were plentiful and the Desk added about $3.1 billion of reserves on the day or a little over $200 million to the two-week average.

As it turned out, bank demand for reserves remained quite strong. The Federal funds market firmed further in the afternoon, gradually rising to around 13¼ percent before trading over a wide range late in the day. The rate averaged 12 31 percent for the day, the highest daily rate of the year. Despite the reserve injection, bank borrowing rose substantially that night to about $3.0 billion to average nearly $1.0 billion for the period. Nonborrowed reserves exceeded the path level and excess reserves came in above their allowance, initially by a substantial amount Later revisions reduced the overrun of excess reserves to about $100 million. For the two weeks, Federal funds averaged 11.17 percent.

Drawing on the experience in the period ended June 20, the Desk provided generously for the projected reserve needs early in the July 4 interval containing both the Independence Day holiday and the quarter-end statement publishing date in the latter part of the period. The injections contributed to a large excess reserve

buildup which apparently was sufficient to tide the banks over the quarter-end. Money market pressures backed off from the strains that had been experienced at the end of the previous interval. Federal funds rates, however, spiked at the end of the period even though the Desk had provided for enough excess reserves to meet an expected demand of around $1.0 to $1.2 billion. The tightness, with funds trading around 12½ percent, may have reflected a maldistribution of reserves. It seemed that some banks had probably accumulated more excess reserves than they could fully use or carry over into the next interval. In these circumstances, the Desk arranged customer-related repurchase agreements in the market on July 3, the last business day of the period. (Revised data also indicated that required reserves were substantially above estimates available at the end of the period)

The Committee voted at the July meeting to maintain the existing degree of reserve pressure, accepting the higher rate levels that had emerged Use of $1.0 billion of seasonal and adjustment borrowing in the path was accompanied by further upward pressure on rates. The funds rate gradually crept higher and by early August it averaged around 11⅝ percent (compared with an expected level around 10½ percent in mid to late April with the same path level of borrowing).

During May the financial markets reacted nervously to the rumors about banks, especially those with large international loan exposures, and to investor reluctance to commit funds to the longer term sectors. Yields on Treasury securities ranging from 5 years to 30 years pushed up to nearly 14 percent on the last two days of May. Investor interest was piqued by rates at those levels, which proved to be the high watermark for the year. The markets rallied over the first part of June, but yields backed up again as new signs of rapid economic growth and the onset of the Treasury's midyear financing weighed on sentiment As the summer progressed, price advances resumed in the longer term markets. Investors were heartened by the slower growth of the aggregates and consequently felt less concerned about System policy over the longer term. The growing feeling that the inflation premium imbedded in interest rates might be too high added to the markets' better tone. Reports of large-scale swapping of equities into debt and "coupon stripping" activity relieved the markets of concerns about supplies.

In the short-term sectors, on the other hand, Treasury bill rates reflected investor demand for safety and liquidity amid the concerns about banks in May and June Many investors worried about the impact that possible loan writedowns would have on banks' earnings and the acceptability of their liabilities These concerns diminished after the June quarter end passed without incident. Continuing firm money market rates, however, weighed on the bill sector in July and August. The bill yield curve flattened over the summer with three-month rates rising somewhat while six-month and twelve-month issues showed small rate increases or modest decreases. Not surprisingly, yields on bank CDs rose appreciably in May and again in late June. In the process, the spread between three-month CDs and bills, which had averaged about 35 basis points over the first four months of the year, rose to about 160 basis points at its widest in late June and early July and then narrowed slowly over the summer.

Late August to year-end

Over the latter part of the year, open market operations sought initially to maintain reserve pressure on the banks, but then turned more accommodative as the FOMC responded to sluggish monetary and economic growth. Money growth from June to September fell short of the rates anticipated at the July and August meetings, and M1 growth from September to December came in below the rate sought at the October meeting The economy's growth slowed considerably as well with real GNP advancing at only about one third the pace of the first half Despite the fall in interest rates, the dollar proved to be quite strong in foreign exchange markets.

Against this background, the Federal Reserve reduced the allowance for borrowing contained in the nonborrowed reserve paths in several steps. By the end of the year the paths allowed for up to $300 million of borrowing, down from $1 billion at midyear The Federal Reserve discount rate was lowered to 8 percent in one half percentage point cuts in November and December. The Federal funds rate dropped over the last four months of the year reflecting reduced reserve pressure, the discount rate reductions, and the return of major banks to more normal patterns of reserve management. Other interest rates also dropped sharply with the largest decreases posted on short-term rates.

At the end of August the monetary aggregates showed distinct weakness compared to the rates expected by the Committee at its August meeting. The Committee had approved an evenhanded approach to altering its stance, allowing for the possibility that strength in the aggregates would lead to greater restraint while weakness would lead to lesser restraint. Against this background, the allowance for borrowing was reduced to $900 million at the start of the period ended September 12. Following further weakness in the aggregates in September, the allowance was pared to $850 million for the interval ended September 26 and $750 million at the start of the next interval.

The Desk acted promptly to fill reserve deficits during September and resolved doubts about reserve provision

toward the accommodative side. Frequent reserve injections proved necessary to meet large reserve needs during the month. During the August 30 to September 12 interval, for example, the Desk entered the market on eight of the nine business days, arranging System and customer repurchase agreements as well as one "go-around" to purchase Treasury bills for same-day delivery (the first such cash operation since 1978). Borrowing ran low over the interval and on the last day the Desk injected reserves to trim the rise in borrowing, even though nonborrowed reserves were expected to be close to path. Following vigorous efforts to offset a high Treasury balance in late September, the Desk was ready to inject additional reserves to forestall a last-day rise in borrowing. However, the money market was soft, giving no hint of a reserve shortage, and no action was taken. In those two intervals, borrowing averaged about $750 million, somewhat below the allowances made in the reserve paths. With nonborrowed reserves more plentiful, the Federal funds rate began to ease from the firm levels experienced in August and early September. The average rate dropped from 11.60 percent in the interval ended September 12 to 11.09 percent in the next period.

At its early October meeting the Committee preferred to maintain the lessened reserve pressure that had emerged since the August meeting. At the same time it was more disposed to allow additional easing should money weaken further than to contemplate tightening should the aggregates strengthen somewhat. As it turned out, M1 declined in October and Desk activity accommodated an easing in the money market. While the borrowing allowance remained at $750 million over most of the interval until the November meeting, the reserve outlook shifted toward projected surpluses in October and the Desk's gradual approach to withdrawing them allowed the reserve excesses to produce further softening in money market pressures.

At the start of October, however, strong bank demand for reserves over the quarter end contributed to a brief rise in the Federal funds rate Borrowing also surged over that weekend, reflecting the firm money market as well as technical difficulties in funds transfer processing Borrowing tended to settle down over the rest of the October 10 period, but the average ran high for the interval. The Desk's pursuit of the nonborrowed reserve path meant that excess reserves ran high for the interval and the funds rate eased considerably in the second week to pull down the average for the period to 10 60 percent. Excess reserve carryovers into the next interval contributed to a further easing in the latter half of October. The funds rate dropped further to average 9.84 percent in the October 24 period. Expectations of an easier stance, given weaker money and economic data, also contributed to the lower Federal funds rate.

Securities prices rallied substantially over the autumn. Gains were fairly modest at first but picked up momentum in late October, when the weakness in money became widely evident. Participants concluded that the Desk was taking no strong action to resist the decline in the funds rate, fanning expectations of a still more accommodative approach. Signs that the price of oil might fall further buoyed the outlook for additional moderation in inflation Because of delays in passing new debt ceiling legislation, the Treasury's regular consolidated financing schedule of auctions of 4-, 7-, and 20-year coupon securities was postponed until the latter half of October from the more normal schedule around the end of September. As it turned out, the auctions were generally well received amid the ebullient outlook for interest rates. The Treasury's regular quarterly refunding auctions of 3-, 10-, and 30-year issues at the beginning of November, however, met more mixed receptions as the market bogged down temporarily under the heavy supplies.

The Committee explicitly voted to reduce reserve pressures at its meetings in November and December and conditioned the directives to lean more readily to greater rather than lesser accommodation The reserve paths constructed shortly after the November 7 meeting used $575 million of borrowing for the November 21 period, down from the $700 million level employed shortly before the meeting. With M1 continuing to track below the Committee's indicated September-to-December pace, the degree of reserve restraint was eased at the start of the two subsequent maintenance periods. The borrowing assumption dropped to $500 million for the December 5 interval and to $400 million for the December 19 interval (In fact, borrowing ran low in the November 21 period, and late in the period the nonborrowed reserve objective informally allowed for $500 million of borrowing rather than force a surge in borrowing at the end of the period, and risk misleading the market.) Following the December 19 interval, the paths allowed for up to $300 million of borrowing

With further reductions in the borrowing gap, the Federal funds rate settled in closer to the discount rate. The ability of most banks to weather the storms over the summer and get past the September quarter end without significant difficulty contributed to a more relaxed atmosphere in the market for bank liabilities. The System's turn toward ease over the latter part of the year also relieved the pressure on the banks that were reluctant to borrow or felt compelled to avoid situations in which they might appear to be overly aggressive in the funds market. Thus, by mid-November, when the paths allowed for $575 million of borrowing,

Federal funds tended to trade comfortably at 9½ percent compared to the 9 percent discount rate.

Participants, observing the shrinkage in borrowing and lower funds rate, began to speculate that further System efforts to ease would require cuts in the discount rate. They noted that the Committee had only a little more room to reduce borrowing before it would drop to frictional levels. Some felt that the Committee preferred to induce enough borrowing to provide some tension in the market so that funds would trade at a small but relatively predictable spread over the discount rate. Consequently, the announcements of cuts in the discount rate to 8½ percent on November 21 and then to 8 percent on December 21 were widely expected. The short-term sectors of the securities markets reacted positively—though moderately—to the announcements.

Bill rates dropped to their lows of the year in late December, the lowest levels since early 1983. Longer term sectors displayed little overall trend during the last two months of the year. Some indications of a bounce-back in the economy, and a pickup in the growth of the aggregates were seen as harbingers of renewed credit demands while discussions of tax reform proposals refocused attention on the deficits.

The money market reflected the usual year-end churning and window dressing activity, but settled down quickly in the new year. With the December 31 statement publishing date occurring late in the January 2, 1985 reserve maintenance interval, many banks had little time to adjust their reserve positions after the year-end. Excess reserves and borrowing ran high amid the scramble for reserves, while Federal funds traded as high as 15 percent on the settlement day and averaged 8.75 percent for the week ended January 2. The markets ascribed the firmness to technical reasons, and with the paths allowing for up to $300 million of borrowing, the tightness dissipated rapidly. The funds rate averaged 8¼ percent over the January 16 interval, close to the average in late December before the year-end spike.