Review

Vol. 68, No. 2 February 1986

THE FEDERAL RESERVE BANK of ST. LOUIS

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In This Issue . . .

In the first article in this *Review*, "The FOMC in 1985: Reacting to Declining M1 Velocity," R. W. Hafer discusses the issues that influenced the policy decisions made by the Federal Open Market Committee (FOMC) last year. Hafer notes that policy decisions were influenced by the unpredicted decline in M1 velocity. This decline rekindled uncertainty about the usefulness of the M1 monetary aggregate as the primary gauge of the direction of monetary policy. As in late 1982, when the FOMC reduced the emphasis it placed on movements in M1 to formulate policy, so in 1985 did the FOMC approach policy decisions with less concern about strict adherence to prestated M1 growth targets.

In addition to these developments, several other factors influenced the FOMC policy decision. Economic recovery continued, but at a pace much slower than anticipated. The rate of inflation remained at relatively low levels and interest rates trended downward. The size of the federal and trade deficits caused concern about their impact on financial and goods markets. The decline in the value of the dollar in late 1985 provided yet another factor.

To understand the impact of these aspects on policy decisions and discussions, Hafer reviews the FOMC's long- and short-run policy discussions, setting the economic climate for each meeting through the year. A detailed supplement providing selected excerpts from the published "Minutes" of the FOMC meetings provides a useful chronology of events and policy discussions during 1985.

* * *

Interest rate ceilings on time and savings deposits (commonly called Regulation Q) have been eliminated. In the second article in this *Review*, "Requiem for Regulation Q: What It Did and Why It Passed Away," R. Alton Gilbert examines the effects of Regulation Q over the 53 years it was in effect. He concludes that, throughout its history, Regulation Q policy did not achieve the results intended for it. The policy as modified in 1966 became especially disruptive to the operations of depository institutions as they lost deposits whenever market interest rates rose above the ceiling rates.

Congress decided in 1980 to phase out Regulation Q over six years. As the ceiling rates were raised and eliminated, thrift institutions lost the rate advantage that Regulation Q had given them on small-denomination time and savings deposits. As a result, the share of small-denomination time and savings deposits declined at thrift institutions as it rose at commercial banks. In response, thrift institutions have increased their share of large-denomination time deposits substantially to avoid an erosion of their share of total time and savings deposits.

The FOMC in 1985: Reacting to Declining M1 Velocity

R. W. Hafer

ONE of the most important issues influencing the formation of monetary policy by the Federal Open Market Committee (hereafter "Committee" or "FOMC") in 1985 was the unexpected and sizable decline of M1 velocity. Although M1 growth surged in 1985, doubling its 1984 growth rate, and inflation remained in check, real economic activity increased at a sluggish pace.[1] In response to this apparent change in the money-income relationship, the Committee rebased the 1985 M1 growth target from IV/1984 to II/1985 and placed more than usual emphasis on judging the appropriateness of M1 growth against the behavior of the broader aggregates (M2 and M3) and economic conditions.

This article examines the Committee's monetary policy decisions during 1985. In doing so, it discusses the factors that the Committee believed were important and the environment in which policy decisions were made.

LONG-RUN POLICY OBJECTIVES

Under the requirements of the Full Employment and Balanced Growth Act of 1978 — the Humphrey-Hawkins Act — the Committee semiannually reports to Congress on its annual growth rate objectives for monetary and credit aggregates. These reports are submitted in February, to establish the Committee's annual growth targets for the current year, and again in July, to review the progress made toward meeting those objectives and provide provisional growth ranges for the upcoming year. The period usually covered by the growth ranges is from fourth quarter to fourth quarter.[2]

Uncertainty about M1 Velocity

The evidence reviewed by the Committee at its February 12–13, 1985, meeting suggested that the velocity of M1 — the ratio of nominal GNP to M1 —

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Note: Citations referred to as "Record" are to the "Record of Policy Actions of the Federal Open Market Committee" found in various issues of the *Federal Reserve Bulletin*. Citations referred to as "Report" are to the "Monetary Policy Report to the Congress," also found in various issues of the *Federal Reserve Bulletin*.

[1]For example, M1 growth from IV/1984 to IV/1985 was 11.6 percent, compared with 5.2 percent for the IV/1983–IV/1984 period. Inflation during 1985 was 3.4 percent, slightly less than the 3.6 percent rate for 1984. Real GNP growth — GNP growth adjusted for inflation — for these same two periods averaged 2.2 percent and 5.8 percent. It should be noted that all data used in this article are those available to the Committee at the time of its deliberations. Consequently, data on real economic activity and inflation for the first three quarters of 1985 are based on 1972 prices, while fourth-quarter data use the recently revised series, based on 1982 prices. Because of the revision to the national income and product accounts, released on December 20, 1985, annual 1985 figures for real economic growth are based on an average of original and revised data.

[2]The use of fourth-quarter-to-fourth-quarter growth targets eliminates intra-year base drift, that is, the drift of the base level from which policy growth objectives are calculated. The FOMC's use of the preceding year's actual fourth quarter levels instead of the implied level from the target range, however, has imparted an upward bias to the long-run money growth figures. For more on this point, see Broaddus and Goodfriend (1984).

Table 1

FOMC Long-Run Operating Ranges in 1985

Date of meeting	Target period	Ranges		
		M1	M2	M3
February 12–13, 1985[1]	IV/1984–IV/1985	4–7%	6–9%	6–9.5%
July 9–10, 1985[2]	IV/1984–IV/1985	—	reaffirmed above range	reaffirmed above range
	II/1985–IV/1985	3–8%	—	—

Dissents:

[1]Messrs. Boehne and Martin dissented because they preferred a somewhat higher upper boundary for the M1 range in order to provide enough leeway, if needed, to accommodate a satisfactory rate of economic expansion. In their view, the additional leeway was desirable because of the uncertainties surrounding the outlook for velocity, and it took account of the favorable outlook for inflation and the continuing financial strains in some sectors of the economy. Mr. Boehne also noted that M1 growth in 1984 was in the lower part of the Committee's range.

Mr. Wallich dissented because he wanted to retain the ranges for the broad monetary aggregates that were tentatively adopted in July 1984. In his view those ranges provided adequate room for fostering a sustainable rate of economic expansion. They were more consistent with the Committee's long-run objective of bringing down inflation, and raising them might be misinterpreted by the market as a weakening of policy in that regard.

[2]Mr. Black dissented because he preferred a rebased range of 4 to 7 percent for M1, which he thought was more likely to be consistent with both sustained economic expansion and progress toward price stability. In particular, he was concerned that the higher 8 percent top of the rebased range adopted by the Committee might tend to prolong the process of reducing M1 growth to a noninflationary rate.

"seemed to be returning to a more normal or predictable pattern."[3] This evidence was tempered by the fact that, although M1 velocity was rising, its growth during the past few years, on average, had been lower than its growth over the bulk of the postwar period.[4] A continuation of the slow growth in velocity, some members of the Committee argued, "would imply the need for M1 growth in the upper part of the Committee's tentative range" of 4 to 7 percent from IV/1984 to IV/1985 (see table 1), as established at the July 1984 meeting.[5]

The Committee noted that the behavior of M1 velocity was subject to considerable uncertainty. In its report to Congress, the Committee pointed out that:

> On average, the behavior of M1 velocity . . . during 1984 was broadly consistent with previous cyclical patterns. Together with other evidence, this development suggests that the factors responsible for the highly unusual velocity behavior over 1982 and early 1983 have receded. Nonetheless, a range of uncertainty inevitably remains about the trend of M1 relative to nominal GNP in light of recent deposit deregulation and other financial innovations . . .[6]

In view of this continued uncertainty, the Committee voted to retain the tentative range for M1 growth of 4 to 7 percent from IV/1984 to IV/1985. Of the three dissents from this action on the long-run ranges (see table 1), two were based on the view that the upper bound of 7 percent might not provide enough leeway for M1 growth to accommodate a satisfactory rate of economic growth should velocity growth again slow in 1985. The other dissent concerned the ranges adopted for the broader aggregates.

Rebasing M1

During its midyear review, the Committee discussed the rapid growth of M1 during the first six months of 1985: from December 1984 to June 1985, M1

[3]Record (May 1985), p. 330. See opposite page for a brief discussion of velocity and its recent behavior. The behavior of M1 velocity (GNP/M1) during the past few years has created concern among FOMC members about M1's usefulness in the conduct of short-run policy. For a discussion of the effects of changes in M1 velocity on policy, see Thornton (1983a) and Hafer (1985). For more on the concept, measurement and recent behavior of velocity, the reader is referred to Tatom (1983), Hein and Veugelers (1983) and Thornton (1983b).

[4]For example, the average growth rate of M1 velocity from 1960 through 1981 was 3 percent. During 1984, M1 velocity increased, on average, at a 4.2 percent rate. In contrast, from 1978 through 1983, M1 velocity growth averaged only a 0.5 percent rate.

[5]Record (May 1985), p. 330.

[6]Report (April 1985), pp. 189–90.

Velocity, Money and Economic Activity

The velocity of money can be thought of as the number of times that the money stock turns over to produce a given level of nominal income. In terms of growth rates, velocity's importance is defined by the equation

(1) $\dot{M} + \dot{V} = \dot{Y} = \dot{P} + \dot{X}$,

where M = money stock,
V = velocity,
Y = total nominal spending,
P = price level, and
X = real output.

The dot above each variable indicates that the variables are measured as growth rates.[1]

The accompanying table presents data on the growth rates for money (M1), real output (real GNP), inflation (GNP deflator), nominal income (GNP) and velocity. The data cover the most recent four years and the 1960–81 period.[2]

Velocity growth during the past four years has deviated substantially from its average behavior over the previous two decades. From 1960 through 1981, velocity growth averaged 3 percent. From I/1982 to III/1985, velocity *decreased* at an average rate of 1.6 percent. This change in velocity growth from its historical trend increased uncertainty about the growth of money necessary to maintain real economic expansion. For example, in 1982, M1 increased at about a 9 percent rate. Because inflation was about 5 percent and velocity unexpectedly declined by more than 5 percent, the net result was negative real economic growth.[3] In contrast, during 1984, even though M1 growth averaged only about 5 percent, inflation was only 3.6 percent and velocity growth rebounded to a 4 percent rate; consequently, real economic growth expanded sharply.

At the beginning of 1985, velocity was expected to return to a more normal growth rate. Instead, policymakers again were confronted with unexpectedly large sustained negative velocity growth. Combined with relatively stable inflation, this sharp, unexpected decline in velocity yielded slow real growth, even with quite rapid growth in M1. The text discusses how this situation affected the FOMC during 1985.

[1]Velocity growth, by definition, is simply the difference between the growth of nominal income ($\dot{P} + \dot{X}$) and money ($\dot{M}$). In level form, velocity is the ratio of nominal income to the money stock (Y/M).

[2]The data for 1985 cover only the first three quarters, since the Committee had access only to these data, and then sometimes only in preliminary form. Moreover, the revisions of the income statistics were announced in December 1985. Also, the growth rates in the table do not precisely add up as suggested by equation 1. The equation is based on the use of logarithmic rates of change; the growth rates in the table are compounded rates of change.

[3]If velocity had increased at its postwar average, real output growth would have been about 8 percent.

Growth Rates of Velocity, Money and Economic Activity

Period	$\dot{M}1$	$\dot{RGNP}$	$\dot{P}$	$\dot{GNP}$	$\dot{V}$
1960–1981	5.3%	3.1%	5.2%	8.4%	3.0%
I/1982	9.2	−4.7	4.6	−0.3	−8.6
II	3.0	−0.8	5.6	4.7	1.7
III	6.1	−0.9	3.4	2.5	−3.4
IV	17.4	0.5	3.4	3.9	−11.5
Average	8.9%	−1.5%	4.2%	2.7%	−5.4%
I/1983	11.8	3.3	5.0	8.5	−3.0
II	12.7	9.4	2.6	12.3	−0.4
III	10.6	6.8	3.1	10.1	−2.0
IV	6.5	5.9	4.4	10.6	5.4
Average	10.4%	6.4%	3.8%	10.4%	0.0%
I/1984	6.4	10.1	4.4	14.9	8.0
II	6.7	7.1	3.3	10.7	3.8
III	4.6	1.6	4.0	5.6	1.0
IV	3.2	4.2	2.8	7.1	3.8
Average	5.2%	5.8%	3.6%	9.6%	4.2%
I/1985	11.0	0.3	5.4	5.6	−4.8
II	10.6	1.9	2.6	4.5	−5.5
III	15.9	4.3	2.3	6.7	−8.0
Average	12.5%	2.2%	3.4%	5.6%	−6.1%

had increased at a 12.1 percent annual rate. Despite this rapid increase in money, however, economic growth waned from its IV/1984 pace: real GNP increased at only a 1.1 percent rate during the first half of 1985.[7]

Changes in the responsiveness of the public's demand for M1 balances to changes in interest rates (its interest elasticity) were discussed as a primary explanation for the rapid increase in M1 growth:

> In periods characterized by large interest rate declines individuals and businesses tended to shift into transaction-type balances from other assets because they sacrificed less interest income in doing so.[8]

Although interest rate movements in late 1984 were viewed as a likely explanation for rapid M1 growth early in 1985, the continuing rapid growth of M1 during May and June — 14.9 percent and 21.7 percent — was judged to be a response by the public to more than just interest rate movements. Some members suggested that the surge was due to special, non-interest-rate factors influencing the demand for M1.[9]

The Committee did not unanimously agree on the causes of the rapid rise in M1 during the first half of 1985, but it "generally concluded that faster-than-targeted expansion in M1 could be accepted for the first half of the year," given the slow pace of economic activity, low inflation rate and high value of the dollar.[10] For the remainder of 1985, the Committee deemed it undesirable to slow M1 growth enough to attain its 1985 annual target range, since this action would be detrimental to economic growth.

Instead, given the uncertainty surrounding the behavior of M1 during the first half of 1985, the Committee voted at its July meeting to rebase the M1 growth target range (see table 1):

> In reexamining its M1 range for 1985 and in setting a tentative range for 1986, the Committee expected that velocity, after its sharp decline in the first half of this year, would cease falling rapidly — while recognizing that much of the recent decline may not be reversed. Allowance also needed to be made for the high degree of uncertainty surrounding the behavior of M1 velocity, given the experience of the past few years. To take account of these considerations, the base for the range of M1 was shifted forward to the second quarter of 1985, and the range was set to encompass growth at an annual rate of 3 to 8 percent over the second half of this year.[11]

At the time of the July meeting, the level of M1 already was above the new annual growth range. The Committee, recognizing this fact, admitted that "it [M1] was not likely to fall within that range until some time had elapsed."[12] The growth of M1 would continue to be judged in light of developments in economic activity, prices, financial market changes and international developments.

Long-Run Ranges for M2 and M3

Most members agreed that, in setting the 1985 growth range for M2 and M3, the upper bound of both ranges should be increased by 1/2 percentage point over the tentative ranges established in July 1984. Thus, at the February 1985 meeting, the Committee set the 1985 target range at 6 to 9 percent for M2 and at 6 to 9.5 percent for M3 (see table 1).[13] Some members argued that the increase in the M3 range was unnecessary, partly because the increased ranges might impart the (incorrect) notion that the Committee's resolve to fight inflation was waning.

The Committee reaffirmed the 1985 target ranges for the broader aggregates at its July meeting (see table 1). At this time, the actual growth rate for M2 was near the upper bound of its 1985 range, and M3 was somewhat above the midpoint of its range.

Actual Money Growth in 1985

The actual and expected growth rates of the monetary aggregates for 1985 are reported in table 2. For M2 and M3, the target period is from IV/1984 to IV/1985, while for M1 it is from II/1985 to IV/1985. The actual growth of M1, 12.4 percent, was over four percentage points above the upper bound of the Committee's 3 to 8 percent target range. In addition, M1 growth of 11.6 percent from IV/1984 to IV/1985 was more than double its 1984 growth rate of 5.2 percent.

The growth rates of M2 and M3 were within the Committee's target ranges for the year. The 8.6 percent

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[7]Because inflation had continued at a moderate pace, much of the decline in real GNP growth can be explained by a slowing in nominal income growth (see page 7).

[8]Record (October 1985), p. 783.

[9]Among the special factors discussed were changes in corporate cash management practices and transitory responses to sharp declines in Treasury balances.

[10]Record (October 1985), p. 783.

[11]Report (September 1985), pp. 672–73.

[12]Record (October 1985), p. 784.

[13]The monitoring range for total domestic nonfinancial debt was set at 9 to 12 percent, 1 percentage point above its previous tentative monitoring range.

Table 2

Actual and Expected Money Growth in 1985

Measure	Target Range	Actual
M1	3–8%	12.4%
M2	6–9	8.6
M3	6–9.5	8.0

NOTE: The target period for M1 is II/1985 to IV/1985. The target period for M2 and M3 is IV/1984 to IV/1985.

growth rate of M2 was near the upper end of its growth range, while M3's 8.0 percent growth rate was 1.5 percentage points below its upper bound. In both instances, the growth rates for the broader aggregates were only slightly above their 1984 rates of 7.7 percent and 10.4 percent, respectively.

SHORT-RUN POLICY OBJECTIVES

The Committee met eight times during 1985 to review the state of the economy and determine short-run changes in monetary policy implementation. The following is a chronological discussion of these short-run decisions.

First Quarter

The economic data reviewed at the February meeting showed that real economic growth had been strengthening in late 1984. The Commerce Department's preliminary estimate of real GNP growth in IV/1984 was about 4 percent, up from about 1.5 percent in III/1984. Industrial production also showed strength after declining in September and October.

Though the monetary aggregates were growing well above the short-term targets established at the December 17–18, 1984, meeting (see table 3), members were reluctant to initiate policy actions that would reduce the availability of reserves to the banking system.

The Committee's reluctance to reduce money growth stemmed from the continued uncertainty about the sustainability of the recent increase in economic growth. Some members argued for policy actions that would lead to slower money growth; others felt that the pace of economic growth during late 1984 reflected the public's reaction to rapid declines in interest rates.[14] Also concerned about the effects of the federal government's budget deficit and the growing foreign trade deficit on domestic economic growth, the Committee cautioned against slowing money growth merely to achieve pre-stated growth ranges: "relatively rapid monetary growth would not automatically call for more reserve restraint if it occurred in the context of emerging weakness in business conditions and a strong dollar in the foreign exchange markets."[15] Most Committee members at the February meeting thought that its actions were consistent with achieving the monetary growth rates for the first quarter shown in table 3.

At the March 26 meeting, incoming economic data indicated an economy growing more slowly than in IV/1984. Partial data for March also showed a sharp slowing in the growth of the monetary aggregates. The Committee agreed that the current economic outlook outweighed any move to restrain monetary growth further. Its decision to maintain the existing degree of reserve restraint, in combination with the observed slowing in money growth, led it to expect a slowing in money growth over the next few months. The Committee cautioned, however,

> . . . that the current economic uncertainties and related volatility that appeared to pervade domestic credit and foreign exchange markets would argue for more tolerance toward growth in the aggregates, particularly to the extent that such growth might signify an increase in demands for liquidity.[16]

In other words, if (for whatever reason) the public's demand for money should again increase substantially (that is, if velocity should fall), the Committee would lean toward accommodating such demands by increasing the supply of reserves.

Second Quarter

After the growth of M1 remained above its annual target through April, two conflicting views among Committee members emerged at the May 21 meeting. One view argued for holding near-term M1 growth to a rate that would bring it closer to its annual target, lest the above-target growth have an undesirable impact on inflationary expectations.

[14]Using monthly averages, the rate on three-month Treasury bills fell 273 basis points between August 1984 and January 1985. Over this period, the 30-day commercial paper rate fell 320 basis points. Long-term rates also fell appreciably: 76 basis points for long-term government securities and 79 basis points for Aaa corporate bonds.

[15]Record (May 1985), p. 332.

[16]Record (July 1985), pp. 539–40.

Table 3
FOMC Short-Run Operating Specifications

Meeting date	Target period	Expected growth rates			Intermeeting federal funds range
		M1	M2	M3	
December 17–18, 1984[1]	November 1984–March 1985	around 7%	around 9%	around 9%	6–10%
February 12–13, 1985	December 1984–March 1985	around 8	around 10–11	around 10–11	6–10
March 26, 1985	March–June 1985	around 6	around 7	around 8	6–10
May 21, 1985[2]	March–June 1985	around 6 or a little higher	less than 7	less than 8	6–10
July 9–10, 1985[3]	June–September 1985	5 to 6	around 7.5	around 7.5	6–10
August 20, 1985[4]	June–September 1985	8 to 9	around 8.5	around 6.5	6–10
October 1, 1985[5]	September–December 1985	around 6–7	about 6–7	about 6–7	6–10
November 4–5, 1985[6]	September–December 1985	around 6	about 6	about 6	6–10
December 16–17, 1985[7]	November 1985–March 1986	7 to 9	about 6–8	about 6–8	6–10

[1]Mr. Solomon dissented from this action because, although he thought some further easing would be appropriate over the coming period, he believed such action should be relatively gradual. In particular, he was concerned that the provision of reserves sought by the Committee risked an excessive decline in short-term rates and an overreaction in the financial markets. He therefore preferred a more cautious probing toward easier reserve conditions.

Mr. Gramley dissented because he could not accept a directive that called for further easing of reserve conditions. In his view the underlying strength of the economy together with the ongoing effects of earlier declines in interest rates provided the basis for a likely rebound in economic growth during 1985. He also believed that the Committee needed to take greater account of the broader monetary aggregates whose expansion appeared to be exceeding the Committee's expectations by a substantial margin in the fourth quarter. Under current circumstances he was concerned that significant further easing of reserve conditions would foster additional declines in interest rates that would have to be reversed later as economic growth picked up again.

[2]Mr. Black dissented because he preferred to direct policy implementation in the weeks immediately ahead toward achieving somewhat slower expansion in M1. In his view, bringing M1 growth more promptly within the Committee's range for the year would help guard against a possible worsening of inflationary expectations and would limit the risk of a potentially unsettling movement in interest rates later in the year.

[3]Mr. Black dissented because he believed some increase in the degree of reserve pressure was needed to help assure an adequate slowing of M1 growth over the months ahead. Ms. Seger dissented because she favored some easing of reserve conditions to help reduce current financial strains, moderate the strength of the dollar in foreign exchange markets, and promote faster economic expansion.

[4]Mr. Black dissented because he preferred to direct open market operations promptly toward a somewhat greater degree of reserve restraint and thereby improve the prospects of moderating M1 growth to within the Committee's range for the second half of the year. Ms. Seger dissented because she favored some reduction in the degree of reserve restraint in light of the financial vulnerability of some sectors of the economy and in order to encourage sustained economic expansion.

[5]Mr. Black dissented because he believed some increase in the degree of reserve pressure was needed at this time to ensure adequate slowing of M1 growth in the period ahead.

[6]Ms. Seger dissented because she believed that some reduction in the degree of reserve restraint was needed to help relieve financial strains in the economy, and to promote a more acceptable rate of economic expansion closer to the faster growth expected by Committee members early this year.

[7]Mr. Black dissented because he was concerned about the rapid growth of M1 and he did not think a decrease in the degree of pressure on reserve positions was desirable under present circumstances.

The other view focused on the current sluggishness of economic activity: "A number of members indicated that they were prepared to accept a little more rapid expansion [of M1] against the background of relatively weak economic performance, strains in financial markets, and the recent behavior of the broader aggregates."[17] Preliminary data suggested that second-quarter real GNP would increase only modestly following its lackluster 0.7 percent growth in I/1985. Moreover, the "recent decline in market rates and the lower discount rate would tend to increase the demands for money and credit under those circumstances as compared with what they otherwise would be."[18] In other words, faster money growth would be

[17]Record (September 1985), p. 711. It also should be noted that preliminary data indicated a substantial drop in M1 velocity.

[18]Ibid. The discount rate was lowered from 8.0 percent to 7.5 percent on May 20, 1985.

Table 4

Comparison of Actual and Expected M1 Growth

Period	Expected growth rate	Actual growth rate[1]	Error[2] (percentage points)
December 1984–March 1985	around 8%	9.9%	1.9
March–June 1985	around 6	14.0	8.0
June–September 1985[3]	5 to 6	14.7	9.2
September–December 1985	around 6–7	8.5	2.0

[1]Actual based on first announced monthly data.

[2]Error is actual less expected. Where expected growth rate is a range, the midpoint is used.

[3]The June-September expected growth rate was revised upward to 8 to 9 percent at the August 20 meeting of the FOMC.

necessary to accommodate desired GNP growth.

The Committee's discussion at the May 21 meeting indicates that it viewed the short-run behavior of the money supply as being influenced by the course of the public's demand for money.[19] Because the economy remained sluggish and interest rate declines had abated, the demand for M1 and, consequently, its growth were expected to slow. Given the strength of M1 relative to its annual target, most members were willing to accept slightly less growth in the broader M2 and M3 aggregates.

Contrary to the Committee's expectations, M1 growth surged in May and June, increasing at rates of about 15 percent and 22 percent. As shown in table 4, M1 growth over the March–June period was 14 percent, more than double the rate expected. The growth rates of M2 and M3, however, were more consistent with the Committee's expectations: over the same period, M2 and M3 increased at rates of 7.4 percent and 6.5 percent.

Third Quarter

We have seen that the Committee voted at its July meeting to rebase the M1 growth range on the heels of unexpectedly rapid M1 growth in May and June. Although some members argued that such rapid growth required a tightening of reserve availability to slow future M1 growth and bring it into the new target range, a "majority of the members were in favor . . . [of] maintaining the existing degree of pressure on reserve positions . . ." which was "likely to be associated with a marked slowing in the growth of M1 during the third quarter."[20] The Committee expected that the unanticipated surge in non-interest-bearing demand deposits during the second quarter "would appear to have satisfied transactions needs for some period ahead."[21]

By the August 20 meeting, the question of how the recent strength of M1 growth relative to sluggish economic activity would affect policy implementation for the upcoming weeks assumed center stage. Although M1 growth had been exceptionally strong during the first half of 1985, and inflation continued at a moderate pace, economic activity showed no appreciable rebound as velocity continued to decline. Meanwhile, the trade-weighted value of the dollar against major foreign currencies had fallen about 17 percent from its peak value in late February.

The absence of any clear indication that economic activity was strengthening led some members to argue that maintaining the existing degree of reserve restraint would result in a moderation of future M1 growth. More important, since recent data showed no significant acceleration in either economic activity or

[19]Axilrod (1985), p. 22, provides a basis for this viewpoint. He notes that:

> It does not necessarily follow that a money supply target, or guide, should be abandoned when there are shifts in the demand for money. So long as shifts in demand for goods and services are with us . . . there is obvious value to a money supply guide, but one that necessarily entails certain judgmental adjustments to allow for, among other things, shifts in money demand.

[20]Record (October 1985), p. 786.

[21]Ibid. The unusual surge in demand deposits during May and June was greater than interest rate declines would have predicted. Two possible explanations were advanced in the Report: sharp swings in U.S. Treasury balances and possible changes in corporate cash management techniques.

Organization of the Committee in 1985

The Federal Open Market Committee (FOMC) consists of 12 members: the seven members of the Federal Reserve Board of Governors and five of the 12 Federal Reserve Bank presidents. The chairman of the Board of Governors is, by tradition, also chairman of the Committee. The president of the New York Federal Reserve Bank also by tradition is its vice chairman. All Federal Reserve Bank presidents attend Committee meetings and present their views, but only those presidents who are members of the Committee may vote. Four memberships rotate among Bank presidents and are held for one-year terms beginning March 1 of each year. The president of the New York Federal Reserve Bank is a permanent voting member of the Committee.

Members of the Board of Governors at the beginning of 1985 included Chairman Paul A. Volcker, Preston Martin, Henry C. Wallich, J. Charles Partee, Emmett J. Rice, Lyle E. Gramley and Martha R. Seger. Effective September 1, Lyle E. Gramley resigned his governorship, a position that was not filled for the remainder of the year.[1] The following presidents voted at the February 1985 meeting: John J. Balles (San Francisco), Edward G. Boehne (Philadelphia), Robert H. Boykin (Dallas), E. Gerald Corrigan (New York) and Karen N. Horn (Cleveland).[2] The Committee membership changed in March 1985 and the presidents' voting positions were filled by John J. Balles (San Francisco), Robert P. Black (Richmond), E. Gerald Corrigan (New York), Robert P. Forrestal (Atlanta) and Silas Keehn (Chicago).

The Committee met eight times at regularly scheduled meetings during 1985 to discuss, among other things, economic trends and to decide upon the future course of open market operations.[3] As in previous years, however, telephone or telegram consultations were held occasionally between scheduled meetings. During each regularly scheduled meeting, a directive was issued to the Federal Reserve Bank of New York. Each directive contained a short review of economic developments, the general economic goals sought by the Committee, the Committee's long-run monetary growth objectives, and instructions to the manager of the System Open Market Account at the New York Bank for the conduct of open market operations. These instructions typically were stated in terms of the reserve conditions deemed consistent with the short-term growth rates for M1, M2 and M3, which in turn were considered to be consistent with desired longer-run growth rates of the monetary aggregates. The Committee also specified intermeeting ranges for the federal funds rate. These ranges provide a mechanism for initiating consultations between meetings whenever it appears that the constraint of the federal funds rate is proving inconsistent with the objectives for the behavior of the monetary aggregates.

The account manager has the major responsibility for formulating plans regarding the timing, types and amount of daily buying and selling of securities in fulfilling the Committee's directive. Each morning the manager and his staff plan the open market operations for that day. This plan is developed on the basis of the Committee's directive and the latest developments affecting money and credit market conditions, the growth of the monetary aggregates and bank reserve conditions. The manager also consults with the Board of Governors' staff. Present market conditions and open market operations that the manager proposes to execute are discussed each morning in a telephone conference call involving the staff at the New York Bank and the Board, and one voting president. Other members of the Committee may participate and are informed of the daily plan by internal memo or wire.

The directives issued by the Committee and a summary of the reasons for Committee actions are published in the "Record of Policy Actions of the Federal Open Market Committee." The "Record" for each meeting is released a few days after the following Committee meeting. Soon after its release, it appears in the *Federal Reserve Bulletin*. In addition, "Records" for the entire year are published in the annual report of the Board of Governors. The "Record" for each meeting during 1985 included:

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[1]Gramley did not attend the July and August meeting.

[2]Balles voted as an alternate at this meeting.

[3]No formal meetings were held in January, April, June and September.

1) a staff summary of recent economic developments — such as changes in prices, employment, industrial production and components of the national income accounts — and projections of general price, output and employment developments for the year ahead;
2) a summary of recent international financial developments and the U.S. foreign trade balance;
3) a summary of open market operations, growth of the monetary aggregates and bank reserves, and money market conditions since the previous meeting;
4) a summary of the Committee's discussion of the current and prospective economic and financial conditions and the current policy considerations, including money market conditions and the movement of monetary aggregates;
5) decisions of the Committee;
6) a policy directive issued by the Committee to the Federal Reserve Bank of New York;
7) a list of the members' votes and any dissenting comments; and
8) a description of any actions regarding the Committee's other authorizations and directives and any actions or consultations that may have occurred between the regularly scheduled meetings.

inflation, the Committee argued that a rigid adherence to the long-run M1 growth objectives entailed a greater downside risk to the expansion than the risk of greater inflation.

The Committee voted at the August meeting to "maintain the degree of pressure on reserve positions sought in recent weeks."[22] It viewed this action as consistent with M1 growth of 8 to 9 percent for III/1985, a substantial increase from the short-term growth range expected at the July meeting (see table 3). M2 growth was expected to increase somewhat, while M3 growth was expected to fall slightly. The Committee's policy directive noted, however, that "somewhat greater restraint would be acceptable in the event of substantially higher growth in the monetary aggregates."[23] In fact, open market operations during the intermeeting period following the August vote showed a slight tilt toward reserve restraint.

As table 4 reveals, the Committee substantially underestimated M1 growth for III/1985. Nevertheless, the pace of economic activity, the inflation rate, movements in the foreign exchange value of the dollar and the growth of the broader monetary aggregates argued against the need to further restrict reserve availability in order to bring M1 growth into its target range.

Fourth Quarter

At the October meeting, evidence indicated that the economy was beginning to expand at a faster rate than in the first half of 1985 and that inflation pressures continued to be weak. Following the September 22 announcement by finance ministers and central bank governors of the Group of Five (G-5) countries, the foreign exchange value of the dollar had started to decline again after some increase in early September.[24]

Recent data suggested that M1 growth might decline in the upcoming weeks. (Indeed, M1 growth did drop from 22.4 percent in August to 12.4 percent in September.) An analysis prepared by the Board staff indicated that "given the volatility of the M1 data and the difficulties of making seasonal adjustments, a decline in M1 for a time could not be ruled out."[25] Even so, the analysis suggested that M1 growth during IV/1985 probably would continue strong unless market interest rates rose substantially from current levels and that it was "increasingly doubtful that the targeted rate of M1 growth for the second half of the year as a whole could be reached without an inappropriately abrupt increase in reserve pressures and in interest rates."[26]

With continued uncertainty surrounding the future behavior of M1 velocity, the Committee voted to maintain the policy stance established in recent weeks.

[22]Record (December 1985), p. 954.

[23]Ibid.

[24]The G-5 countries include France, Germany, Japan, the United Kingdom and the United States. For a discussion of the announcement and its immediate impact, see Trehan (1985). See also Axilrod (1986) for a related discussion.

[25]Record (January 1986), p. 23.

[26]Ibid. The "inappropriateness" of tightening policy reflects the Committee's continued concern over the sluggish behavior of real GNP relative to observed monetary growth.

This action, as table 3 shows, was deemed consistent with a slowing in M1 growth from III/1985 to IV/1985. This policy also was expected to produce September–December growth rates for M2 and M3 of about 6 to 7 percent.

Data available at the November 4–5 meeting showed economic growth to be slowing from its third-quarter rate and inflation continuing at a moderate rate. The dollar exchange rate against major currencies had declined about 1.5 percent more since the October 1 meeting.

Board staff projections discussed at this meeting pointed to modest real economic growth and low inflation both for the fourth quarter and throughout 1986. Some Committee members continued to express concern that the unevenness of economic growth among different sectors could increase the risk of slowing down the pace of expansion. Concern over uneven growth was heightened by the possible effects of pending legislation to reduce the federal budget deficit and the behavior of the dollar in foreign exchange markets.

The exchange value of the dollar's effect on foreign trade and certain sectors of the economy had become an important policy consideration following the G-5 meeting in September. A decline in the value of the dollar relative to other currencies would have a favorable impact on some domestic industries. A precipitous decline in the value of the dollar, however, would be unsettling and undesirable. Because of the uncertainties that remained about M1 velocity and future economic activity (M1 velocity continued to fall in III/1985 as it had in the previous two quarters), a reserve tightening campaign to push M1 within its annual target by year's end was judged unwise.[27] Instead, the Committee favored no change in reserve availability for the intermeeting period. The behavior of M1 would continue to be viewed in the broader context of the prevailing economic conditions, with acceptance of above-target growth for the second half of 1985.

As shown in table 3, this policy was expected to produce M1 growth of around 6 percent, and M2 and M3 growth rates of about 6 percent, for the September–December period. A slowdown in M1 growth for the fourth quarter was expected, in part, because M1 had declined at a −1.6 percent rate in October. By following a policy of maintaining the "current degree of reserve restraint," the Committee argued, "the expansion of M1 was expected to slow considerably in the fourth quarter to a rate much closer to that of nominal GNP."[28]

At its December meeting, uncertainty over the proper course of policy continued to prevail. The growth of M1 had surged in November, increasing at about a 13 percent rate, compared with the 1.6 rate of decrease for October. M2 and M3, however, increased at moderate rates in November.

The importance of this disparate growth in M1 relative to the broader monetary aggregates and the continuing declines in M1 velocity emerged as the Committee increasingly relied on economic conditions as a guide to establishing intermeeting policy directives. Economic data available at the December meeting continued to reveal a slowly growing economy that evidently was not responding to the rapid money growth of previous quarters. A majority of members consequently argued for "moving toward implementing some slight easing of reserve conditions," noting that "decisions about the precise degree of reserve pressure should depend in part on whether the discount rate was reduced, and if so by how much."[29]

Although some members expressed concern that continued rapid money growth might ignite inflationary expectations, most "saw little reason at this time to expect significant changes from the rates of increase experienced in 1985."[30] More important to the policy decision at this meeting was the concern that the rate of economic growth in 1986 might be inadequate, implying that velocity would remain well below its post-war growth rate. Some Committee members viewed easing of reserve availability as a means to foster lower long-term interest rates further, "which would help sustain the economy" and lessen "the financial strains in some sectors of the economy and the external debt problems of several developing countries."[31]

The Committee's directive following this meeting called for "some limited decrease in the degree of pressure on reserve positions."[32] This directive was

[27]M1 velocity declined at an 8 percent rate in III/1985. The rates of decline in I/1985 and II/1985 were −4.8 and −5.5 percent.

[28]Record (February 1986), p. 131.

[29]Record (April 1986), p. 249.

[30]Ibid.

[31]Ibid.

[32]Record (April 1986), p. 250.

clarified by the observation that "most [members] believed that policy implementation should be especially alert to the potential need for some further easing in light of the relatively sluggish performance of the economy and the generally favorable outlook for prices and wages."[33] Thus, past and prospective economic developments would set the tone for policy actions in the near future.

CONCLUSION

Numerous crosscurrents influenced the FOMC's decisions during 1985. The economy expanded at a relatively slow pace and prices increased at rates reminiscent of pre-OPEC times. The foreign trade imbalance worsened throughout 1985, though the falling dollar prompted hope for some relief in the future. Falling commodity prices, especially oil prices, raised fears about the ability of debtor nations to repay outstanding loans including those to U.S. commercial banks.

The sharp fall in M1's income velocity continued to influence long-term policy actions and short-term policy implementation. As had happened several years earlier, the demand for money began to deviate markedly from forecasts. Consequently, monetary policy sought to accommodate increasing demands for money, resulting in rapid M1 growth. A major question facing monetary policy for 1986 is whether velocity will rebound, that is, will the rapid growth of M1 in 1985 assert itself in more rapid income growth and inflation during 1986?

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[33] Ibid.

Supplement FOMC Discussions in 1985

THIS supplement provides a chronological account of policy discussions of the FOMC in 1985. The selected excerpts are taken from the "Record of Policy Actions," the full text of which is published in the Federal Reserve *Bulletin* and the Board's *Annual Report*. Included in each "Record" are analyses of current economic conditions, staff projections of future economic developments, discussion of existing and possible policy actions and a reporting of the operating instructions issued by the FOMC.

Meeting Held on February 12–13, 1985

The information reviewed at this meeting suggested that the rate of economic expansion strengthened in late 1984. For the fourth quarter as a whole, growth in real gross national product picked up to an annual rate of about 4 percent, according to the preliminary estimate of the Commerce Department, from about 1-1/2 percent in the third quarter, and there was evidence of continued moderate expansion in early 1985. . . Broad measures of prices and wages generally continued to rise in 1984 at rates close to those recorded in 1983.

After growing little on balance since early summer, M1 expanded at estimated annual rates of about 10-1/2 and 9 percent respectively in December and January. M2 and M3 also expanded rapidly over the two months, rising on average at annual rates estimated to be around 14 and 13-1/2 percent respectively, considerably above the short-run objectives for the November-to-March period established at the December meeting. Relative to the Committee's longer-run objectives for the period from the fourth quarter of 1983 to the fourth quarter of 1984, M1 grew at a rate of about 5-1/4 percent, somewhat below the midpoint of its 4 to 8 percent range, and M2 increased at a rate of about 7-3/4 percent, a bit above the midpoint of its 6 to 9 percent range. M3 and domestic nonfinancial sector debt expanded at rates of about 10-1/2 and 13-1/2 percent respectively, above the Committee's ranges of 6 to 9 percent and 8 to 11 percent for the year.

In the first part of the recent intermeeting interval, open market operations were directed toward achieving some further reduction in pressures on reserve positions. Adjustment plus seasonal borrowing at the discount window, after bulging around year-end, declined to the $250 million to $300 million range over much of January. By the latter part of January, against the background of continued rapid growth in the monetary and credit aggregates and the relatively good performance of the economy, the easing process came to an end; reserves were provided more cautiously through open market operations, and borrowing rose somewhat, partly because of unexpectedly large demands for excess reserves.

In the Committee's discussion of the economic situation and outlook, the members agreed that continuing expansion in business activity was a likely prospect for 1985, though at a more moderate rate than in the first two years of the current cyclical upswing.

While a number of members commented during the discussion that actual growth in line with the forecasts would represent a favorable development for the third year of an economic expansion, several observed that growth might well be faster, especially in the short run. This possibility was raised by current indications of appreciable strength in both consumer and business spending and an expansive fiscal policy. It was also pointed out that a large decline in the foreign exchange value of the dollar, should it occur, would tend to stimulate domestic business activity while also adding to inflationary pressures.

In the course of their discussion, the members referred to evidence that the income velocity of M1 — nominal GNP divided by the M1 stock — seemed to be returning to a more normal or predictable pattern. Some analysis suggested that the trend growth of M1 velocity might be somewhat lower than that experienced over much of the postwar period, reflecting in part the deregulation of deposits and other financial changes in recent years and the related prospect of a slower rate of financial innovation in the future. A number of members emphasized that such a development would imply the need for M1 growth in the upper part of the Committee's tentative range. It was also noted that the lagged effects of the interest rate declines during the latter part of 1984 were likely to depress velocity growth in the first part of 1985. Other members raised the prospect that the growth in M1 velocity might not decline as much as expected from the rate experienced in 1984 and in that event growth of M1 near the upper limit of the tentative range, or above it, would have inflationary implications. The members agreed that the trend rate of increase in M1 velocity, as well as the velocity of the other monetary aggregates, remained subject to a considerable range of uncertainty, given the still limited experience with a relatively deregulated financial environment. Under these conditions, the Committee members indicated the need to continue to judge the behavior of the monetary aggregates in light of the flow of information on business activity, inflationary pressures, and conditions in domestic credit and foreign exchange markets.

Meeting Held on March 26, 1985

Growth in M1 accelerated to an annual rate of about 14 percent in February from 9 percent in January, but partial data available for March indicated a considerable slowing. Growth in M2 and M3 moderated somewhat in February and averaged about 12 percent and 9 percent respectively over the January–February period. As with M1, growth in the broader aggregates appeared to be slowing considerably in March.

[However] considerable concern was expressed about the sensitive conditions in domestic financial and foreign exchange markets, especially against the background of the distortions and uncertainties stemming from massive and persisting deficits in the federal budget and the record and still widening gap in the nation's balance of trade. The members referred to the quite different trends in various sectors of the economy; in general, the service industries were doing well while industries related to agriculture, mining, energy, and a number of manufacturing activities were experiencing a variety of problems and were subject to varying degrees of financial strain.

The prospective performance of business fixed investment was cited as a key element in the outlook for economic activity. While the members generally anticipated further expansion in investment spending, developments over the course of recent months together with the results of surveys of business intentions suggested a pronounced deceleration from the unusually rapid growth experienced during the first two years of the current expansion.

The members recognized that current uncertainties about the economic outlook and the sensitive conditions in domestic credit and foreign exchange markets weighed against a significant increase in the degree of reserve restraint. At the same time, several placed considerable emphasis on the desirability of fostering slower monetary expansion over the period ahead to help assure growth within the Committee's target ranges for the year.

While no member contemplated the need for a substantial move toward greater reserve restraint, some commented that a small but timely move might well avert the necessity for a more vigorous, and potentially more disruptive, adjustment later. On the other hand, a number of members felt that the current economic uncertainties and related volatility that appeared to pervade domestic credit and foreign exchange markets would argue for more tolerance toward growth in the aggregates, particularly to the extent that such growth might signify an increase in demands for liquidity.

Meeting Held on May 21, 1985

The information reviewed at this meeting suggested only a modest pickup in real GNP in the current quarter from the

0.7 percent annual rate of growth reported for the first quarter. Spending by domestic sectors has been relatively well maintained, but a large share of the demand for goods apparently has been met by imports rather than through an expansion of domestic production. Broad measures of prices and wages generally were continuing to rise at rates close to those recorded in 1984.

Growth in M1, which had slowed markedly in March from the rapid pace of earlier months, remained moderate in April at an annual rate of about 6 percent. M2 and M3, after slowing appreciably in March to annual rates of growth of about 3-3/4 and 5-1/2 percent respectively, were little changed in April. Thus, while expansion in M1 was about in line with the Committee's expectations for the March-to-June period, growth in the broader aggregates was running well below the rates anticipated.

During their review of the economic situation and outlook, Committee members focused with concern on evidence that the economy, despite elements of strength, was expanding at a relatively sluggish pace; and they also stressed the uncertainties that surrounded the prospects for some pickup in the rate of economic growth. The currently mixed pattern of developments greatly complicated the forecasting process, especially against the background of the distortions and pressures associated with massive deficits in the federal budget and the balance of trade, together with persisting strains in financial markets.

A number of members expressed particular concern about the depressing impact that the competition of foreign goods was having on domestic production, and some commented that the outlook for the dollar in the exchange markets constituted the major uncertainty in assessing economic prospects. While domestic final demands were being reasonably well maintained, a strong dollar was diverting these demands toward imports, which were growing rapidly, and holding back domestic output. The strength of the dollar was also tending to curb the expansion of exports.

Given the relatively low rates of capacity utilization and the outlook for only limited growth in economic activity, members indicated that the risks of an acceleration in the rate of inflation appeared to be low. Some members noted their concern, however, that current inflation rates were too high — with recent tendencies in consumer prices worrisome — especially in light of the inflationary implications of a possible decline over time in the foreign exchange value of the dollar.

In the course of discussion it was noted that M1 had been growing about as expected at the previous meeting, but that some pickup in growth could develop in the period ahead. A number of members indicated that they were prepared to accept a little more rapid expansion against the background of relatively weak economic performance, strains in financial markets, and the recent behavior of the broader aggregates. It was also pointed out that much of the increase in M1 thus far this year reflected expansion in interest-bearing checking accounts. Banks and thrifts had reduced interest rates on these accounts only slowly in response to declines in market yields that had begun in the latter part of last year, thereby making it relatively more attractive for the public to hold savings in such instruments. Nonetheless, M1 was running above the path associated with its long-run target and some members stressed the desirability of holding down near-term M1 growth, partly because of rate of growth that appeared unduly high could risk having an adverse impact on inflationary sentiment.

Meeting Held on July 9–10, 1985

In May and June, M1 expanded very rapidly, and its growth over the March-to-June interval was at an annual rate of about 13-1/4 percent, well above the rate expected at the time of the May meeting. The strength in M1 was evident in all its major components, particularly in demand deposits. That strength, coupled with an acceleration in the nontransaction component of M2 in June, brought growth in the broader aggregates to rates somewhat higher than expected in May for the three-month period. Nevertheless, for the period from the fourth quarter of 1984 through the second quarter of 1985, M2 and M3 expanded at rates within their long-term ranges, while M1 grew at a rate well above its range.

Total reserves grew rapidly in May and June, reflecting increases in required reserves associated with the growth in transaction accounts. The level of adjustment plus seasonal borrowing averaged around $550 million in the three complete maintenance periods between meetings and was running over $1.2 billion in the week before this meeting, as seasonal strains associated with the midyear statement date and the holiday period, together with massive swings in Treasury balances, complicated reserve management at depository institutions and the Federal Reserve.

In support of their expectation that the rate of economic expansion would improve from the very sluggish pace experienced in the first half of the year, members referred to the favorable impact of reduced interest rates on interest-sensitive sectors of the economy, such as the construction and automobile industries, and they also noted the buildup of liquidity in the economy.

With regard to the outlook for inflation, the members noted that wage and price pressures were relatively subdued in domestic labor and product markets. Inflationary pressures were greater in some of the service industries, but against the background of generally low capacity utilization rates and relatively high unemployment the members did not expect much change in the overall rate of inflation during the year ahead, at least in the absence of any sizable decline in the foreign exchange value of the dollar. Indeed, one member observed that the performance of prices might well prove to be better than was generally expected unless the exchange value of the dollar were to fall substantially. A number of members commented that a limited decline in the dollar might have little, it any, effect on domestic prices or in the extent of import penetration.

Looking ahead to the balance of the year, the members differed to some extent on an appropriate M1 target, but they generally concluded that it would not be desirable in the current economic and financial environment to offset the recent spurt in M1 by a slowing in the second half sufficient to bring M1 into the existing 4 to 7 percent long-run range. That would imply almost no growth month by month on average over the balance of the year. While the prospective behavior of M1 would remain subject to continuing uncertainties, the members believed that M1 velocity would probably move gradually toward a more usual or predictable pattern and that maintenance of the current degree of reserve pressure would be associated with a reduction in M1 growth during the second half of the year to a moderate pace. Such growth was likely to be consistent with a pickup in the rate of economic expansion and continued containment of inflationary pressures. Accordingly, most of the members favored either raising the M1 range that had been established in February for the year or rebasing the range from the fourth quarter of 1984 to the second quarter of 1985, with a smaller increase or not change in the actual numerical range.

The members agreed that some shortfall in the growth of M1 from expectations, should it occur for a month or two, should not be resisted and might indeed be desirable in the context of acceptable economic performance. Conversely, a tendency for M1 growth to exceed expectations should be countered more promptly, at least in the view of some members, in light of the rapid earlier growth in transaction balances. The members also felt that the behavior of the dollar in foreign exchange markets might well impose a significant constraint — potentially in either direction — with regard to possible adjustments in the degree of reserve restraint over the weeks ahead.

Meeting Held on August 20, 1985

Though slowing from the quite rapid May–June pace, M1 had shown relatively strong growth since midyear; it increased at an annual rate of about 9 percent in July and data for early August indicated the likelihood of stronger growth in the current month. Thus, its expansion appeared to be well above the Committee's expectations for the June-to-September period. The strength in M1 reflected an acceleration in other checkable deposits while demand deposits, though increasing little on balance, remained at high levels as the extraordinary surge of late spring in such deposits showed no signs of unwinding. Expansion in the broader aggregates slowed in July from the average pace over the previous two months, to annual rates of about 8-1/2 percent for M2 and 4-1/4 percent for M3.

Early in the intermeeting interval open market operations were directed at maintaining the existing degree of pressures on reserves. By early August, with M1 running well above the Committee's expectations at the time of the July meeting, and with M2 also on the high side, against the background of a weaker dollar and sustained economic activity, desk operations were conducted with a view toward more cautious provision of reserves.

Particular emphasis was given during the Committee's discussion to the prospect that domestic economic developments would depend importantly on international conditions, including the economic performance of industrialized countries, the ability and willingness of developing countries to manage their foreign debt problems, the global energy situation, and the foreign exchange value of the dollar. The members continued to stress, as they had at previous meetings, the strongly adverse impact that foreign competition, fostered by a high value of the dollar in foreign exchange markets, was having on overall domestic economic activity and in particular on many manufacturing firms and on agriculture. Some members commented that the prospects for near-term improvement in the balance of trade seemed to be relatively remote.

Without provision of such funds [capital inflows] relatively willingly from abroad, pressures on domestic interest rates would be greater than otherwise. The members agreed that the transition to a lower trade deficit and a more sustainable pattern of international transactions generally, presumably accompanied by a lower dollar, would be greatly facilitated by substantial progress in reducing future deficits in the federal budget and by the avoidance of protectionist legislation that could have a highly unfavorable effect on international trade, on the ability of developing countries to resolve their external debt problems, and on the overall performance of the domestic economy. Several members noted that the risks associated with the underlying distortions and problems in the domestic economy and the persisting strains in domestic and international financial markets posed dilemmas that were not amenable to a monetary policy solution.

In the course of the Committee's discussion, a number of members emphasized the uncertainties surrounding the behavior of M1 and the down side risks they saw in the economy. Under prevailing circumstances, the surge in M1 growth might not have the usual inflationary implications. The demand for assets in M1 appeared to have been influenced by the relatively low level of interest rates on market instruments and also on small time certificates of deposits, and the velocity of money seemed to be continuing to decline sharply. . . It was also argued that the objective of achieving M1 growth within the Committee's long-run range might receive somewhat reduced emphasis, at least for a time, pending evaluation of further developments including the performance of the broader aggregates.

Other members expressed more concern that further M1 growth at rates substantially above the Committee's long-run range would have inflationary consequences over time. They noted the persisting strength of M1 in recent weeks, and should that continue, they felt that added reserve restraint would probably be desirable to bring M1 closer to the upper end, or within, the Committee's long-run range by the fourth quarter. Continued strength in M1 could also raise questions about the Committee's commitment to an

anti-inflationary policy, with potentially adverse implications for inflationary expectations.

Meeting Held on October 1, 1985

The information reviewed at this meeting suggested that economic activity expanded in the third quarter at an annual rate of about 3 percent, compared with a rate of about 1 percent in the first half of the year. While the increase in total spending by domestic sectors was a little weaker than in the first half, growth in domestic output was higher because the trade balance in the third quarter apparently did not deteriorate further. Broad measures of prices and wages appeared to be rising at rates close to or somewhat below those recorded earlier in the year.

M1 growth surged in August to an annual rate just over 20 percent, reflecting exceptional strength in interest-bearing checkable deposits and relatively rapid expansion in other components. Data for the first half of September suggested slower but still substantial expansion in M1. Thus, for the period from June to September M1 was expanding at a rate well above the Committee's expectations, and was at a level substantially higher than the path consistent with the Committee's range for the second half of the year. Reflecting the surge in M1, M2 accelerated in August to an annual rate of about 11-1/4 percent and M3 also strengthened to a rate of about 8-1/2 percent.

In the light of growth in the monetary aggregates — especially M1 — continuing to exceed expectations, and with indications of a somewhat stronger tone in the economy as the intermeeting period progressed, open market operations during the period were directed toward maintaining or slightly increasing the degree of reserve restraint that had been sought shortly before the meeting on August 20. As a result, the level of adjustment plus seasonal borrowing rose somewhat on balance in the intermeeting interval, averaging about $515 million in the latest reserve maintenance period ending September 25. Borrowing had been running substantially higher in recent days, however, because of technical market conditions associated with a hurricane on the East Coast and the end-of-quarter statement date.

Considerable attention was focused on the performance of the dollar in foreign exchange markets and the implications of possible changes in exchange rates for the balance of trade and the domestic economy. The members also reviewed developments relating to the foreign debt problems of less developed countries. In the course of discussion members recognized, as in previous meetings, that the extraordinary strength of the dollar earlier had contributed to the size of the trade deficit, but they also emphasized the importance of maintaining underlying confidence in the dollar, given the dependence of the United States for the time being on large capital inflows. It was noted that the possibility, while perhaps remote, of a precipitate continuing decline in the value of the dollar would present a threat to the financial system and the economy because of its potential implications for higher interest rates and inflationary pressures, particularly in the absence of stronger budgetary restraint than had yet been achieved. Protectionist legislation would aggravate the potential difficulties. Consequently, it would be important that shifts in the value of the dollar be orderly.

In general . . . it appeared increasingly doubtful that the targeted rate of M1 growth for the second half of the year as a whole could be reached without an inappropriately abrupt increase in reserve pressures and in interest rates. Growth in M2 and M3 was expected to remain roughly consistent with the target ranges for 1985, and much slower growth in M1 — consistent with the upper end of its target — would in the view of many members be acceptable and desirable, depending upon developments in the economy and financial markets.

The members placed considerable emphasis on the need to judge the behavior of M1 in the context of the performance of the economy and the relatively moderate growth in the broader aggregates. Currently sensitive conditions in domestic and international financial markets and debt problems in some sectors of the economy such as agriculture were themselves a restraining force on the economy and argued against a policy course that might entail appreciably higher interest rates in the short run. On the other hand, significant easing under immediately prevailing market circumstances would incur too much risk of prolonging undue growth in money and debt, possibly triggering an abrupt and exaggerated decline in the foreign exchange value of the dollar with disturbing implications for inflation and financial markets over time.

Meeting Held on November 4–5, 1985

M1 appeared to have changed little on balance in October and may have declined slightly after several months of rapid expansion; but it remained well above the range set by the Committee in July of 3 to 8 percent at an annual rate for the period from the second quarter to the fourth quarter of the year. M2 and M3 apparently grew sluggishly during the month, reflecting a moderation in their nontransactions components as well as the weakness in M1. As a result, by October M2 apparently had moved to a level a bit below the upper end of its annual range, while M3 was still near the middle of its long-run range.

During the Committee's discussion of the economic situation and outlook, members commented that, on the whole, the latest information suggested a more sluggish economic performance than had been indicated earlier. Nonetheless, several members felt that further economic expansion broadly in line with the staff forecast remained a reasonable expectation for the year ahead. In general, the members did not anticipate that any major sector of the economy would provide a strong fillip to the expansion, but they thought further growth was likely to be sustained by at least modest gains in several key sectors of the economy. At the same time, a number of members gave considerable emphasis to

possible harbingers of a very sluggish economy. One member referred to the risk that the expansion itself might falter if persisting problems and financial strains in some sectors of the economy were not contained. The members recognized that under current circumstances their forecasts were subject to a great deal of uncertainty, and particular reference was made to the outlook for legislation to reduce the federal budget deficit and to the behavior of the dollar in foreign exchange markets.

While it was believed that the drop in the dollar since the G-5 meeting would tend to exert a positive effect on the economy by relieving pressures on export- and on import-sensitive industries, it was also pointed out that an unduly large and rapid depreciation could have the potential for unsettling economic consequences under present circumstances. One member commented that rising prices were already being reported for a few imported materials, apparently as a consequence of earlier reductions in the value of the dollar. The members were also concerned that, at a time when the deficit in the U.S. current account continued to require large net inflows of funds from abroad, any considerable reduction in the willingness of investors to accumulate dollar assets could exert upward pressure on domestic interest rates as well, with damaging implications for interest-sensitive sectors of the domestic economy and for several developing countries burdened by international debt problems.

The Committee turned to a discussion of policy implementation for the forthcoming intermeeting period, and most of the members indicated that they were in favor of maintaining reserve conditions essentially unchanged, at least initially following today's meeting. The members took account, among other things, of an analysis which suggested that, given the prospect of modest expansion in economic activity during the fourth quarter, a steady degree of reserve pressure was likely to be associated with some pickup in growth of all the monetary aggregates over the remainder of the quarter from the reduced October pace.

As they had at previous meetings, the members agreed that the behavior of M1 needed to be judged in the context of the performance of the economy and the fact that the broader aggregates were growing at rates within their ranges. Under prevailing circumstances, and unless the dollar declined sharply further, the strength of M1 thus far did not appear to suggest strong inflationary consequences. Thus, aggressive efforts to reduce its growth beyond the slower pace that was already expected were deemed to be unwarranted, especially in light of the financial strains and other problems in some sectors of the economy and the attendant risks to the expansion itself. Accordingly, the members concluded that growth of M1 above its target range would be acceptable for the second half of the year. Growth of M2 and M3 within their long-run ranges continued to be appropriate.

In the Committee's discussion of possible intermeeting adjustments in the degree of reserve restraint, members could foresee conditions that would call for either some easing or some tightening. Most of the members felt that policy implementation should be particularly alert to opportunities for some easing in light of the relatively sluggish growth in domestic economic activity and the favorable price performance, subject to the constraint imposed by a desire to minimize the risk of inducing unacceptably faster growth in money and credit. It was also emphasized that account needed to be taken of the behavior of the dollar on foreign exchange markets in any policy adjustments.

Meeting Held on December 16–17, 1985

After declining slightly in October, M1 expanded at an annual rate of about 13 percent in November. Growth in M2 and M3 continued quite moderate in November, at annual rates of about 6-1/2 and 5 percent respectively. Through November, M1 expanded at a pace well above the range set by the Committee in July of 3 to 8 percent at an annual rate over the period from the second quarter to the fourth quarter of the year; M2 grew at a rate a bit below the upper limit of its range of 6 to 9 percent for the year and M3 expanded at a rate near the midpoint of its range of 6 to 9-1/2 percent for 1985.

Given expansion in the broader monetary aggregates at a pace close to the Committee's expectations for the September-to-December period and within their longer-run ranges as well, and with account taken of economic and financial developments, open market operations during the intermeeting interval were directed toward maintaining approximately unchanged conditions of reserve availability.

The staff projections presented at this meeting had suggested that growth in real GNP would continue at a relatively modest pace in 1986, with the average unemployment rate and the rate of increase in prices during the coming year expected to change little from the rates in 1985. While the staff projection was seen as a plausible assessment of the outlook, several members emphasized that any current forecast was subject to a great deal of uncertainty. They referred, for example, to the difficulty of evaluating the potential impact of deficit reduction and tax reform legislation, and to the uncertainties surrounding the outlook for the U.S. trade balance.

Turning to particular sectors of the economy, the members again underscored the variation in conditions among industries and their uneven contribution to current and prospective economic activity. Moderate growth was considered to be a reasonable expectation for many sectors of the economy. At the same time, the members expressed concern about the persisting problems and financial strains in some industries such as agriculture and a number of manufacturing and extractive businesses, notably those that competed actively with foreign producers.

With regard to the outlook for inflation, the members saw little reason at this time to expect significant changes from the rates of increase experienced in 1985. The reduced value of the dollar in foreign exchange markets would tend

to exert some upward pressure on prices, but continued softness in world commodity prices, especially oil, could have offsetting effects. Inflationary sentiment appeared to have diminished, as evidenced by the recent performance of the stock and bond markets, and with continuing competition from abroad, price competition could be expected to remain intense in many markets.

In the Committee's discussion of policy implementation for the period ahead, the members differed to some extent in their views concerning an appropriate degree of pressure on reserve positions. Some favored directing open market operations, at least initially, toward maintaining approximately unchanged conditions of reserve availability. A majority, however, indicated a preference for moving toward implementing some slight easing of reserve conditions. Several also commented that decisions about the precise degree of reserve pressure should depend in part on whether the discount rate was reduced, and if so by how much.

While the final phase of deposit deregulation was expected to have little net impact on monetary growth during the first quarter, the members recognized that the relationship between money and GNP remained subject to a great deal of uncertainty. They noted that the demand for M1 had deviated considerably from historical experience and that it was very difficult to predict when the unusual weakness in M1 velocity, which had been evident for several quarters, would be reversed and a more normal pattern would emerge. In the circumstances, some sentiment was expressed for further reducing the emphasis on M1, but a majority of the members agreed that it should be retained as a guide among others for the conduct of monetary policy.

It was also suggested that the Committee's expectations with regard to the short-run growth of the aggregates be stated with less precision than in the past and that the behavior of M1, in particular, be evaluated in the context of other economic and financial developments, including the growth of the broader aggregates.

Requiem for Regulation Q: What It Did and Why It Passed Away

R. Alton Gilbert

MARCH 1986 marked the end of the phase-out of interest rate ceilings on deposits, otherwise known as Regulation Q. The handwriting on the wall became evident for Regulation Q when the Monetary Control Act (MCA) of 1980 established the Depository Institutions Deregulation Committee (DIDC), whose main duty was to phase out the regulation over a period of six years.

The purpose of this article is to review federal policy on deposit interest rate ceilings over the 53 years since they first were imposed. The article describes the objectives of Congress in establishing ceiling rates on deposits, examines their effects on the financial system and economic activity, and, finally, assesses the effect that phasing them out has had on the composition of deposit liabilities.

This analysis focuses on three distinct periods during which Regulation Q was administered under different objectives. In the first period, 1933 through 1965, the ceilings constrained the interest rates paid by most commercial banks for only a few short intervals. During most of the second period, 1966 through 1979, ceiling rates effectively constrained the rates paid by commercial banks and thrifts on at least some categories of their deposit liabilities. During the third period, 1980 through 1986, the DIDC gradually phased out Regulation Q, once again allowing market forces to determine deposit interest rates.

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CEILING RATES ABOVE MARKET INTEREST RATES: 1933 THROUGH 1965

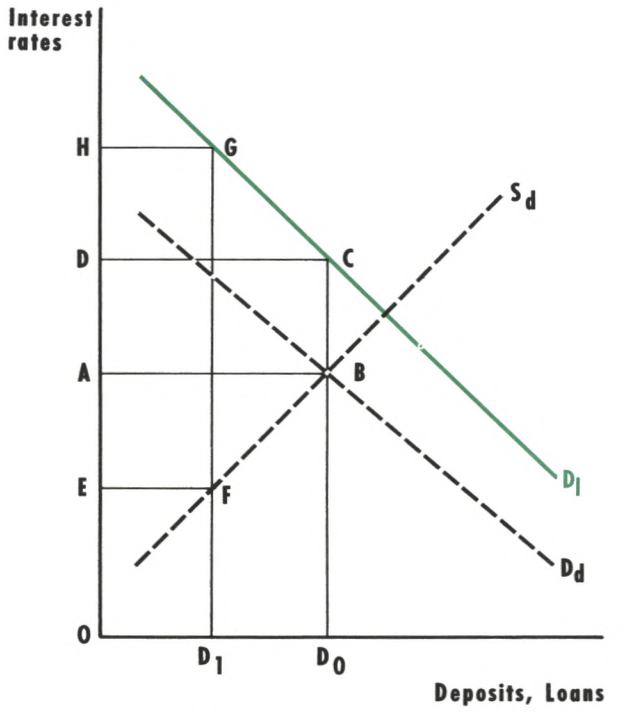
The Objectives for Ceilings on Deposit Interest Rates

The Banking Acts of 1933 and 1935 prohibited the payment of interest on demand deposits and authorized the Federal Reserve to set interest rate ceilings on time and savings deposits paid by commercial banks. One important congressional objective was to encourage country banks to lend more in their local communities rather than hold balances with larger banks in financial centers. Critics of banking practices charged that the large banks in financial centers used these funds for speculative purposes, thus depriving businesses and individuals in smaller communities of credit that could have been used productively.[1]

Supporters of the prohibition of interest on demand deposits also expressed concern that interbank bal-

[1]The Banking Act of 1933 established controls over deposit interest rates for commercial banks that were members of the Federal Reserve System. Nonmember commercial banks became subject to the same controls in the Banking Act of 1935. Mutual savings banks and savings and loan associations were exempt from the ceiling interest rates on deposits until the fall of 1966. Reasons for congressionally established interest rate ceilings in the 1930s are discussed in Cox (1966), pp. 1–30, House Committee on Banking and Currency (1966a), pp. 651–53, Linke (1966), and Haywood and Linke (1968).

Figure 1
Effect of a Deposit Interest Rate Ceiling on Bank Profits



ances were adversely affecting the liquidity of the banking system. When smaller banks had an outflow of reserves, because of seasonal patterns in deposits and loan demand or occasional financial panics, they withdrew their deposits from their large correspondent banks in the financial centers. These withdrawals made it more difficult for the large correspondents to meet the cash demands of their nonbank customers. In its role as lender of last resort, the Federal Reserve had been established in 1914 to deal with these liquidity problems. In the 1930s, however, Congress still believed that interbank balances created liquidity problems for the banking system.

Another objective of ceiling interest rates on deposits was to increase bank profits by limiting the competition for deposits. Congress felt that competition for deposits not only reduced bank profits by raising interest expenses, but also might cause banks to acquire riskier assets with higher expected returns in attempts to limit the erosion of their profits.[2]

[2]Benston (1964) and Cox (1966) develop evidence from bank data for the 1920s and 1930s that is not consistent with the view that competition for deposits contributed to bank failures.

Bank protests about the cost of federal deposit insurance premiums provided a final justification for interest rate ceilings. Some members of Congress believed that the savings in interest expense resulting from interest rate ceilings on deposits would exceed the deposit insurance premiums.

Ceiling Rates and Bank Profits: The Policymaker's View

Some of the objectives mentioned above are based on the belief that banks' profits could be increased by imposing ceiling rates on deposits. The effects of these ceilings on bank profits are not as obvious as their effects on incentives to hold demand deposits.

Figure 1, which is used to illustrate the effects of ceiling rates on bank profits, depicts the supply and demand for loans and deposits in the banking system. To simplify the presentation, the dollar amount of loans is assumed to equal the amount of deposits at each level of deposits.[3] The solid line is the demand curve for loans from the banking system. The dashed line labeled D_d is the demand curve for deposits. The demand for deposits is based on the demand for loans. For each dollar amount of loans demanded, the interest rate that banks are willing to pay on deposits is somewhat less than the interest rate they can receive on loans; the difference determines bank profits. The banking system is assumed to be competitive. The profits are just large enough to yield a rate of return on the capital of the banking system comparable to returns on equity in other industries with similar risk.[4] The other dashed line, labeled S_d, is the supply curve of deposits to banks; it indicates the interest rates that banks must pay to attract various dollar amounts of deposits.

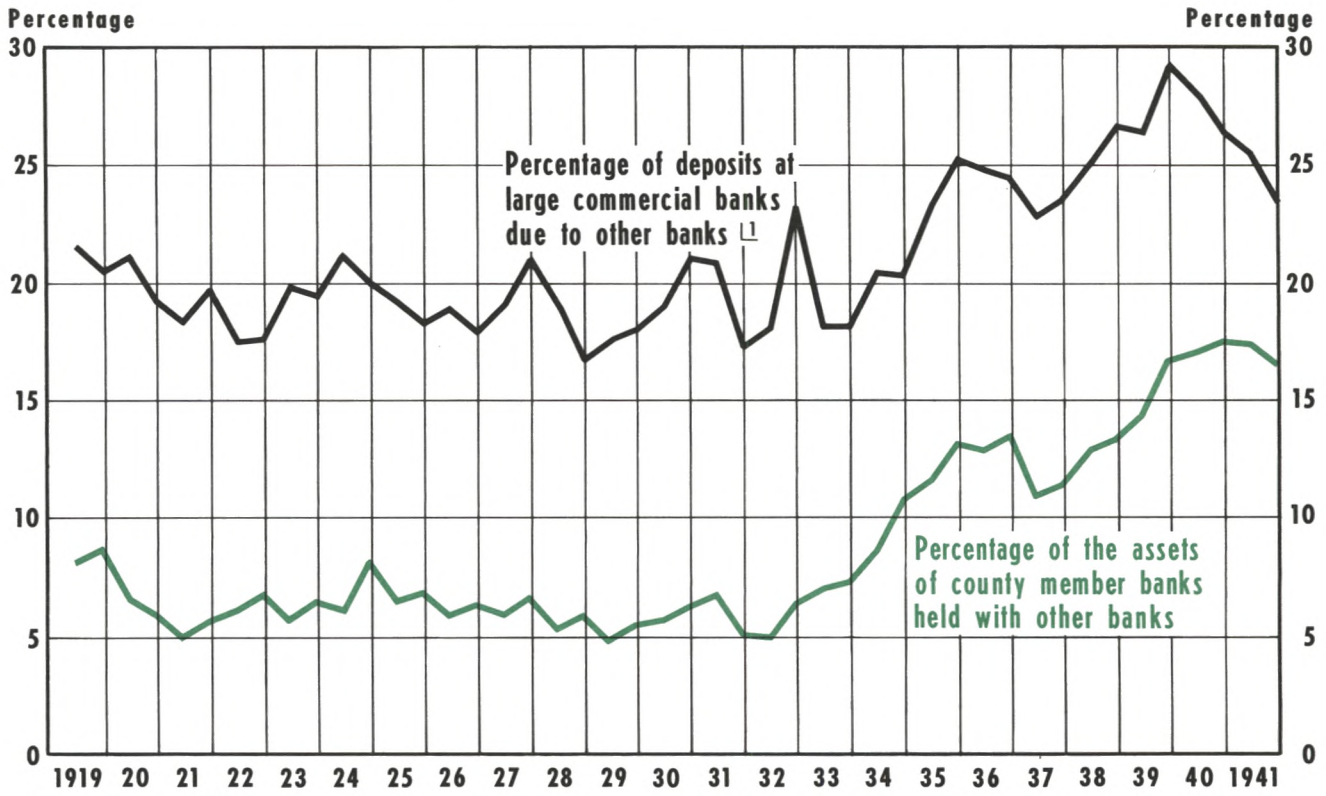
With no interest rate controls, banks will pay the interest rate OA on deposits and charge OD on loans.

[3]The capital of the banking system is assumed to equal the non-interest-bearing reserves of banks plus the value of their physical investment in banking offices. Banks are assumed to maintain a constant ratio of capital to deposits. When deposits change, banks change their reserves and the value of their offices by the same percentage as the percentage change in their deposits. If deposits decline, banks reduce their loans by the same dollar amount and reduce capital by making a special dividend payment to their shareholders. If deposits rise, the shareholders make additional investments in the bank to raise capital.

[4]The spread between the demand curve for loans and the demand curve for deposits is wider at higher levels of interest rates. This feature of the curves in figure 1 reflects the fact that the return on capital of the bank necessary to attract the investment of the bank's shareholders is higher when interest rates are higher.

Chart 1

Interbank Balance Ratios



[1] Central reserve city banks in New York city.

The level of deposits and loans will equal D_0. The profits of the banking system equal ABCD. Suppose the government considers these profits to be too small for a safe and sound banking system and sets a ceiling interest rate on the deposits of OE that is below the rate OA that banks would pay with no ceiling rate in effect. With that ceiling rate, the quantity of deposits that banks can attract falls to D_1. With a lower level of deposits to lend, the interest rate on loans rises to OH. The profits of the banking system shift from ABCD to EFGH.

Imposing the ceiling interest rate on deposits does not necessarily increase the profits of the banking system. The difference between profits with the ceiling rate in effect and profits with no ceiling rate depends on the shapes of the demand curve for loans (D_L) and the supply curve of deposits (S_d). Congress assumed implicitly that the slopes of these two curves were sufficiently steep that the banking system's profits would be higher with a ceiling rate on deposits below the rate banks would pay with no ceiling in effect.[5]

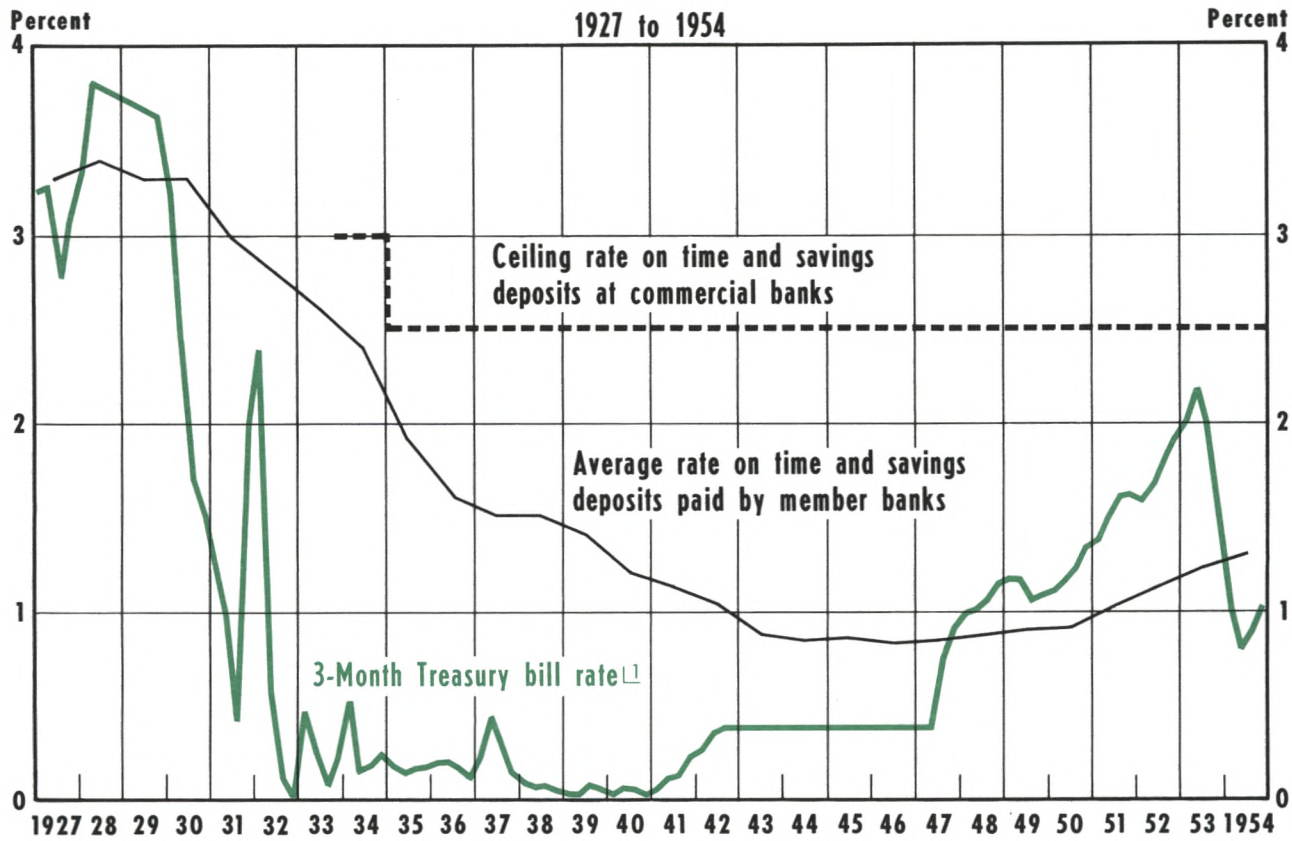
The Experience with Regulation Q Ceiling Rates

One major reason for interest ceilings on demand deposits was to reduce the incentives for relatively small banks to hold deposits with larger banks in the major financial centers. Small commercial banks, however, did not reduce the share of their assets held as deposits with other banks, but instead increased that share from about 5 percent in 1932 to about 17 percent by 1941 (chart 1). As another indicator of this

[5]A more thorough examination of the effects of deposit rate ceilings on bank profits would incorporate the effects of non-interest competition. Profits would be reduced if banks respond to ceilings that restrain the interest rates they pay on deposits through non-interest expenditures. The implications of non-interest competition for deposits are considered in the section below that examines the effects of Regulation Q policy in the period 1966 through 1979.

Chart 2

Interest Rates and the Ceiling Rates on Time and Savings Deposits



NOTE: All data are quarterly except the average rate paid on time and savings deposits which is an annual series.

[1] Before 1934, the Treasury bill rate includes 3- to 6-month notes and certificates.

trend, the ratio of interbank deposits to total deposit liabilities rose at central reserve city banks from about 17 percent in 1932 to about 24 percent by 1941. The increase in each ratio reflected the desire of banks to keep a larger proportion of their assets in liquid form after the banking crises of the early 1930s. What's more, the opportunity cost of holding interbank demand deposits was relatively low in 1933, as it was throughout the rest of the 1930s. In the years 1933 through 1939, the yield on newly issued Treasury bills averaged only 22 basis points.

On November 1, 1933, the Federal Reserve set the ceiling interest rate on all time and savings deposits at 3 percent (chart 2). The average interest rate that member banks paid on time deposits was 2.8 percent in 1932 and 2.6 percent in 1933. The ceiling rate of 3 percent, therefore, was above the rate that banks had been paying on time deposits shortly before it was imposed. In 1934, the first full year for member banks under Regulation Q, the average interest rate paid by member banks on time deposits was 2.4 percent. Thus, most member bank deposits did not yield the ceiling rate of 3 percent that year. The yield on short-term Treasury securities was below 1 percent, while the yield on 4-to-6 month commercial paper was 1.25 percent in November 1933. Thus, this initial ceiling rate on time and savings deposits was above both the rates being paid by member banks and short-term market rates.

The ceiling rate on all time and savings deposits was lowered to 2.5 percent on February 1, 1935. The average interest rate paid by member banks on time deposits in 1935 was 1.9 percent, while most short-term market interest rates were under 1 percent.

These early observations indicate that the Federal

Reserve interpreted its mandate for administering Regulation Q to restrain the especially aggressive banks from offering such high interest rates on deposits that they would get into financial trouble.[6] It does not appear that the Federal Reserve pursued the policy, analyzed above, of attempting to increase the profits of the banking system by setting deposit ceiling rates below the rates that most banks would have paid with no ceilings in effect.

From the mid-1930s to the mid-1960s, the ceiling rates on time and savings deposits generally were above market interest rates and above the average interest rates paid on time and savings deposits by member banks. In 1957 and 1962, when market interest rates rose near or above the ceiling rates on savings deposits, these ceilings were raised (see chart 3 on page 29). Thus, for the first 30 or so years of their existence, ceiling interest rates on time and savings deposits were above interest rates on Treasury securities in all but a few months, and the average interest rates paid by member banks on all time and savings deposits were below the lowest ceiling rate in effect, the rate on savings deposits.

CEILING RATES BELOW MARKET RATES: 1966 THROUGH 1979

Changes in the Objectives for Ceilings on Deposit Interest Rates

Regulation Q policy was changed in 1966, when interest rate ceilings were imposed on thrift institutions (mutual savings banks and savings and loan associations). In contrast to the earlier period examined above, 1966 began a period of ceiling rates on at least some categories of time and savings deposits at commercial banks that were kept below Treasury bill rates.

The change in Regulation Q policy in 1966 reflected the dissatisfaction of policymakers with the performance of the financial system. Interest rates had risen sharply in 1965 and 1966. The three-month Treasury bill rate had risen from 3.84 percent in September 1965 to 5.37 percent in September 1966. Over that period, interest rates on residential mortgage loans had risen from 5.80 percent to 6.65 percent.

Policymakers became more and more concerned about the allocation of credit. In 1966 the volume of funds raised by business firms in the financial markets rose sharply relative to the funds raised by households in the form of residential mortgages. The slowing in the rate of increase in residential mortgage credit was especially pronounced at thrift institutions.[7]

The changes in Regulation Q ceiling rates reflected policymakers' interpretation of these events. Supporters of legislation that changed Regulation Q policy considered the competition for deposits between commercial banks and thrifts one of the primary causes of the general rise in interest rates. They argued that deposit interest rate ceilings must be extended to thrifts to limit this rise.

Supporters of the legislation also thought that the diversion of credit from residential mortgages to credit for business firms could be reversed by limiting the interest rates that commercial banks could pay on deposits. Since commercial banks were considered the thrifts' primary competitors in attracting deposits, thrifts could make more mortgage credit available at lower interest rates if they were shielded from such competition.

In the fall of 1966, interest rate ceilings on deposits were set slightly higher at thrifts than at commercial banks. Higher ceiling rates at thrifts were intended to induce depositors at commercial banks to shift their deposit accounts to thrift institutions. Policymakers assumed that thrifts then would increase the amount of mortgage credit available to homebuyers and lower their mortgage interest rates.[8] This policy initially was described as a temporary one to deal with unusual circumstances. Over time, however, many in the thrift institution industry came to view the new Regulation Q policy as essential for them to attract deposits and make mortgage loans.[9]

An Economic Analysis of the New Ceiling Rate Regime

Figure 2 illustrates the supply and demand for deposits at commercial banks and thrift institutions. This analysis has two purposes: first, to model the effects of Regulation Q policy anticipated by policymakers, and second, to illustrate why this policy did not yield the anticipated results.

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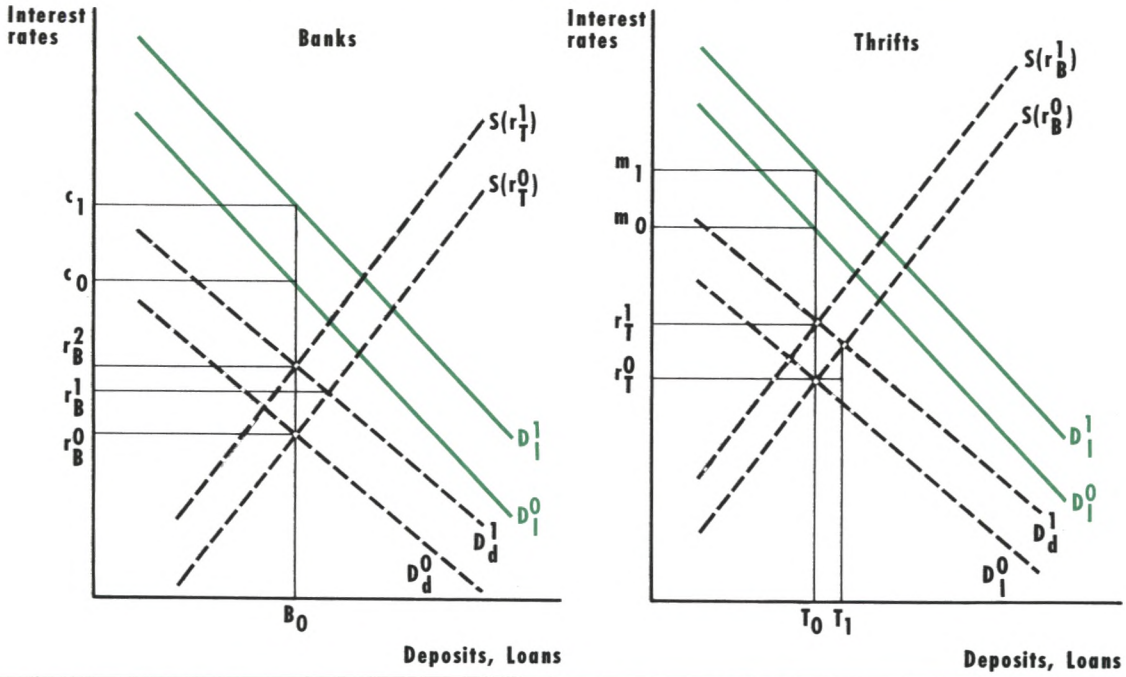
[6]Ruebling (1970).

[7]See testimony in House Committee on Banking and Currency (1966b) and Senate Committee on Banking and Currency (1966).

[8]Savings and loan associations and mutual savings banks, which specialize in residential mortgage lending, are identified as thrift institutions.

[9]For a statement by a government policymaker that defends Regulation Q as a means of promoting the flow of credit to residential mortgages, see Martin (1970).

Figure 2
Effects of Ceiling Interest Rates on the Deposits of Commercial Banks and Thrift Institutions



Some of the assumptions underlying figure 1 are also employed in constructing figure 2: For commercial banks and thrifts, deposits are assumed to equal loans. The spread between the demand curve for loans and that for deposits represents the competitive return on capital. To depositors, commercial banks and thrifts are close, but not perfect, substitutes. If, for instance, commercial banks increase the interest rate they offer on deposits relative to the rate offered by thrifts, some, but not all, depositors will shift their accounts from thrifts to commercial banks. This interaction is modeled in figure 2 by making the position of the supply curve for one kind of institution depend on the interest rate paid by the other kind. For instance, if commercial banks increase the interest rate they offer on deposits (r_B), the supply curve of deposits to thrifts will shift to the left.

Thrift institutions are assumed to specialize in mortgage lending, while commercial banks specialize in business and consumer lending. Given this specialization, the demand curve of loans from each type of institution is assumed to be independent of the interest rate that the other type of institution charges for loans.

Suppose, initially, that thrifts pay a slightly higher interest rate on deposits than commercial banks, i.e., that r_T^0 exceeds r_B^0, and the rate r_B^0 equals the ceiling rate on deposits at commercial banks.[10] In the initial equilibrium, the demand for loans at each type of institution is labeled D_L^0 and the demand for deposits is labeled D_d^0; the initial level of deposits and loans is B_0 at commercial banks and T_0 at thrifts; and the initial rates charged on loans are c_0 (banks) and m_0 (thrifts).

Now, suppose that the demand for loans at both commercial banks and thrifts increases, represented by shifts in the demand curves from D_L^0 to D_L^1. The demand curves for deposits shift up to D_d^1, maintaining the same spreads between the demand curves for loans and those for deposits at each level of interest rates.

Policymakers must either raise the ceiling rate on deposits at commercial banks in response to the rise in the demand for credit or keep the ceiling rate at r_B^0. Given the nature of Regulation Q policy prior to 1966, the ceiling rate on bank deposits would have been raised enough to avoid constraining the ability of commercial banks to compete for deposits. In 1966, in

[10]This supposition describes what actually occurred before late 1966; thrifts, did, in fact, pay higher interest rates on deposits than commercial banks before the fall of 1966. See Clements (1966).

contrast, policymakers decided to keep the ceiling rates at levels that would limit the rates that banks could pay on deposits and impose similar ones on thrifts. The objectives of the new policy can be illustrated by comparing the effects of the increase in credit demand with and without the binding ceiling rates on deposits.

First, consider the case in which the ceiling rate is raised enough to place no constraint on the rates paid by commercial banks and no ceiling rate is imposed on thrifts. The effect of the increase in the demand for credit on the rates paid on deposits can be analyzed as a series of interactions between the rates paid by commercial banks and those paid by thrifts. With thrifts initially paying the rate r_T^0 on deposits, the rate paid by commercial banks rises to r_B^1. With commercial banks paying the rate r_B^1, the supply curve of deposits at thrifts shifts to the left (to $S(r_B^1)$). The rise in the demand for loans at thrifts and the rise in the interest rate paid on deposits by commercial banks create an excess demand for deposits at thrifts. In response, the rate they offer to pay on deposits rises to r_T^1. The next step in the adjustment of deposit rates to the rise in the demand for credit involves a shift in the supply curve of deposits at commercial banks to the left ($S(r_T^1)$), causing the rate paid by commercial banks to rise to r_B^2.

Statements by the policymakers who advocated the change in Regulation Q policy in 1966 indicate that, after observing such interactions between the rates paid by commercial banks and thrifts, they concluded that interest rates were being driven higher by the competition. The increases in interest rates paid on deposits, in fact, represented the response by depository institutions to increases in the demand for credit.

The solution to the escalation of interest rates adopted by Congress was to impose ceilings on the deposit rates paid by thrifts and to set the ceiling rates for commercial banks and thrifts below the rates they would pay in the absence of ceilings. The ceiling rates were set slightly higher at thrifts to induce an inflow of deposits from commercial banks to thrifts, which would be used to make residential mortgage loans.

To illustrate how policymakers assumed this policy would work, suppose the ceiling rate for commercial banks is r_B^0 and for thrifts is r_T^0. Preventing an increase in deposit interest rates at banks and thrifts is supposed to keep the supply curves for deposits in their initial positions before the rise in the demand for credit ($S(r_T^0)$ for commercial banks and $S(r_B^0)$ for thrifts). Imposing the ceiling rates r_B^0 and r_T^0 does prevent a rise in the interest expense of depository institutions after the rise in the demand for credit.

Figure 2 also illustrates, however, why the ceiling interest rates on deposits would not prevent increases in interest rates on loans charged by banks and thrifts. Suppose that after the rise in the demand for credit, the deposits and loans of banks are still B_0 (yielding the ceiling rate r_B^0) and the deposits and loans of thrifts are T_0 (yielding r_T^0). The interest rate charged by commercial banks on their commercial and consumer loans rises from c_0 to c_1 due to the rise in the demand for credit; the interest rate charged by thrifts on mortgage loans rises from m_0 to m_1.

It is not possible to draw a general conclusion about whether the mortgage interest rate would have been higher with no controls on the interest rates paid on deposits or with the ceiling rates r_B^0 and r_T^0 in effect. The difference in the mortgage interest rate under these conditions depends on how responsive the supply of deposits at each type of institution is to the interest rate paid on deposits by the other type of institution.[11] Additional influences on the supply of mortgage credit by thrift institutions analyzed in the following section, which policymakers seem to have ignored, would strengthen the argument that the Regulation Q policy adopted in 1966 reduced the supply of mortgage credit by thrifts and raised mortgage interest rates.

The change in Regulation Q policy in 1966 had the dual purpose of halting the escalation of interest rates paid on deposits and stimulating the expansion of mortgage credit. The fact that these objectives were inconsistent can be illustrated by referring again to figure 2. If the primary objective was to stimulate thrifts to make more mortgage loans, policymakers should have set the ceiling rate on bank deposits low enough to constrain the rate paid by banks, but should not have put ceilings on the interest rates paid by thrifts. With the ceiling rate on bank deposits of r_B^0, the deposits and loans of thrifts would have been higher (T_1) and the interest rate on mortgage loans lower if thrifts had not been constrained by the ceiling rates on their deposits.

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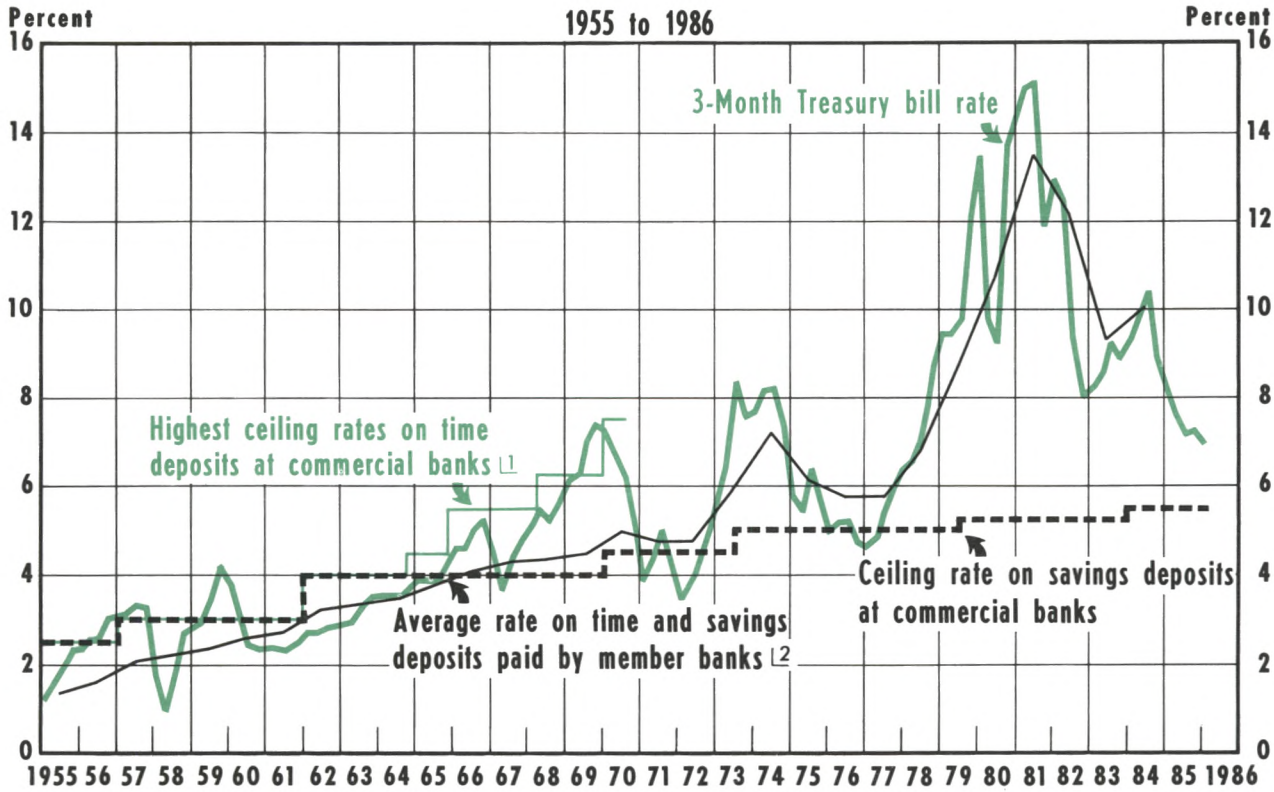
[11] To illustrate the basis for this conclusion, suppose that the supply curve of deposits at thrifts does not shift when there is a change in the interest rate paid on deposits by commercial banks; instead, that supply curve remains in the initial position of $S(r_B^0)$. Under that assumption, the mortgage interest rate would be below m_1 with no ceiling interest rates on deposits after the rise in the demand for credit. In contrast, the farther the supply curve of deposits at thrifts shifts to the left for a given rise in the interest rate paid on deposits by commercial banks, the more likely it is that the mortgage rate would be higher under the condition of no interest rate controls on deposits.

Chart 3

Interest Rates and the Ceiling Rates on Time and Savings Deposits



NOTE: All data are quarterly except the average rate paid on time and savings deposits which is an annual series.

[1] At least some categories of time deposits in denominations of $100,000 or more have been exempt from ceiling rates since June 24, 1970.

[2] After 1971, the average interest rate is for all insured commercial banks.

Effects of the New Regulation Q Policy

Ceiling rates on some categories of deposits were kept below the market rates on Treasury securities for most of the period from the fall of 1966 through March 1986 (chart 3). This policy did not isolate thrift institutions and the market for residential mortgages from the effects of fluctuations in market interest rates. When market interest rates rose relative to the ceiling rates, the growth of deposits at thrifts slowed.[12] Fluctuations in the growth of deposits at thrifts may have contributed to the abrupt changes in the pace of residential construction activity; some studies, however, do not support the hypothesis that disintermediation at thrifts adversely affected residential construction.[13] Thus, the policy of imposing binding ceilings on deposit interest rates produced results that were inconsistent with the policy's stated goals.

There was another effect. Regulation Q policy altered the distribution of wealth in the economy. Deposit interest rate ceilings discriminated against the relatively less wealthy savers.[14] When market interest rates were above the ceiling rates, the wealthier inves-

[12] McKelvey (1978).

[13] Jaffee and Rosen (1979) and Berkman (1979). The results of some studies, however, do not support the view that changes in the availability of mortgage credit through thrift institutions influence residential construction. See Arcelus and Meltzer (1973), Meltzer (1974), and De Rosa (1978).

[14] Kane (1970, 1980), Clotfelter and Lieberman (1978), and Lawrence and Elliehausen (1981).

tors shifted their deposits to money market securities. Moreover, deposits in denominations of $100,000 or more were made exempt from Regulation Q in June 1970. Investors without enough funds to buy money market instruments continued to hold their funds at commercial banks and thrifts in accounts subject to Regulation Q ceiling rates. According to some studies, small savers lost several billion dollars in interest earnings as a result of Regulation Q ceilings.[15]

Reasons for the Failure of Regulation Q Policy

The reasons for the failure of Regulation Q policy to achieve the objectives established in 1966 can be analyzed by examining figure 2. Setting the ceiling rate that banks could pay on deposits at r_B^0 did not guarantee that thrifts could attract deposits of T_0 by paying the rate r_T^0. Banks could attract additional deposits through various forms of non-interest expenditures. When interest rate ceilings on deposits were below the rates that banks would have offered with no ceilings in effect, banks competed for deposits by offering depositors a variety of gifts, "free" services, and new offices that were more conveniently located.[16] These forms of non-interest competition shifted the supply curve of deposits at thrifts to the left of the line labeled $S(r_B^0)$. With the ceiling on thrift deposit rates at r_T^0, a shift in the supply curve of deposits to the left reduces the level of deposits and loans at thrifts and drives up the interest rate on mortgages. The various forms of non-interest competition for deposits by thrifts would also cause the supply curve of deposits for banks to shift to the left.

Thus far, we have not indicated how interest rates other than those paid on the deposits of banks and thrifts influence the supply of deposits. When interest rates on securities such as Treasury bills rose above the ceiling rates on deposits at banks and thrifts, the growth of time and savings deposits declined at both types of institutions.[17] This effect can be illustrated by referring to figure 2. Suppose the market interest rate on Treasury bills rises when the demand for credit rises at banks and thrifts. The rise in the Treasury bill rate shifts the supply curves of deposits to the left at both types of institutions. With ceiling rates r_B^0 and r_T^0 in effect, banks and thrifts can not respond directly by raising the interest rates they pay on deposits. As a result, deposits at both banks and thrifts fall and cause the interest rates on their loans to rise more than if they had been free to raise the interest rates they pay on deposits.

First Steps in Lifting Ceiling Interest Rates on Deposits

The problems caused by interest rate ceilings became more serious in the late 1970s when market interest rates rose sharply (chart 3). In response, the regulators of depository institutions took limited steps to lift ceilings on some categories of time and savings deposits in denominations of $100,000 or less.

The relaxation of ceiling interest rates on deposits in the late 1970s is shown in table 1. Money market certificates (MMCs), authorized in June 1978, had interest rate ceilings that floated with the yield on 6-month Treasury bills. Terms on MMCs incorporated two features of Regulation Q policy in effect before June 1978: the ceiling rate for thrifts each week was 25 basis points higher than that at commercial banks, and, with a minimum denomination of $10,000, the authorization of MMCs benefited only wealthy investors.

Another change in 1978 was the authorization of automatic transfer service accounts at commercial banks, the first move at the national level toward the authorization of interest-bearing checkable deposits. Finally, small saver certificates (SSCs) were authorized in July 1979, with ceiling rates that floated with market interest rates; there was no minimum denomination on SSCs but a minimum initial maturity of 30 months.

CONGRESS DECIDES TO PHASE OUT REGULATION Q

Sharp increases in interest rates in late 1979 and early 1980, combined with Regulation Q ceiling rates (chart 3), induced large outflows of small-denomination deposits from banks and thrifts. Money market mutual funds had become major competitors with depository institutions for small-denomination investment accounts, and investments in money market mutual funds grew rapidly during 1979 and early 1980 (chart 4). Realizing that Regulation Q was not yielding the desired results of restraining competition for deposits or increasing the supply of mortgage credit, Congress responded by passing the MCA in March 1980, which established a procedure for phasing out Regulation Q.

One of the most significant sections of the MCA calls

[15]Morgan (1979), Pyle (1974, 1978), and Taggart (1978).

[16]White (1976), Taggart (1978), Spellman (1980), Kilcollin and Hanweck (1981), Peterson (1981), and Startz (1983).

[17]See Gilbert and Lovati (1979).

Table 1

Steps in the Phase-Out of Regulation Q

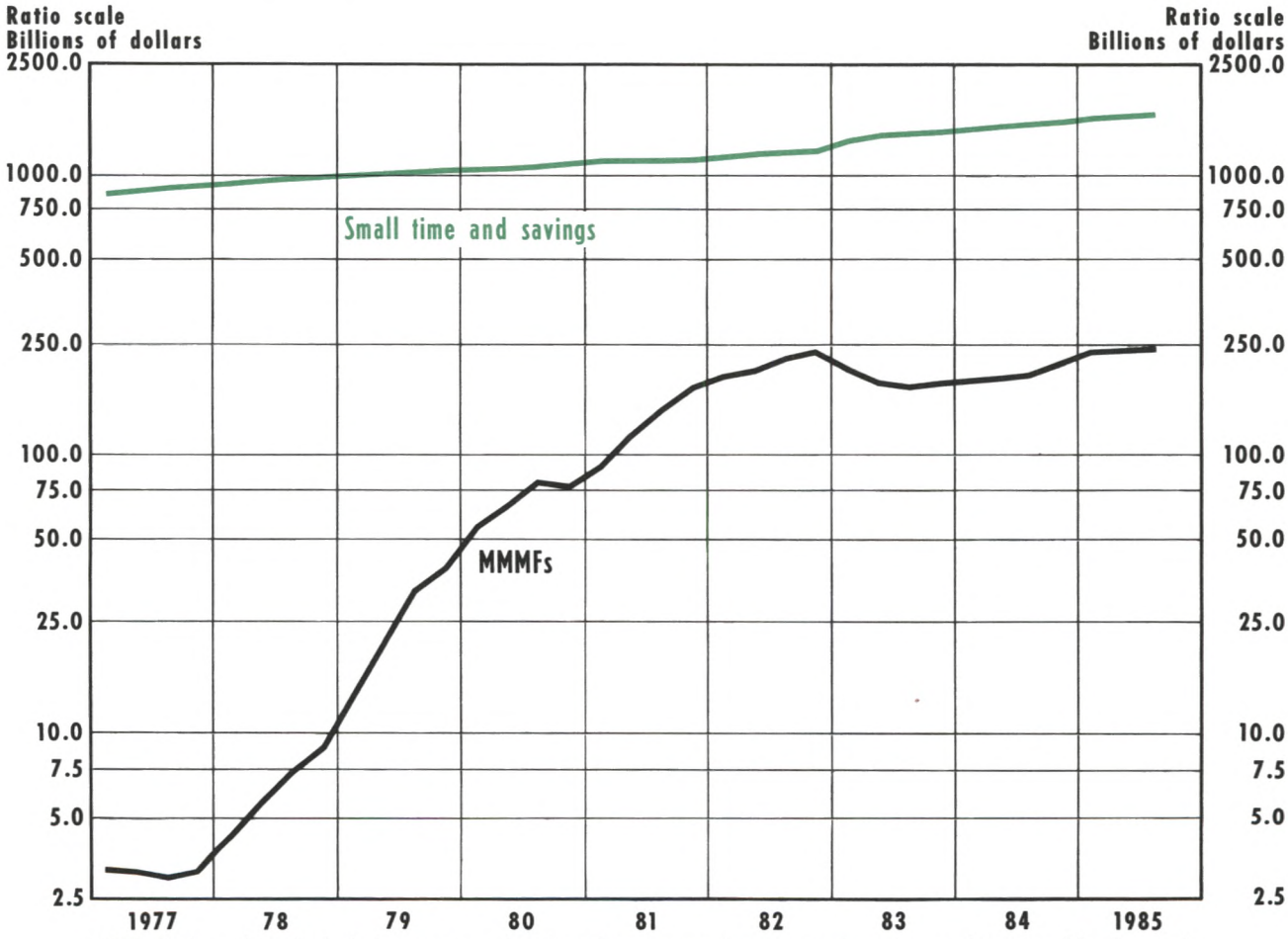
Effective date of change	Nature of change
June 1, 1978	MMCs established, with minimum denomination of $10,000 and maturities of 26 weeks. The floating ceiling rates for each week were set at the discount yield on six-month Treasury bills at S&Ls and MSBs, 25 basis points less at CBs.
November 1, 1978	CBs authorized to offer ATS accounts, allowing funds to be transferred automatically from savings to checking accounts as needed to avoid overdrafts. The ceiling rate on ATS accounts was set at 5.25 percent, the same as the ceiling rate on regular savings accounts at CBs.
July 1, 1979	SSCs established with no minimum denomination, maturity of 30 months or more and floating ceiling rates based on the yield on 2 1/2-year Treasury securities, but 25 basis points higher at S&Ls and MSBs. Maximums of 11.75 percent at CBs and 12 percent at S&Ls and MSBs.
June 2, 1980	The floating ceiling rates on SSCs raised 50 basis points relative to the yield on 2 1/2-year Treasury securities at S&Ls and MSBs and at CBs. The maximum ceiling rates set in June 1979 were retained.
June 5, 1980	New floating ceiling rates on MMCs. All depository institutions may pay the discount yield on 6-month Treasury bills plus 25 basis points when the bill rate is 8.75 percent or higher. The ceiling rate will be no lower than 7.75 percent. A rate differential of up to 25 basis points favors S&Ls and MSBs if the bill rate is between 7.75 percent and 8.75 percent.
December 31, 1980	NOW accounts permitted nationwide at all depository institutions. Ceiling rates on NOW and ATS accounts set at 5.25 percent.
August 1, 1981	Caps on SSCs of 11.75 percent at CBs and 12 percent at S&Ls and MSBs eliminated. Ceiling rates float with the yield on 2 1/2-year Treasury securities.
October 1, 1981	Adopted rules for the All Savers Certificates specified in the Economic Recovery Act of 1981.
November 1, 1981	Floating ceiling rates on MMCs each week changed to the higher of the 6-month Treasury bill rate in the previous week or the average over the previous four weeks.
December 1, 1981	New category of IRA/Keogh accounts created with minimum maturity of 1-1/2 years, no regulated interest rate ceiling and no minimum denomination.
May 1, 1982	New time deposit created with no interest rate ceiling, no minimum denomination and an initial minimum maturity of 3-1/2 years.
	New short-term deposit instrument created with $7,500 minimum denomination and 91-day maturity. The floating ceiling rate is equal to the discount yield on 91-day Treasury bills for S&Ls and MSBs, 25 basis points less for CBs.
	Maturity range of SSCs adjusted to 30-42 months.
September 1, 1982	New deposit account created with a minimum denomination of $20,000 and maturity of 7 to 31 days. The floating ceiling rate is equal to the discount yield on 91-day Treasury bills for S&Ls and MSBs, 25 basis points less for CBs. These ceiling rates are suspended if the 91-day Treasury bill rate falls below 9 percent for four consecutive Treasury bill auctions.
December 14, 1982	MMDAs authorized with minimum balance of not less than $2,500, no interest ceiling, no minimum maturity, up to six transfers per month (no more than three by draft), and unlimited withdrawals by mail, messenger or in person.
January 5, 1983	Super NOW accounts authorized with same features as the MMDAs, except that unlimited transfers are permitted.
	Interest rate ceiling eliminated and minimum denomination reduced to $2,500 on 7- to 31-day accounts.
	Minimum denomination reduced to $2,500 on 91-day accounts and MMCs of less than $100,000.
April 1, 1983	Minimum maturity on SSCs reduced to 18 months.
October 1, 1983	All interest rate ceilings eliminated except those on passbook savings and regular NOW accounts. Minimum denomination of $2,500 established for time deposits with maturities of 31 days or less (below this minimum, passbook savings rates apply).
January 1, 1984	Rate differential between commercial banks and thrifts on passbook savings accounts and 7- to 31-day time deposits of less than $2,500 eliminated. All depository institutions may pay a maximum of 5.50 percent.
January 1, 1985	Minimum denominations on MMDAs, Super NOWs and 7- to 31-day ceiling-free time deposits reduced to $1,000.
January 1, 1986	Minimum denominations on MMDAs, Super NOWs and 7- to 31-day ceiling-free time deposits eliminated.
March 31, 1986	All interest rate ceilings eliminated, except for the requirement that no interest be paid on demand deposits.

Terms:

S&Ls — savings and loan associations
MSBs — mutual savings banks
CBs — commercial banks
MMCs — money market certificates
SSCs — small saver certificates
ATS accounts — automatic transfer service accounts
NOW accounts — negotiable order of withdrawal accounts
MMDAs — money market deposit accounts

Chart 4

Small Time and Savings Deposits at all Depository Institutions and Investments in MMMFs



NOTE: Savings deposits include money market deposits accounts. Investments in money market mutual funds are the purpose and broker/dealer funds.

for the elimination of ceilings on deposit interest rates over a six-year period. The statement of findings and purpose in that section of the act reads as follows:

> The Congress hereby finds that —
>
> (1) limitations on the interest rates which are payable on deposits and accounts discourage persons from saving money, create inequities for depositors, impede the ability of depository institutions to compete for funds, and have not achieved their purpose of providing an even flow of funds for home mortgage lending; and
>
> (2) all depositors, and particularly those with modest savings, are entitled to receive a market rate of return on their savings as soon as it is economically feasible for depository institutions to pay such rate.[18]

The act did not establish a specific timetable for eliminating deposit interest rate ceilings, but delegated those decisions to a newly created committee: the DIDC. Voting members of the DIDC included the secretary of the Treasury and chairpersons of the Federal Reserve Board, Federal Deposit Insurance

[18]Depository Institutions Deregulation and Monetary Control Act (1980), title II, sec. 202 (a).

Corporation, Federal Home Loan Bank Board, and National Credit Union Administration. The Comptroller of the Currency was a non-voting member of the DIDC.

The act directed the DIDC to provide for the orderly phase-out of maximum interest rates that may be paid on time and savings deposits as rapidly as economic conditions warranted. A primary consideration in determining when conditions warranted raising or eliminating these ceilings was the effect of such changes on the safety and soundness of depository institutions. The act gave the DIDC broad discretion in choosing a method for phasing out the ceiling rates. One limitation was that the DIDC could not raise interest rate ceilings on all deposit categories above market interest rates before March 1986.

PHASING OUT REGULATION Q: 1980 THROUGH 1986

March 1980 through November 1982

Some of the early actions of the DIDC were explicitly dictated by Congress. These were the establishment of nationwide NOW accounts, available in January 1981, and All Savers Certificates, available in October 1981.[19] Of the early changes made at the discretion of the DIDC, the most significant involved raising or eliminating ceiling rates on categories of deposit liabilities with rather long maturities.[20] For instance, the DIDC's first action was to increase by 50 basis points the floating ceiling rates on time deposits with maturities of at least 30 months, effective in June 1980. Actions effective in August 1981, December 1981 and May 1982 involved raising or eliminating ceiling rates on small time deposit accounts with initial maturities of 18 months or longer.

In contrast, there were relatively minor changes in the ceiling rates on short-term deposits. The only changes in the ceiling rates on MMCs, for instance, were the minor adjustments in June 1980 and November 1981 (table 1). The new categories of short-term deposits authorized in May and September of 1982 had relatively high minimum denominations.

Actions since December 1982

Depository institutions complained to Congress that the DIDC was not moving fast enough to allow them to meet the competition from money market mutual funds (MMMFs). The categories of short-term time deposits on which depository institutions could pay rates close to market interest rates had minimum denominations that were substantially higher than the minimum investments required by MMMFs. Investments in MMMFs continued growing much faster than small time and savings deposits after the passage of the MCA in March 1980, a pattern that continued until late 1982 (chart 4).

The Garn-St Germain Act of 1982 directed the DIDC to create a category of deposits with terms that would be "directly equivalent to and competitive with money market mutual funds."[21] The DIDC responded by authorizing money market deposit accounts (MMDAs), available as of December 14, 1982, and Super NOW accounts, available as of January 5, 1983. The DIDC also specified a timetable for eliminating the remaining ceiling rates, as indicated in table 1. MMDAs and Super NOW accounts were subject to minimum balance requirements until January 1, 1986. The only remaining restriction on the interest rates paid on deposits is the prohibition of interest payments on demand deposits, which was not altered by the MCA.

The Effect of the Phase-Out of Regulation Q on the Composition of Deposit Liabilities

Depositors responded to the steps taken in phasing out Regulation Q by shifting their funds to accounts on which they could receive higher returns. This is illustrated by the decline over time in the ratio of savings to small time deposits at all depository institutions, since the ceiling rates on small time deposits were raised and eliminated, while the ceilings on savings deposits changed little. In the three years prior to the introduction of MMCs, 1975–77, savings deposits were about 115 percent of small time deposits. That ratio has declined steadily since then, until, in 1985, savings deposits were only about 33 percent of small time deposits.

Other checkable deposits (the interest-bearing

[19]All Savers Certificates were a new category of deposits available at commercial banks and thrifts with a floating ceiling rate equal to 70 percent of the yield on one-year Treasury bills. Interest on these one-year certificates was exempt from federal income tax, up to $1,000 of interest per taxpayer.

[20]The DIDC took other types of actions that are not listed in table 1. Those other actions include restricting gifts by depository institutions to depositors and adjusting the penalties for early withdrawal of deposits.

[21]Garcia (1983).

checkable deposits that institutions may offer to individuals and nonprofit institutions) began growing rapidly after all depository institutions were permitted to offer these accounts in January 1981 (table 2). The interest rate ceilings on other checkable deposits have been the same for commercial banks, savings and loan associations, and mutual savings banks since 1981. Commercial banks accounted for over 81 percent of other checkable deposits in 1981, but their share has declined by about 10 percentage points since then.

Commercial banks have increased their share of small time deposits since 1980 (table 3). The rising share of small time deposits at commercial banks reflects the effect of several DIDC actions that removed the advantages that the ceiling rates had given to thrift institutions in competing for small time deposits. For instance, thrifts lost their rate advantage on MMCs on June 5, 1980. Several other DIDC actions put thrifts and commercial banks on an equal footing in competing for various categories of small time deposits.

The ceiling rate on savings deposits was 25 basis points higher at thrift institutions than at commercial banks throughout the period covered in table 3 until January 1, 1984, when the ceiling at commercial banks was increased by 25 basis points. Despite the rate disadvantage, the share of savings deposits at commercial banks rose slightly in 1979 and 1980. The relatively large drop in the share of savings deposits at commercial banks after 1982 appears to be related to the success of commercial banks in attracting MMDAs. Since MMDAs were authorized in December 1982, the share at commercial banks has been around 60 percent or higher. Some of the funds that went into MMDAs at commercial banks came out of their own savings deposit liabilities.

Column 4 of table 3 nets out the trends in the first three columns. The share of small time and savings deposits plus MMDAs at commercial banks has risen steadily since 1979, the year before the DIDC began removing the rate ceiling advantages of thrift institutions. Half of these deposits were at commercial banks in 1985, up from about 40 percent in 1979.

Thrift institutions accounted for about 8 percent of the time deposits in denominations of $100,000 or more in 1978. As their share of deposits in the smaller-denomination categories declined, thrifts turned to the market for large-denomination deposits to replace the small accounts they lost to commercial banks. By 1985, thrifts accounted for 36.5 percent of the large-denomination deposits.

Changes in the share of total time and savings deposits at commercial banks have been smaller than the changes in the specific categories. The share of total time and savings deposits at commercial banks rose about 4 percentage points from 1978 through 1982 and has been approximately unchanged since then. Since 1982, the funds that thrifts have raised by increasing their large-denomination deposits have been sufficient to offset their declining share of small-denomination deposits. The reasons for these changes are explained in the appendix.

Table 2
Other Checkable Deposits

Year	Amount at all depository institutions (billions of dollars)	Percentage at commercial banks
1978	$ 5.3	46.9%
1979	14.5	74.1
1980	21.8	76.0
1981	65.7	81.4
1982	90.4	79.2
1983	121.2	74.9
1984	139.2	72.9
1985	159.0	71.0

CONCLUSIONS

The policy of setting interest rate ceilings on deposits did not achieve its intended objectives. The original objectives in the 1930s, when ceiling rates were first imposed on commercial banks, were to induce relatively small banks to reduce their balances due from other banks and to increase the profits of the banking system by limiting the interest expense of banks. Relatively small banks instead increased the share of their assets held at other banks during the 1930s. During the first 30 years under Regulation Q, ceiling rates on time and savings deposits were sufficiently high to put no effective constraint on the interest rates paid by most commercial banks. The ceiling rates, however, may have constrained the growth of the most aggressive banks.

Regulation Q policy adopted in 1966 failed to achieve its objectives of constraining increases in interest rates and promoting a stable supply of mortgage credit. As a side effect, the policy adopted in 1966 also altered the allocation of wealth in the economy, causing those with relatively small savings to forego bil-

Table 3

Time and Savings Deposits at Commercial Banks As a Percentage of Deposits at All Depository Institutions

Period	(1) Small time deposits	(2) Savings deposits	(3) MMDAs	(4) Small time and savings deposits plus MMDAs	(5) Large time deposits	(6) Total time and savings deposits
1978	36.6%	44.6%	N.A.	40.7%	92.0%	48.4%
1979	36.0	45.4	N.A.	40.1	88.6	48.2
1980	38.6	46.2	N.A.	41.4	83.4	48.9
1981	40.9	46.1	N.A.	42.5	82.6	50.5
1982	43.8	46.0	60.9%	44.4	81.3	52.2
1983	44.7	44.1	59.0	48.0	74.0	52.7
1984	44.3	42.8	62.3	48.7	65.7	52.0
1985	43.7	41.5	64.6	50.7	63.5	52.3

lions of dollars in interest income they might otherwise have earned.

Congress acted in 1980 to establish a process for phasing out Regulation Q because it observed that the regulation was not producing the intended effects. Congress concluded that interest rate ceilings created problems for depository institutions, discriminated against small savers, and did not increase the supply of residential mortgage credit. The committee established by Congress accelerated the process of phasing out Regulation Q in 1982 after Congress directed it to authorize deposit accounts that were "directly equivalent to and competitive with money market mutual funds."

The steps taken to phase out Regulation Q have altered the distribution of deposits between commercial banks and thrift institutions. Before 1980, ceiling interest rates were higher at thrift institutions on deposits in denominations less than $100,000. Thrifts lost this interest rate advantage as the ceiling rates were lifted. The share of small time and savings deposits at commercial banks rose from about 40 percent in 1979 to over 50 percent in 1985, as commercial banks were allowed to compete with thrift institutions for these deposits on equal terms. Thrift institutions have responded by increasing their share of large-denomination time deposits. The distribution of total time and savings deposits between commercial banks and thrift institutions has been essentially unchanged since 1982.

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APPENDIX
The Effect of Phasing Out Regulation Q on the Distribution of Deposits between Banks and Thrifts

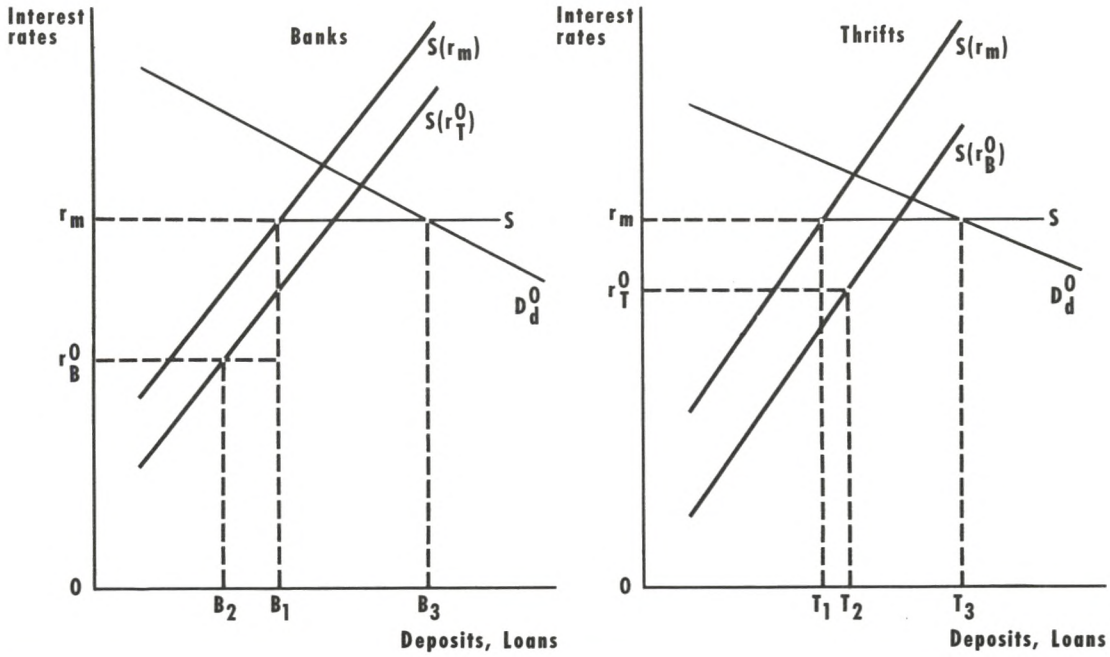
This appendix presents an analysis of the supply and demand for deposits to illustrate the influence of Regulation Q's phase-out on the distribution of deposits between commercial banks and thrifts. It analyzes the reasons for the rise in the share of small-denomination accounts at banks and the reasons why the phase-out of the ceiling rates had such limited effects on the distribution of total deposits between banks and thrifts.

The major difference between figure 3, used for the analysis in this appendix, and figure 2 is the influence of large-denomination deposits on the supply curves for deposits. At least some categories of deposits in denominations of $100,000 or more have been exempt from Regulation Q ceiling rates since June 1970; all deposits in denominations of $100,000 or more have been exempt since May 1973. To investors, large-denomination deposits are alternatives to commercial paper, Treasury securities, and other money market instruments. Banks and thrifts are assumed to be price takers in the market for large-denomination deposits. The interest rate they must pay to attract these deposits is independent of the quantity they demand, and banks and thrifts must pay the market rate to attract any large-denomination deposits.

Until the steps taken to phase out Regulation Q (table 1), deposits in denominations of less than $100,000 were subject to ceiling rates. The supply curves of deposits at banks and thrifts are designed to reflect the differences in ceiling rates based on denominations of deposits. As in figure 2, the supply of small-denomination deposits at thrifts depends on the interest rates that banks pay on them, while the supply curve for banks depends on the rate paid by thrifts.

Banks and thrifts are assumed to be competitive. If

Figure 3
Effects of the Phase-Out of Regulation Q on the Deposits of Commercial Banks and Thrifts



the ceiling rates on small-denomination deposits are above the market interest rate on large-denomination deposits, banks and thrifts are assumed to pay small depositors the market interest rate on large-denomination deposits (r_m). If the levels of deposits they demand, given the market interest rate on large-denomination deposits, exceeds the levels of small-denomination deposits supplied at that market interest rate, banks and thrifts obtain the additional deposits in the market for large-denomination deposits. In terms of the symbols in figure 3, the total quantity of deposits demanded by banks is B_3; they obtain B_1 as small-denomination deposits and the rest from the market for large-denomination deposits. The small-denomination deposits of thrifts are T_1 and their large-denomination deposits are T_3 minus T_1.

Suppose, in contrast, that the ceiling rates on small-denomination deposits are r_T^0 at thrifts and r_B^0 at banks. Imposing the ceiling rates causes the supply curves of small-denomination deposits to shift to the right. Banks can attract a given level of small-denomination deposits at a lower interest rate with these ceiling rates in effect, since the ceiling rates limit the interest rate on the closest substitutes for deposit accounts at banks, which are deposit accounts at thrifts. These shifts in the supply curves to the right of $S(r_m)$ for banks and thrifts are assumed to be proportional to the decline in the rates paid by the competing institutions when the ceiling rates are imposed. Imposing the ceiling rates is assumed to shift the supply curve further to the right at thrifts, since banks are subject to the lower ceiling rates.

Given the nature of the supply curves in figure 3, imposing the ceiling rates r_T^0 and r_B^0 causes the small-denomination deposits of thrifts to rise from T_1 to T_2 and small-denomination deposits of banks to fall from B_1 to B_2. The outcomes could be different, of course, if the supply curves had different slopes than those used in figure 3. These ceiling rates do not affect the total quantity of deposits demanded by banks and thrifts, since B_3 and T_3 are determined by the demand curves for total deposits and the market interest rate on large-denomination deposits.

Given the assumptions underlying figure 3, the elimination of ceiling rates on small-denomination deposits would cause the share of small-denomination deposits at commercial banks to rise (from B_2 divided by B_2 plus T_2 to B_1 divided by B_1 plus T_1). This change would not affect the distribution of total deposits between banks and thrifts, but would cause the proportion of large-denomination deposits at thrifts to rise. Thus, the nature of the results derived from figure 3 are consistent with the actual outcomes recorded in table 3.