For Release on Delivery
Friday, August 25, 1972
1:00 p.m., P.D.T. (4:00 p.m., E.D.T.)

MEMBER BANK BORROWING, PORTFOLIO STRATEGY, AND THE MANAGEMENT OF FEDERAL RESERVE DISCOUNT POLICY

A Paper

By

Andrew F. Brimmer
Member
Board of Governors of the
Federal Reserve System

Presented at the

47th Annual Conference
of the
Western Economic Association

University of Santa Clara
Santa Clara, California

August 25, 1972

TABLE OF CONTENTS

PREFACE

The preparation of this paper required far more than the usual amount and quality of staff support, and the contributions of particular staff members should be identified fully.

Mr. James Pierce had overall staff responsibility for the measurement of member bank borrowing from the Federal Reserve.

The actual task of relating borrowing to bank portfolio strategy required a great deal of imagination and computer programming skill, and several persons made an especially helpful contribution in accomplishing this goal. Ms. Jacqueline McDaniel did the basic planning and coordinated the programming effort to integrate three different sources of data. The first requirement was to examine on a daily basis each of roughly 5,800 member banks to determine their borrowing status and reserve position during the 3-1/2 years from January 1, 1969 through May 31, 1972. Mr. Stephen A. Nelick undertook this assignment--using primarily the "Short-Run Banking System Reports" (SBR) series.

The next task was to analyze the portfolio structure of borrowing banks compared with nonborrowers. Mr. Thomas A. Orndorff did the programming to retrieve data used for this purpose--using Call Reports for each member bank as of December 31, 1969, 1970, and 1971. He and Steve Nelick created the input data for the regression analysis described below.

A third task was to analyze bank borrowing from the Federal Reserve compared with alternative sources of funds. Data used for this purpose came from the reports submitted weekly by 330 large banks (of which 315 are Federal Reserve member banks). However, the weekly data had to be matched with statistics from the SBR series and from the Call Report. This assignment was carried out by Mr. Charles L. Monts.

In each of these assignments, the objective was to generate data for member banks distributed by size and Federal Reserve District. A few member banks were excluded from the data because their heavy borrowing from the Federal Reserve was related to supervisory problems.

Member bank borrowing was also studied using econometric techniques. Through the use of regression analysis, borrowing was related to interest rate differentials, size of bank, and other factors. Mr. John Austin carried out this task.

The study of the timing of discount rate changes at Federal Reserve Banks also required considerable detailed examination of the Board's records extending over the last 20 years. Mr. James Wilbanks undertook this assignment. He also did the calculations to measure the propensity of Federal Reserve Banks to lead or lag with respect to changes in the discount rate.

Several other members of the Board's staff assisted the project in various ways. Mrs. Virginia Timenes supplied the statistics showing long-run trends in member banks' use of Federal Reserve Banks compared with other credit sources, and Miss Donata Price sketched the chart based on these data. Mrs. Dorothy Folsom prepared the chart showing money market interest rates and member bank borrowing.

Also Miss Harriett Harper, Mrs. Tonsa Fuqua, and Mrs. Linda Zuk worked on various statistical and other assignments which had to be done in the preparation of the paper.

I have benefited immeasurably from numerous discussions of discount rate policy with my colleagues--especially Governors J.L. Robertson and George W. Mitchell. Much of this discussion focused on the making of policy during the 1950's and early 1960's. Governor Mitchell chaired the Federal Reserve System study which in 1968 recommended a basic revamping of the discount mechanism. Mr. Robert C. Holland (now Executive Director at the Board) had overall staff responsibility for that study, and he has been especially helpful in connection with the present project.

I have also traced the evolution of discount policy during this period in the Board's records and in the Minutes of the Federal Open Market Committee (FOMC). As is generally known, while the meetings of the latter are devoted primarily to the conduct of open market operations in U.S. Government securities, the FOMC also serves as a forum for the discussion and coordination of all of the instruments of monetary policy--including discount policy.

I have also found it helpful to discuss discount policy with Messrs. Howard H. Hackley and P.D. Ring. Mr. Hackley (formerly General Counsel and now Assistant to the Board) probably knows more about the evolution of Federal Reserve discount policy than anyone else currently in the System (as exemplified by his authorship of the comprehensive study, "A History of the Lending Functions of the Federal Reserve Banks," (mimeo.),(1961). Mr. Ring is the Board's staff officer who maintains the closest continuing contact with the discount policy through his day-to-day surveillance of the discount function in Reserve Banks.

Finally, while I am grateful for the staff's support in this project, the conclusions reached in this paper are my own. Nor should the views expressed be attributed to my colleagues on the Board.

Andrew F. Brimmer

MEMBER BANK BORROWING, PORTFOLIO STRATEGY, AND THE MANAGEMENT OF FEDERAL RESERVE DISCOUNT POLICY

By

Andrew F. Brimmer*

I. Introduction

For a number of years, discount rate policy as administered by the Federal Reserve has rested heavily on a few key assumptions about the behavior of commercial banks that are members of the System. In fact, the Federal Reserve Act itself visualized the establishment of discount facilities by Federal Reserve Banks as the principal means through which the latter were to provide for an "elastic" currency for the United States. In the more than half-century of the System's life, the nature and functioning of the discount mechanism has probably been criticized, studied, assessed, and reformed more than any other aspect of our central banking arrangement.1/

Consequently, one might want to raise a question at the outset: why should one take up the matter again? The answer is simple: the Federal Reserve discount rate and the administrative arrangements surrounding it are matters of importance--because of the nature of the banking system in the United States. From the point of view of most member banks, access to the discount window represents a valuable means

---

* Member, Board of Governors of the Federal Reserve System.

1/ The latest of these is the comprehensive Reappraisal of the Federal Reserve Discount Mechanism, published by the Board of Governors of the Federal Reserve System. Vols. 1 and 2 (1971) and Vol. 3 (1972).

of making temporary adjustments in their asset and liability position--and thus strengthens their ability to serve their customers. From the perspective of the Federal Reserve System, borrowing by member banks provides an additional channel that can be used to enhance the management of monetary policy. Moreover, the discount rate is an important star in the constellation of short-term interest rates--and thus casts a great deal of light on current credit conditions.

Yet, despite the importance of the Federal Reserve discount mechanism--and despite the considerable amount of effort that has been devoted to its illumination--numerous aspects of its functioning remain obscure to some. For example, the principles which are supposed to govern borrowing by member banks are clearly stated in both the Federal Reserve Act and in the Federal Reserve Board's regulations.[2/] However, the ways in which these principles actually work out in practice--under varying monetary and credit conditions and among different classes of member banks in different regions of the country--are only partially understood by economists and other observers outside the System.

The foundation of the Federal Reserve discount mechanism has been the presumption that member banks are reluctant to borrow. On this base, the strategy of discount policy determination and the rules for its administration have been erected. The broad outlines for both were embodied in the last major revision of the Federal Reserve Board's regulation covering member bank borrowing adopted in 1955:[3/]

2/ Section 13 of the Act and Regulation A.

3/ For a discussion of the 1955 revision see Bernard Shull, "Rationale and Objectives of the 1955 Revision of Regulation A," Reappraisal, Vol. 1, pp. 119-131.

--While recognizing that access to Federal Reserve credit facilities is a privilege of membership, Reserve Banks must give due regard to the effect of any extension of credit upon the maintenance of sound credit conditions.

--Normally, Reserve Bank credit should be extended to member banks for short periods of time to meet temporary credit needs (including seasonal requirements).

--To meet unusual and exigent situations, Federal Reserve credit may be extended for as long as seems necessary.

--Continuous use of Federal Reserve credit under ordinary conditions would not be appropriate.

--Federal Reserve Banks, in deciding whether to grant or refuse credit, must consider the general character and amount of the loans and investments of the particular member bank and whether the latter is extending an undue amount of credit for speculative purposes.

--Where it appears that a member bank's principal purpose is to profit from interest rate differentials or to obtain a tax advantage, Federal Reserve Bank credit should not be extended.

Given this conception of member bank borrowing, the Federal Reserve Banks' discount rate traditionally has been viewed as an instrument to regulate--but not penalize--borrowing by member banks. Thus, it generally has not been considered desirable to maintain the discount rate significantly above market rates to discourage borrowing--as has been the case in a number of foreign countries. Instead, a view seems to have emerged which holds that any problems of excess use of Federal Reserve credit can be handled by administrative

decisions. Moreover, in administering the discount function, efforts have been made to achieve reasonable uniformity among different Federal Reserve Districts.

Uniformity in the level of discount rates among Districts is not required. Nevertheless, most officials within the System apparently have felt that monetary and credit conditions in various parts of the Nation ordinarily are so similar that differential discount rates among Federal Reserve Banks would not be justified. On the other hand, under the Federal Reserve Act and by earlier prevailing traditions, the Boards of Directors of each Reserve Bank were expected to give dominant weight to economic conditions in their respective Districts when they establish the discount rate roughly every 14 days. Over time, however, this view has changed considerably. Currently, many Directors place significantly more stress on national and international developments.

While many of the detailed features have been set aside, these are the broad principles within which the Federal Reserve discount mechanism is expected to function. How--in fact--have they been working in recent years? For a number of months, I have been engaged in a study of several aspects of Federal Reserve discount policy, and some of the results of that inquiry are presented in this paper. Some of the highlights of those findings can be summarized here:

--Once a discount rate change has been approved, most other Federal Reserve Banks seem to act more quickly to bring their own rates into line when the rate is increased than when it is reduced. But among individual Banks, some are more likely to lead in making rate reductions than they are in making rate increases.

--In recent years, for a variety of reasons, the Federal Reserve Board seems to have exercised an increased degree of leadership in the determination of the discount rate. A number of Reserve Bank Directors have become much more willing to vote rate changes. But in some of these cases, the timing or size of the planned change has been unacceptable to the Board, and several proposals have been disapproved in the last few years.

--The traditional reluctance of most member banks to borrow from the Federal Reserve Banks seems to remain in force. Even during the most recent period of severe monetary restraint, barely more than one-quarter of all member banks borrowed from the Federal Reserve. In fact, the reluctance to borrow may have become somewhat stronger. Over the last decade, an increasing proportion of member banks which had to borrow turned to sources other than the Federal Reserve Banks.

--In general, among the banks which do borrow from the Federal Reserve, only a small part of their required reserves is obtained from the central bank--for example, just over 5 per cent at the height of credit restraint in 1969.

--The volume of borrowing seems to be closely related to the differential between the discount rate and interest rates in the money market. In other words, banks seem to borrow from the Federal Reserve when the benefits of doing so are clearly evident.

--The propensity to borrow from Reserve Banks is particularly strong among the largest institutions, of whom 90 per cent use such credit compared with only 10 per cent of the smallest member banks.

--However, the extent to which the borrowing banks rely on the Reserve Banks for assistance varies both by size of institution and prevailing credit conditions. Under normal circumstances, the small "borrowing" banks borrow more frequently and for longer periods of time than do the large "borrowing" banks in the System. The smaller banks also normally obtain through Reserve Bank borrowing a larger proportion of their required reserves (about 4-1/2 per cent vs. 2 per cent).

--But during periods of severe monetary restraint, the normal pattern appears to be reversed: Putting aside the biggest institutions (about 50 in number), the other large banks tend to borrow more frequently--and to obtain a greater proportion of their required reserves (about 8 per cent vs. 6 per cent)--from Reserve Banks than is true of the smaller units. The very largest banks also become more dependent on Federal Reserve credit during periods of monetary restraint. Yet, the degree of such reliance is restricted significantly by close Reserve Bank surveillance of their borrowing activity (which represented about 4-1/2 per cent of the largest banks' required reserves in 1969).

--Large member banks which borrow from Reserve Banks tend to rely somewhat less than large nonborrowers on some of the alternative means available to adjust their reserve positions. For example, those large borrowers using Reserve Bank credit raise a smaller proportion of their funds through sales of large-denomination certificates of deposit--especially those sold to individuals and other private investors. Perhaps surprisingly, with the exception of the very largest banks, large borrowers as a group rely on purchases of federal funds somewhat more than large nonborrowers.

--Finally, banks which borrow from the Federal Reserve carry a much larger proportion of higher-yielding assets (e.g., loans rather than U.S. Government securities) in their portfolios than do banks which do not rely on Federal Reserve credit. Thus, while borrowing banks are able to supply a relatively greater volume of funds to the economy, they also seem better able to concentrate on lending activities yielding the highest rates of return.

These conclusions are amplified in the remainder of this paper. In Section II, the pattern of Federal Reserve Bank adjustment to discount rate changes is sketched. In Section III, the trend and magnitude of member bank borrowing are traced. The relationship between market interest rates and member bank borrowing is discussed in Section IV. In Section V, the banking structure and member bank borrowing are examined. In Sections VI and VII, the banks' portfolio strategy and alternative sources of funds are analyzed. Some concluding observations are presented in Section VIII.

II. Federal Reserve Bank Adjustment to Discount Rate Changes

It will be recalled that, under the Federal Reserve Act, the Boards of Directors of each Federal Reserve Bank are required "... to establish from time to time, subject to review and determination of the Board of Governors of the Federal Reserve System, rates of discount to be charged... for each class of paper, which shall be fixed with a view of accommodating commerce and business...." Such rates must be established every 14 days--or more frequently if thought necessary by the Federal Reserve Board. In implementing this part of the Act, the normal situation involves the re-establishment of the existing discount rates which the Board simply allows to stand. For example, the present rate of 4-1/2 per cent has been in effect since December 13, 1971.[4/]

4/ This is the rate of interest charged on loans to member banks under Secs. 13 and 13a--most widely referred to as "the" discount rate.

At times, however, prospective changes in economic and financial conditions will force the question of the discount rate to the forefront of monetary policy discussions. In fact, on a number of occasions, the question of changing the discount rate has become a burning issue--not only in the Federal Reserve System but also among other Government officials, within the financial community, and among the public at large.[5/] But under normal circumstances, the Directors of Reserve Banks (occasionally through an executive committee) will propose a change in the rate when they become convinced that changing economic conditions (mainly in their respective Districts) require it. In reaching that decision, they are undoubtedly influenced substantially by the recommendations of the Reserve Bank Presidents.

Discount rate setting is a product of Board-Reserve Bank interaction, and both the form and the substance of that interaction have changed over time. In a few cases, the Board has formally requested the Reserve Bank Directors to assess the currently prevailing rate with a view toward changing it if the judgment were reached that such a

---

5/ The most dramatic instance in recent years arose in December, 1965, when the Federal Reserve Board (on a 4-3 vote) raised the rate by 1/2 per cent to 4-1/2 per cent over the opposition of the Administration. A less dramatic--but still important--example of a similar reaction occurred in April, 1956, following an increase in the discount rate by 1/4 per cent to 2-3/4 per cent by 3 Banks and by 1/2 per cent to 3 per cent by 1 Bank. Apparently some of the key members of the Administration (but not the President himself) also opposed those actions--especially the 1/2 per cent increase. See FOMC Minutes, 1956, pp. 224-227.

move was desirable.[6/] But the most frequently used approach is the encouragement of an informal discussion of possible discount rate changes at regular meetings of the FOMC. Within the last year or so, Reserve Bank Presidents have been asked informally by the Federal Reserve Board to encourage a full discussion at regular meetings of their Directors of those factors which might influence the decision to change the discount rate. To a considerable extent, the Board's action was a by-product of the decision to experiment with making small and fairly frequent changes in the discount rate. Such a policy was recommended by the System Committee which conducted the Fundamental Reappraisal of the Discount mechanism in the mid-1960's. The System tried that technique rather extensively from late 1970 through late 1971.

6/ Perhaps the most explicit example of the exercise of such Board leadership is provided by the telegram which Chairman William McC. Martin sent to Presidents of Federal Reserve Banks on "... November 9, 1955 suggesting that, without implying that action should be taken on the matter, there be a full review of the discount rate by the directors of the Reserve Bank at their next meeting...." (FOMC Minutes, 1955, p. 604). The reactions to the wire were discussed at the FOMC meeting of November 16. It is both interesting and instructive to contrast the views of Board Members and Bank Presidents regarding a discount rate change which were expressed at the November 16 meeting with those expressed at the previous meeting on October 25. At the earlier meeting 9 of the 12 Presidents did not favor an increase in the discount rate. (The remaining 3 did not comment on the question.) Of the 6 Board Members who spoke on the issue, 2 favored an increase and 4 did not. At the November 16 meeting, 11 of the Presidents were present, and 9 now said that they were prepared to recommend a rate increase in the near future; only 2 were still opposed. All 6 of the Board Members present now favored an increase. The next day--November 17, 1955--the Board approved an increase of 1/4 per cent to 2-1/2 per cent in the discount rate for Reserve Banks. Within 5 days, the remaining 6 Banks had moved to the higher rate. On the day prior to the Board's action, no Reserve Bank had actually recommended a change in the discount rate. FOMC Minutes, 1955, pp. 597-623, and Board Records, 1955.

Record of Discount Rate Adjustment: 1953-71

Given these developments affecting the environment in which discount rate policy is administered, what does the record show with respect to Federal Reserve Bank adjustment to discount rate changes? To answer this question, all changes in the rate from January, 1953, through December, 1971, were examined in some detail. During that period, the discount rate was changed 39 times. Twenty-two were increases, and 17 were rate reductions. In examining the changes, answers were sought to several subsidiary questions:

--How long did it take the Federal Reserve System to effect a rate change--from the point at which the first Reserve Bank Directors voted a change through approval by the Board until the last Bank comes into line with the new rate?

--Is the adjustment time required the same for both rate increases and rate reductions?

--Do adjustment patterns differ appreciably among Reserve Banks--depending on whether the change is an increase or a decrease?

--Can one detect a differential propensity among Reserve Banks to lead or lag in making rate changes?

The data used in answering these questions are summarized in a number of statistical tables (attached at the end of the text). Selected information on each of the 39 rate changes is presented in Appendix I. The adjustment time for the Federal Reserve System as a whole is shown in Table 1. Data relating to individual Reserve Banks are shown in Tables 2, 3 and 4. In assessing the adjustment pattern

of Reserve Banks, the rate changes were classified according to whether they were increases or decreases, and the time required for each Reserve Bank to complete the change was calculated. For the System as a whole, "adjustment time" represents the weighted averages of days involved in the process, using as weights the number of Federal Reserve Banks posting a change on a given day. "Lead time" is the number of days elapsed between action by the first Reserve Bank Board proposing a rate change and approval by the Federal Reserve Board. "Coincident action" describes those cases in which the Reserve Bank Directors and the Federal Reserve Board took action on the same day. "Time lag" is the number of days elapsed between approval action by the Federal Reserve Board and the adjustment of the rate by the last Reserve Bank. "Duration" is the time elapsed between the beginning and the end of the rate adjustment process.

From an examination of the statistics, several conclusions emerge:

Adjustment Time for the Federal Reserve System

With respect to the System as a whole, it took an average of 5.3 days to effect a discount rate change during the 1953-71 period. (Table 1) Once rate changes were voted by Reserve Banks, the Federal Reserve Board typically approved the proposals rather quickly--since lead time averaged only 1.1 days. However, the remaining Banks took somewhat longer to bring their rates into line--since the time lag for all Banks averaged 4.1 days. Within the period, there was considerable variation in the

duration of the rate adjustment process. In general, the adjustment period was much longer in the 1950's than it was in later years--for example, 6.1 days in 1953-60; 1.9 days in 1963-65; 4.7 days in 1967-69, and 4.0 days in 1970-71. In general, over the period as a whole, the lead time increased while the time lag became shorter.

Reductions in the discount rate required somewhat more time than did increases--5.7 days vs. 4.9 days for the 1953-71 period. The lead time was about the same for both increases and decreases (1.2 days and 1.0 days, respectively). However, the time lag was longer for the rate decreases than it was for rate increases (4.7 days vs. 3.7 days).

Adjustment Time for Federal Reserve Banks

Individual Federal Reserve Banks displayed considerable diversity in adjusting to discount rate changes. The extent of this disparity shows up in a variety of ways. In Table 2, the average adjustment time for each Bank is shown for the period 1953-71. From these data, it is evident that some banks took a great deal more time to adjust to discount rate changes than did the System as a whole (which required 5.3 days). For example, the Dallas Bank had the longest average duration (9.2 days) for any phase of the adjustment process, and New York had the shortest (2.1 days).

When the adjustment process is divided more sharply to distinguish among lead, coincident and lag positions and between increases and decreases, the variation in behavior among Reserve Banks becomes even more evident. For this purpose, the information in Table 3 is especially

helpful. This table shows the number of times a particular Reserve Bank was among the lead banks, coincident banks, or lag banks, when the discount rate was increased compared with its position when the rate was reduced. It will be noted that, of the 22 instances of an increase in the rate, the typical Reserve Bank was among the leaders 3.8 times; it was in the coincident group about 6.8 times, and it was in the lag category about 11.4 times. These figures represented 17.3 per cent, 30.1 per cent, and 51.8 per cent, respectively, of the 22 cases of rate increases. Of the 17 instances of discount rate decreases, the average Reserve Bank was among the leaders 2.8 times; it was in the coincident group about 4.7 times, and it was in the lag category about 9.5 times. Again, these instances represented 16.5 per cent, 27.7 per cent, and 55.9 per cent, respectively, of the 17 cases of rate reductions. So, relative lead-lag position of the typical Reserve Bank in the System was pretty much the same whether the discount rate was increased or decreased.

However, among individual Reserve Banks, this pattern varied considerably. For example, the New York Bank was never among the leaders in the 17 cases when discount rates were reduced, and the Richmond and Atlanta Banks were among the leaders only one time each when rates were lowered. In contrast, when discount rates were increased, all three of these Banks were among the leaders approximately the average number of times (roughly 4 times). On the other hand, the Boston Bank (which was also among the leaders about the average number of times) was

far in the lead when discount rates were reduced (7 out of 17 times--or 41 per cent). At the other end of the spectrum, three Banks (Atlanta, Kansas City, and Dallas) lagged considerably behind the System as a whole when discount rates were lowered. They were in the delayed adjustment category 12 of the 17 times--or in 71 per cent of the cases.

Still other contrasts could be drawn, but enough has been said to provide the general flavor of the diversity of discount rate adjustment patterns among Federal Reserve Banks. To reduce the scattering of experience and to see whether a generalized pattern can be discerned in the data, each Bank was ranked according to its average lead-lag position with respect to the total number (39) of discount rate changes during the years 1953-71. The results are shown in Table 4. Here, the St. Louis Bank (with a lead of 3.1 days) turns out to hold the top rank as the Reserve Bank most likely to lead in the upward adjustment of discount rates. The Dallas Bank follows closely behind (with a lead of 3.0 days). The Minneapolis Bank is at the bottom of the list (with a lead of only 0.2 days). Again, the top position as the institution most likely to lag when discount rates are increased is held by the Boston Bank (with a lag of 5.2 days). The Richmond Bank is second (at 5.1 days), and the remaining 10 Banks follow in descending order with only modest differences between them--with the 12th Bank (Minneapolis) at 2.7 days.

With respect to discount rate decreases, the Boston Bank is the institution most likely to lead a downward adjustment in the rate level. Its average lead was 5.2 days. No other Bank was even a close second. The latter spot was held by the Philadelphia Bank where the average lead was 1.5 days. As already indicated, the New York Bank was at the bottom of this ranking--since it was never among the leaders when discount rates were decreased.

Finally, the Dallas Reserve Bank continues to emerge as the Bank most likely to lag behind when discount rates are reduced. Its time-lag averaged 8.8 days. It was followed by Richmond (5.6 days) and Atlanta (5.1 days). Again, the New York Bank (with 2.1 days) was in the bottom spot.

Assessment of Federal Reserve Bank Adjustment Pattern

Several comments can be made which might illuminate further the observed pattern of adjustment to discount rate changes. In general, when discount rates are increased, most Reserve Banks apparently move as expeditiously as possible to bring their own rate into line. In large part, this action is designed to minimize the chance of member banks shifting a disproportionate amount of their borrowing to the Federal Reserve discount window where the cost of funds might otherwise be noticeably below market interest rates. In the case of the New York Federal Reserve Bank, that institution has traditionally assigned considerable weight to economic and financial developments in the international arena. Reflecting this concern, it has frequently stressed

the advantage of having short-term interest rates in the United States in reasonable relationship to those in Western Europe--which are typically higher than similar rates in this country. This perception of the role of interest rates seems to have often caused the New York Bank to be more reluctant than the average Bank to take the lead in reducing the discount rate.

The Dallas Federal Reserve Bank appears to feel that it is operating in an environment that is usually much more ebullient than that prevailing in most other parts of the country. In that Bank's view, a somewhat stronger posture to discourage member bank borrowing might generally be desirable. In the case of the Boston Bank, somewhat more than the average amount of emphasis seems to have been placed on the role of interest rates in stimulating economic growth. This concern has been as much national in scope as it has had regional dimensions.

Finally, several of the Reserve Banks have tended to cluster around the average behavior of the System as a whole. The Philadelphia, Chicago, and San Francisco Banks seem to fall into this category. No obvious reasons can be advanced to explain the observed tendency, but its persistence over time is clearly evident.

Disapproval of Discount Rate Proposals

As indicated above, the Federal Reserve Board has turned down a number of discount rate proposals voted by Directors of Reserve Banks.

Through 1965, no such formal disapprovals had been recorded.[7/] However, from July, 1966, through August, 1971, the Board disapproved 24 discount rate changes put forward by Reserve Bank Directors. The proposed changes--all of which were increases--are summarized in Table 5.

Of the 24 rejections, 11 occurred in 1966; 8 occurred in 1969, and 5 occurred in 1971. In each of the first two years, the disapprovals occurred at the peak of monetary restraint. In 1971, the disapprovals also occurred in those months when money market interest rates were at or near their peaks for the year. In 1966, nine of the proposals were for 1/2 per cent to raise the rate from 4-1/2 to 5 per cent. Two (Chicago and Minneapolis) were for 1 per cent to raise the rate to 5-1/2 per cent. In 1969, two proposals were for 1/2 per cent--one (St. Louis) would have raised the rate from 5-1/2 to 6 per cent, and the other (Boston) would have raised the rate from 6 to 6-1/2 per cent. All other proposals disapproved in 1969 were for 1 per cent to raise the rate from 6 to 7 per cent. In 1971, two proposals (Philadelphia and St. Louis) were for 1/4 per cent to raise the rate to 5 per cent. Three proposals were for 1/2 per cent--one (New York) to raise the rate from 4-3/4 to 5-1/4, and two (Dallas and St. Louis) to raise the rate from 5 to 5-1/2 per cent.

It will also be noted that three of the Reserve Banks (Richmond, Atlanta, and San Francisco) were not among those whose rate proposals were disapproved. On the other hand, two of the Banks (St. Louis

7/ Actually, the Board disapproved some of the rate proposals when discount rates were fixed for the first time in the closing months of 1914. The structure of rates submitted by the different Banks was quite diverse. To bring about some degree of order (but not uniformity) the Board disapproved some of the initial proposals and left it to the affected Banks to submit new rates that were more acceptable. See Henry Parker Willis, The Federal Reserve System, New York: The Ronald Press Company, 1923, Ch. XLI, pp. 886-904.

and Chicago) each accounted for about one-quarter of the turndowns. Two of the Banks (Cleveland and Minneapolis) had rates rejected in 1966--but none in the other two years.

While the Board disapproved 24 separate rate proposals, a number of the cases represented reaffirmations of a decision which had been reached previously on the basis of facts similar to those stressed by the Directors of a particular Reserve Bank. By this standard, the 24 increases that were disapproved can be regrouped into six basic decisions. The reasons for their actions advanced by the Directors and the Board, respectively, can be summarized:

1. July 15, 1966

Reserve Bank: Market rates had been moving upward, and widespread expectations of a discount rate increase had contributed to market uncertainties. The Banks, therefore, reasoned that an adjustment in the rate would serve as a stabilizing influence. They also believed that a rate increase could be helpful in symbolizing continued concern about the balance of payments deficit. Use of the discount rate instrument, along with other instruments of Federal Reserve policy, was called for to maximize the effectiveness of monetary policy to limit excessive credit expansion.

Federal Reserve Board: On the preceding day, the Bank of England had raised the Bank rate from 6 to 7 per cent, and the Board was reluctant to weaken that action with an offsetting action here. On the domestic side, doubt was expressed as to whether an increase of 1/2 per cent would be sufficient to quiet prevailing uncertainties, or whether such an increase might simply promote speculation concerning the possibility of additional rate increases. There was also concern that in view of the many strains and cross-currents prevailing in the financial and credit markets, a rate increase might be exaggerated and misconstrued, with resulting ramifications extending beyond the intended scope of the action. Further, it was not evident that the existing rate was hampering the pursuit of a policy of monetary restraint or that it was causing unmanageable problems at the discount windows. Another factor contributing to the Board's decision was the widespread desire to avoid further escalation of interest rates.

2. January 27, 1969

Reserve Bank: The St. Louis Bank believed that a rate increase would place the rate closer to its historical relationship with other money market rates and would reduce the incentive for member banks to come to the discount window. Further, the Bank felt that the recent slowing that had occurred in the rate of growth of commercial bank credit reflected a rechanneling of funds around the banks, with little net effect on total credit extended in the economy, more than it provided evidence of monetary restraint. It was their view that a rate increase would indicate to the public that the System was seriously interested in combating prevailing strong inflationary expectations.

Federal Reserve Board: The Board concluded that a rate increase at this time would not be appropriate in light of the imminent Treasury refinancing. Also, apart from the refinancing, the Board had reservations as to whether a rate increase, particularly one of as much as 1/2 per cent, was called for by prevailing and prospective economic and financial conditions.

3. May 28, 1969

Reserve Bank: The St. Louis Bank proposed the rate increase on the grounds that it would bring the rate into better alignment with relevant market rates, and would reduce the incentive for member banks to make excessive use of the discount window. The Bank also believed that a rate increase might help to convince the public that the System was serious about resisting inflationary pressures and might therefore help to reduce inflationary expectations and hasten a turnaround in interest rates.

Federal Reserve Board: The Board felt that a rate increase at the present time would be untimely in light of the prevailing conditions and uncertainties in financial markets. It was also noted that while the present rate was out of line with market rates, there had been no evidence that there had been unmanageable difficulties at the discount windows.

4. May 7, 1971

Reserve Bank: The New York Bank proposed the rate increase out of concern over the current unsettlement in foreign exchange markets and the attendant massive flows of dollars into foreign currencies. They felt that the rate action would serve as an important signal that the U.S. intended to defend the value of the dollar. While the Bank realized this action posed risks of an increase in domestic interest rates, they felt these risks were outweighed by the need to maintain international confidence in the dollar, particularly against the background of rapid growth in monetary and credit aggregates in recent months.

Federal Reserve Board: While the Board agreed that arguments could be made in favor of a rate increase on international grounds, it was not convinced that such action would have any significant effect on European currency decisions. The Board believed that in the existing circumstances, a rate increase might be considered to be precipitate and hence would present problems both domestically and internationally. The Board also believed that the sensitive state of domestic debt markets argued strongly against an increase, and that such an action could prove damaging to general confidence at a time when the economic recovery was still fragile. The Board felt that any sharp increase in interest rates might have severely adverse effects on flows of funds to key sectors of the economy.

5. June 22, 1971

Reserve Bank: The Philadelphia Bank felt that a rate increase would be a desirable way to signal concern over persistent inflationary pressures, particularly in view of the recent rapid expansion in the monetary aggregates. They also noted that a rate increase could be justified as a move to maintain general alignment between the discount rate and the short-term market rates and that it will be in keeping with their preference for a policy of flexibility in adjusting the discount rate to changes in market rates.

Federal Reserve Board: The Board believed that a rate increase at this time would not prove to be a constructive step in dealing with inflation. The Board did not think that the current levels of short-term rates called for a rate increase. An additional consideration at this time was the desirability of avoiding a change in monetary policy during the period when a Treasury financing was in progress.

6. August 16, 1971

Reserve Bank: The St. Louis and Dallas Banks proposed the rate increase against a background of continuing rapid growth in the monetary aggregates and persisting concern about the rates of advance in wages and prices. Most market interest rates had risen somewhat further since the announcement of the rate increase on July 15.

Federal Reserve Board: The Board's decision not to approve the proposed rate increase was made in light of the President's major economic policy announcements on August 15. The Government's new economic program was thought likely to help moderate the rise in prices and wages while stimulating economic activity, and early reactions to the President's announcements suggested that a downward adjustment in market interest rates was developing. In these newly emerging circumstances the Board concluded that an increase in the discount rate would not be appropriate.

A central conclusion emerges from the experience summarized here: The Directors of a number of the Federal Reserve Banks have become much more willing to vote discount rate changes based on

economic developments as they see the situation unfolding. The Federal Reserve Board has encouraged the Directors to take more of an active role in this regard. At the same time, however, it is clear that many of the Directors base their decisions on factors other than economic trends in their own Districts. In fact, an increasing number of Reserve Bank Directors are stressing national and international developments as the main reasons supporting their recommendations for rate changes. (The Directors of the New York Bank have traditionally followed that course.)

On the other hand, the Federal Reserve Board has demonstrated an increasing willingness to disapprove formally those Reserve Bank proposals for rate changes that do not accord with its judgment as to appropriate timing or amount. Given the diversity of factors which must be considered from the point of view of the country as a whole, the Board is the only body within the System which has the overall perspective necessary to orchestrate the instruments of monetary policy with other tools of national economic policy.

III. Member Bank Borrowing at Federal Reserve Banks

As mentioned at the outset, member banks as a group have typically borrowed only infrequently and in modest amounts from Federal Reserve Banks. However, at times--such as during periods of substantial monetary restraint--the banks have relied somewhat more heavily on Reserve Bank credit. Reliance by member banks on the Federal Reserve System also varies significantly by class of bank and among Federal Reserve Districts.

Record of Member Bank Borrowing

The record of member bank borrowing from Federal Reserve Banks is shown in Table 6. Borrowing in relation to member banks' required reserves is also indicated. In terms of the level of borrowing, four periods stand out sharply: 1952-53; 1955-59; 1966, and 1969-70.

In the early 1950's, a substantial part of the sharp jump in credit outstanding at the discount window was related to the freeing of the Government securities market from pegged rates at a time when private credit demands were strong. But tax advantages rather than credit conditions also played a significant part. Such borrowing climbed from about $300 million in 1951 to the neighborhood of $800 million in 1952-53. This represented a rise from 1.5 per cent to 4.0 per cent of the banks' required reserves. Tax-related borrowing played a significant role because of the profitability of such borrowing under the provisions of the excess profits tax temporarily in effect during the Korean War.[8/]

The sizable volume of member bank borrowing in the remaining years of the 1950's was related more directly to the generally strong private demands for credit in the face of severe monetary restraint.

8/ See Report of the System Committee on "Reappraisal of the Federal Reserve Discount Mechanism," 1968, p. 3.

In passing, it should be noted that this experience with tax-motivated borrowing by member banks was one of the main reasons (and perhaps the most important one) why the Board undertook the basic revision of Regulation A adopted in 1955.

From a level of around $200 million in 1954 (when monetary policy had been eased to counter the recession), borrowing rose to $666 million in 1955 and climbed further to an average of $840 million in 1956-57. In attempting to cope with these demands, the Federal Reserve made a number of increases in the discount rate. For example, of the 22 rate increases in the 1953-71 period examined earlier, 9 occurred between April, 1955, and August, 1957. These moves took the discount rate from 1-1/2 per cent (set in April, 1954) to 3-1/2 per cent (set in August, 1957).[9/] During the 1957-58 recession borrowing by member

9/ During this period, the System engaged in the only debate which I have been able to find over whether the discount rate should be a penalty rate. At the FOMC meeting of August 23, 1955, Chairman Martin advanced such a proposal and asked the Board Members and Reserve Bank Presidents to consider it. His proposal was based on an analytical and historical analysis presented by Messrs. Winfield W. Riefler and Ralph A. Young. At the time the question at issue focused on a possible increase in the discount rate of 1/4 per cent. Chairman Martin thought that was the minimum increase required and argued strongly for a general revamping of the conception and administration of the discount rate--although he did not indicate exactly what the penalty ought to be. The general reaction to the proposal was overwhelmingly negative. Of the five Board Members present at the meeting, Chairman Martin was the only one to support the idea. Of the nine Reserve Bank Presidents present, two supported the proposal, and six opposed it. Moreover, at the next meeting of the FOMC, two Reserve Banks (after studying the Riefler-Young papers which had not been distributed prior to the August 23 meeting) returned to the issue and again came out against the transformation of the discount rate into a penalty rate. The 1/4 per cent increase was adopted on August 25, 1955, and the matter was never raised again in a formal way. FOMC Minutes, 1955, pp. 466-497, and 520-525.

banks again declined substantially and averaged just under $300 million in 1958. But with the revival of economic activity, the level spurted to $811 million in 1959. With the shrinkage of credit demands during the 1960-61 recession--and the easing of Federal Reserve credit policy to stimulate economic activity--the level of borrowing dropped to only $83 million in 1961. Over the following three years, it remained below $300 million.

As the pace of economic activity quickened in 1965--partly under the impact of rising defense spending related to the Vietnam War--member bank borrowing also rose. It reached $492 million in that year and advanced further to $650 million in 1966. In this episode, however, the Board took an entirely different view of the use of the discount rate. In fact, after the increase in the discount rate from 4 to 4-1/2 per cent in December, 1965 (adopted on a 4-3 vote), the rate was not raised again until November, 1967--and it was reduced only once, i.e., in April, 1967. As indicated above, however, some of the Reserve Banks did make rate proposals in 1966 that were disapproved. Rather than relying more heavily on discount rate changes to moderate credit demands, the Federal Reserve System adopted a variety of other techniques in the pursuit of its goals. Through open market operations, the FOMC generated considerable pressure on bank reserves. The Board raised member bank reserve requirements twice to achieve the same effect. The maximum rates of interest which member banks could pay on time and

savings deposits were restricted. Finally, on September 1, 1966, at the Board's instruction, Federal Reserve Banks sent a letter to all member banks indicating the desirability of the banks' reducing the expansion of business loans while avoiding further sizable liquidations of municipal securities. At the same time, it was recognized that banks which followed this course might require accommodation at the discount window for longer periods than usual.10/

With the return of monetary restraint in 1969, member bank borrowing again rose substantially--and averaged $1.1 billion in that year. The discount rate reached 6 per cent, and--as indicated above--some Reserve Bank Directors wanted to raise it to 7 per cent. Instead, to restrict the availability of bank credit, the Board again relied on a combination of other instruments--including higher reserve requirements, the imposition of reserves against Euro-dollar borrowings, and restriction on the use of funds obtained through sales of commercial paper.11/

As credit conditions eased somewhat in 1970, member bank borrowing also declined--to an average of $835 million. In fact, the decrease would have been even larger except for the special borrowing by some banks necessitated by pressures in the commercial paper market which were evident in June of that year. As part of its effort to cope with the situation, member banks were told that they could borrow from

10/ See Board of Governors, Annual Report, 1966, p. 32.
11/ See Board's Annual Report, 1969, pp. 69-93.

Reserve Banks outside the normal standards if this were needed to enable them to meet the credit needs of businesses unable to roll over maturing commercial paper.[12/] Borrowing under this facility extended for about two months (from the first week in July into early September). The amounts outstanding reached a peak of just under $500 million (in the third week of July) and had dropped to less than $70 million by the time the facility was no longer needed in early September. At the peak, these special Federal Reserve credits represented just under two-fifths of total member bank borrowing--and they averaged about one-third of the total during the weeks of most active use.

As monetary conditions eased through 1971, the volume of borrowing declined to about $400 million, and it dropped further to an average of only $80 million during the first seven months of this year.

District Variation in Member Bank Reliance on the Federal Reserve System

The extent to which member banks rely on the Federal Reserve for assistance varies considerably. Documentation to illustrate--and above all explain--this diversity is hard to obtain. However, by drawing on a variety of statistical sources and oral discussions with officials and staff members within the System and with numerous officials in member banks, I have gotten a broad overview of what seems to be the

12/ See Board's Annual Report, 1970, p. 74.

currently prevailing situation. The first piece of evidence is presented in Table 7 and Chart I. This table shows Federal Reserve member banks which borrowed from the Federal Reserve Bank in their District as a percentage of all member banks which borrowed from any source.

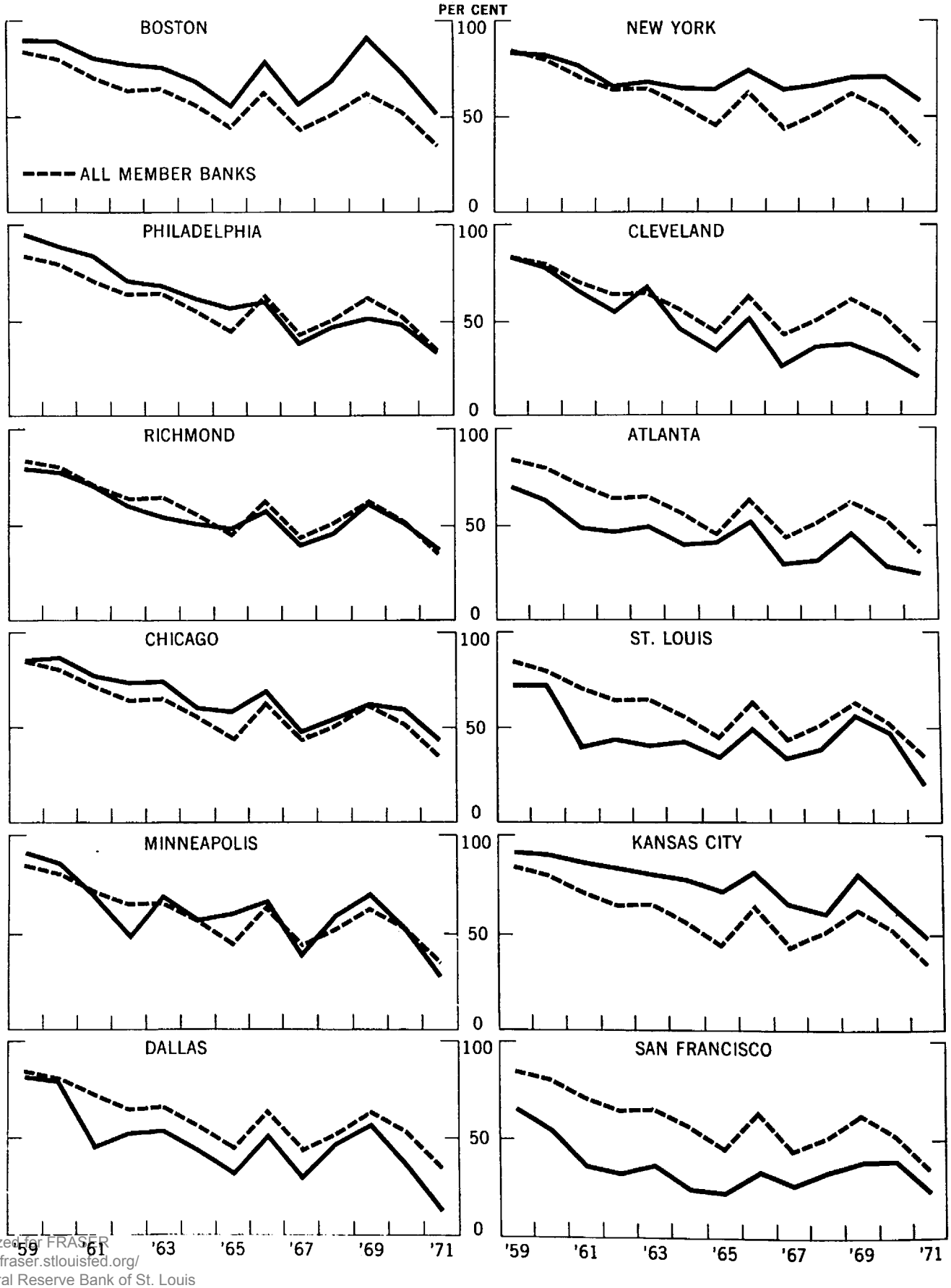
These sources of member bank borrowing include the following: (1) borrowing from Federal Reserve Banks; (2) purchases of federal funds; (3) sales of participations in loan pools; and (4) borrowing from correspondent banks. They do not include Euro-dollar borrowings and sales of capital notes and debentures.[13/]

In December, 1959, there were 6,227 banks that were members of the Federal Reserve System. During the course of that year, 2,339 banks borrowed from a variety of sources--including Federal Reserve Banks. The number which borrowed from the Federal Reserve was 1,967. So in 1959, the proportion of members which borrowed from any source was 38 per cent (2,339 out of 6,227); the proportion of all members which borrowed from Reserve Banks was 32 per cent (1,967 out of 6,233). The proportion of members borrowing from any source which also borrowed from the Reserve Banks was 84 per cent (1,967 out of 2,339). By 1971, the situation had changed noticeably. In December, 1971, there were

13/ Information on these sources of member bank borrowing was obtained from the following: 1959-1968, Federal Reserve Board Questionnaire completed by Reserve Banks. 1969-1971, Income and Dividend Reports completed by member banks.

CHART 1

MEMBER BANKS BORROWING FROM THE RESERVE BANKS AS A PERCENTAGE OF MEMBER BANKS BORROWING FROM ANY SOURCE, 1959-1971



5,727 member banks in the Federal Reserve System. During the course of that year, 2,584 banks borrowed from numerous sources--including Reserve Banks. The number which borrowed from the Federal Reserve was 900. So in 1971, the proportion of members which borrowed from any source was 45 per cent (2,584 out of 5,728); the proportion of all members which borrowed from Reserve Banks was 16 per cent (900 out of 5,727). The proportion of members borrowing from any source which also borrowed from Reserve Banks was 35 per cent (900 out of 2,584). Since 1959 was a year of monetary restraint--and 1971 was a year of monetary ease--it might be helpful to look at 1969 as well--which was also a year of restraint. In 1969, there were 5,870 member banks. Some 2,707 (46 per cent) of these borrowed from a variety of sources. However, only 1,714 (29 per cent) of all member banks borrowed from Federal Reserve Banks. So in 1969, about 62 per cent of the banks which borrowed from any source also borrowed from Reserve Banks (1,714 out of 2,707).

In Table 7, the Reserve Bank-any source percentages are recorded. These were: 1959, 84 per cent; 1969, 62 per cent; and 1971, 35 per cent. Percentages are also recorded for each of the intervening years. The same percentages are shown separately for each Federal Reserve District for each of the years. The same statistics are plotted in Chart I for the System as a whole and for each of the 12 Federal Reserve Districts. The dotted line shows the percentages year by year for all member banks combined--or for the System as a whole. This System profile is reproduced in each of the District panels--whose own experience is described by the solid line.

Several observations can be made on the basis of the information presented here. Turning back to the statistics on Federal Reserve membership and borrowing, it will be noted that between 1959 and 1969, the number of banks in the Federal Reserve System declined by 6 per cent, and between 1959 and 1971 the decrease was 8 per cent. However, the number of member banks borrowing from any source rose by 16 per cent between 1959 and 1969. Even after allowing for the decline in the number of all borrowers between 1969 and 1971 (with the easing of monetary restraint), the number of all member bank borrowers still rose by 10 per cent between 1959 and 1971. In contrast, the number of member banks borrowing from Federal Reserve Banks dropped by 12 per cent between 1959 and 1969 and by 54 per cent between 1959 and 1971. In other words, the number of member banks depending on the Federal Reserve for some part of their credit resources declined substantially while the number turning to other sources registered a noticeable rise. This is due, at least in part, to the increased development of the Federal funds market during the period.

Aside from the decline in the actual number of banks borrowing from Reserve Banks, the proportion using the latter compared with all sources of borrowing also recorded a persistent decline--except for the period of severe monetary restraint in 1966 and 1969. This downtrend is clearly evident in Chart I. But an equally striking feature of the experience is the great diversity among Federal Reserve Banks.

For instance, the percentage of member banks which borrowed from any source--but which also relied on Reserve Banks--was generally above the System average in three Districts--Boston, New York, and Kansas City. The proportion was roughly the same as the System average in four Districts--Philadelphia, Richmond, Chicago, and Minneapolis. It was below the System average in five Districts--Cleveland, Atlanta, St. Louis, Dallas, and San Francisco.

The factors accounting for this diversity of experience among Districts are not readily evident. However, several considerations seem to have a bearing on the situation. First, the structure of banking within each District must exert some influence. Those Districts with a disproportionate number of small member banks would probably see only a small proportion of such members coming to the discount window. Secondly, some of the Districts have a significant number of banks whose deposit flows are subject to considerable variation. These banks might normally find it necessary to borrow fairly frequently, and in so doing they might rely somewhat more than the average on Reserve Banks. In addition, the extent to which large city correspondent banks compete for the balances--and to meet the credit needs--of smaller member banks varies greatly from one District to another. Such correspondent banks apparently are particularly active in seeking business in all of the five Districts where member banks seem to have a below-average tendency to rely on Reserve Banks. But correspondent banks are also reportedly active in three of the four Districts where

the experience was about in line with average situations in the System as a whole. Thus, the role of correspondent banks might not be especially decisive. Finally, member banks in some Districts have traditionally displayed a high degree of readiness to rely on their Reserve Banks. This seems to have been the case in the Boston and New York Districts.

In the end, however, one must simply lay the observed experience on the record and to encourage others to reflect on it--and hopefully join in the quest for explanations.

Borrowing By Class of Bank

Under ordinary conditions, the large money market banks account for about one-fifth to one-quarter of total member bank borrowing, and the remainder is divided about evenly between other reserve city and country banks. As shown in Table 8, this was roughly the situation in 1968. However, as credit conditions tighten--and as the level of borrowing rises--the growth in such borrowing is likely to be centered mainly in other reserve city banks. This too was the pattern in 1969. In that year, the money market banks' share of total borrowings declined to 15 per cent, and the country banks' share remained about unchanged--at 39 per cent. In contrast, the share of other reserve city banks climbed from 38 per cent to 46 per cent.

In 1970 and 1971, however, as monetary policy became less severe, the distribution of borrowing did not return to the previous pattern. For example, in 1971, the proportion of total borrowings taken

by the money market banks did tend to converge toward the earlier percentage--20 per cent compared with 25 per cent in 1968. But for other reserve city banks, the proportion of total borrowing outstanding rose even further--to 56 per cent. This experience was related to the situation of a few large banks whose behavior was not directly related to general credit conditions.

IV. Market Interest Rates and Member Bank Borrowing

As noted above, one of the questions raised persistently in the Federal Reserve has been concerned with the relationship between the discount rate and short-term interest rates prevailing in the money market. On numerous occasions when proposals were made to change the discount rate, among the reasons given was the desire to keep the discount rate better aligned with other market rates. The logic of this argument appears to be straightforward: if market rates exceed the discount rate by a sizable margin, member banks would have an incentive to turn to the discount window to meet a somewhat greater share of their short-term credit needs. If market rates were substantially below the discount rate, member banks might be unduly inhibited from using Reserve Bank resources.

What can be said about the reasonableness of this view? While the evidence is mixed, it appears that member banks generally do make somewhat greater use of the discount window when the structure of interest rates suggests that it is to their benefit to do so.

Interest Rate Differentials and the Pattern of Borrowing

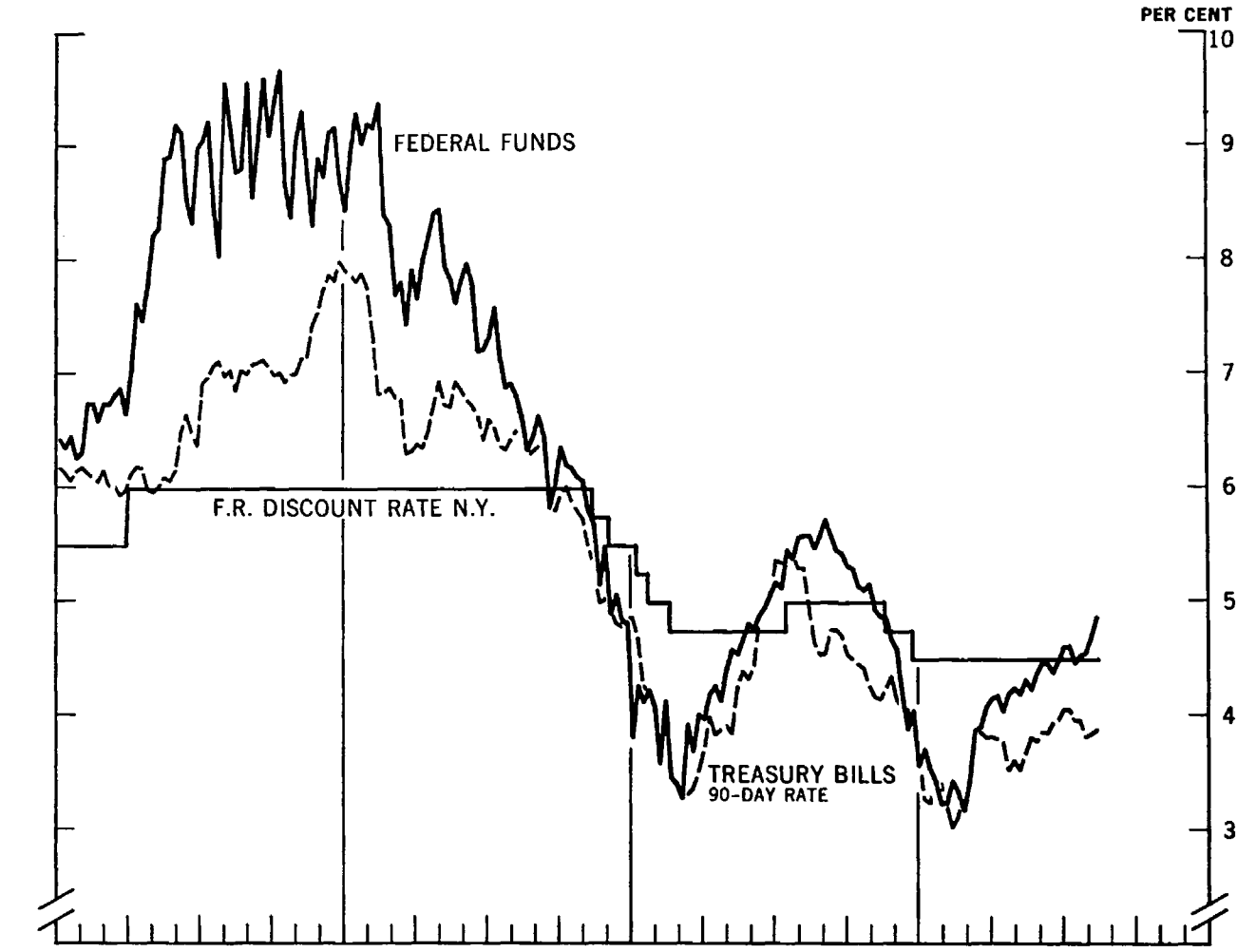
This general pattern of behavior is illustrated in Chart II. The upper panel of the chart shows (1) the discount rate at the Federal Reserve Bank of New York, (2) the federal funds rate, and (3) the market yield on 90-day U.S. Treasury bills. The lower panel shows (1) the differential between the federal funds rate and the discount rate, and (2) the volume of member bank borrowing outstanding. The time period covered is the 3-1/2 years extending from January, 1969 through July, 1972.

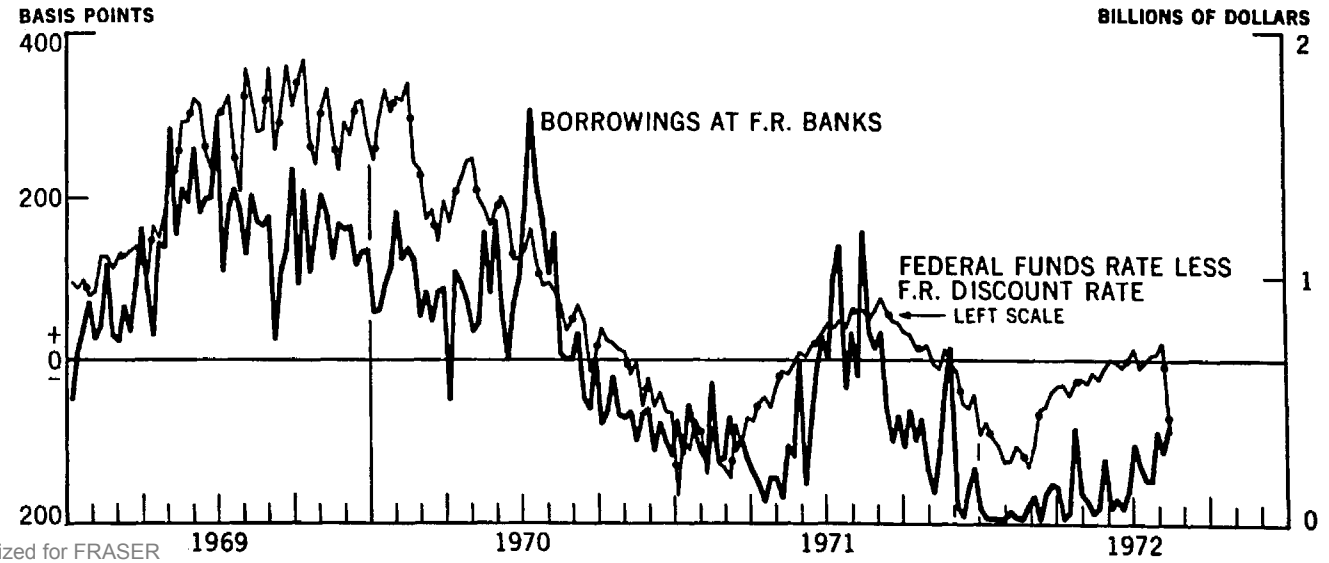
In general, the volume of borrowing does seem to vary directly with the size of the interest rate differential. When one allows for those special events other than basic economic conditions which had a direct bearing on the volume of borrowing, the suggested relationship becomeseven more evident. For example, in mid-1970, the special borrowing at the discount window that was related to the Penn Central situation stands out sharply.

It will be noted that in 1969, the discount rate remained unchanged until early April. As monetary policy became increasingly restrictive, market interest rates rose, and the spread between the federal funds rate and the discount rate widened somewhat. The average level of borrowing also rose slightly. However, the rise in the discount rate was followed by a sharp spurt in market yields, and the differential between the rates became substantially wider. The volume of member bank borrowing also rose considerably.

CHART 2

MONEY MARKET RATES AND BORROWING FROM THE FEDERAL RESERVE





Moreover, throughout 1969 and well into 1970, the volume of member bank borrowing subject to administrative review at the discount window also increased somewhat. In the process, an increasing number of borrowing banks were questioned by Reserve Bank officers concerning the frequency and duration of their use of Reserve Bank credit. These consultations undoubtedly had a restraining influence on the volume of borrowing.

Statistical Analysis of Member Bank Borrowing

The relationship between market interest rates and member bank borrowing was also studied with the use of commonly employed econometric techniques. For this purpose, a preliminary regression was run, which related the relative size of borrowings to interest rates and the size of banks.

The statistical results are described below.[14/]

14/ The regression relates the relative size of borrowings to interest rates and the size of banks. The estimated relation is:

$$B/_{RR} = \underset{(18.996)}{.1924} + \underset{(53.8093)}{.01299}\,(r_{FF} - r_D) - \underset{(-2.1309)}{.0003815}\cdot S \qquad R^2 = .0335$$

where $B/_{RR}$ is the ratio of borrowings to required reserves, r_{FF} is the federal fund rate, r_D is the discount rate, and S is the size code for the bank--where 1 is the largest class and 9 is the smallest. Data were available for 40 months on banks that borrowed at least once during the period. Thus, a total of 83,676 observations were used. These preliminary results do indicate that banks borrow more as the spread in interest rates increases, and that larger banks (represented by the smaller status code) borrow relative more than do small banks.

This equation is indeed preliminary to further study. There are many zero values for the dependent variable in the data used. This implies that the normal distribution does not apply to the disturbance term, and thus the t values are unreliable. Secondly, the size variable should be replaced by a more appropriate variable such as total deposits or total assets. We will also test the significance of portfolio variables such as loan to asset ratios.

As is the case with all findings of this character, these results must be interpreted with caution. But they do indicate in a general way that banks tend to borrow more as the spread between market interest rates and the discount rate increases. The results also suggest that the larger banks--at least during the period studied--tended to borrow more in relation to their share of reserves than did the smaller banks.

V. Bank Structure and Member Bank Borrowing

As I mentioned at the outset, aside from tracing the broad trends in member bank borrowing, I also wanted to probe the ways in which banks which borrowed from the Federal Reserve managed their assets and liabilities compared with those member banks which did not rely on credit from the Federal Reserve discount window.

In approaching this part of the assignment, I wanted to examine the member banks primarily according to size and location in particular Districts. For this purpose, three primary sources of data had to be integrated. The first task was to identify in a systematic fashion those banks which borrowed and those which did not. So the first requirement was to examine on a daily basis each of the roughly 5,800 member banks to determine their borrowing status and reserve position during the 3-1/2 years from January 1, 1969, through May 31, 1972. This project was carried out by a member of the Board's staff with the aid of the Board's computer and using primarily statistics from the "Short-Run Banking System Reports" (SBR).

The next task was to analyze the portfolio structures of borrowing banks compared with nonborrowers. For this purpose, use was made of the Call Reports for each member bank as of December 31, 1969, 1970, and 1971. The third task was to analyze bank borrowing from the Federal Reserve compared with alternative sources of short-term funds. Data for this purpose came from the reports submitted weekly by 330 large banks (of which 315 are Federal Reserve member banks). However, the weekly data had to be matched with statistics from the SBR series and the Call Report.

In each of these assignments, the objective was to generate data for member banks distributed by size and Federal Reserve District. (A few member banks were excluded from the data because their heavy borrowing from the Federal Reserve was related to supervisory problems.) The examination of member bank borrowing using econometric techniques, which was described above, was also based on the same set of data.

The statistical data relating to member bank borrowing by size and Federal Reserve District obtained as a result the projects described above and are summarized in Tables 9 through 14. Tables 9 and 10 contain the Call Report data. Table 11-a shows the distribution of member banks, required reserves, and amount borrowed (by size and Federal Reserve District) during the 3-1/2 years January, 1969 through May, 1972. Tables 11-b through 11-e show the same data for each year taken separately. Table 12-a shows member bank borrowing in relation to required reserves by size of bank and Federal Reserve District for

the 3-1/2 years combined. Tables 12-b through 12-e present the same data for each of the years taken separately. Tables 13 and 14 show selected assets and liabilities, respectively, for weekly reporting banks--identifying borrowers and nonborrowers separately by size of bank--for the three years 1969, 1970 and 1971.

Borrowing By Size of Bank

As shown in Table 9, 5,877 member banks were included in the borrowing study for 1969. The number decreased to 5,776 in 1970 and to 5,730 in 1971. Of these members, 1,695 borrowed from the Federal Reserve Banks in 1969; the number of borrowers totaled 1,391 in 1970 and 900 in 1971. Thus, in 1969, 29 per cent of the member banks included in the study borrowed from the Federal Reserve. The proportion was 24 per cent in 1970 and 16 per cent in 1971. However, as indicated earlier, the degree of reliance by member banks on the Federal Reserve varied directly with size. Among the member banks with total deposits of $1.0 billion and over, 90 per cent borrowed from the Federal Reserve in 1969. The corresponding figure was 91 per cent in 1970 and 84 per cent in 1971. In contrast, among the member banks with total deposits of under $3.0 million, only 10 per cent borrowed during each of the 3 years. In all 3 years, the percentage of member banks which borrowed from the Federal Reserve decreased steadily throughout the size spectrum--except for banks with deposits under $3 million.

The reasons underlying this observed pattern of borrowing are easily understood. The larger institutions--especially those located in Reserve cities--typically experience considerable variation in

deposit flows. While some of these are seasonal in nature, to a considerable extent this somewhat unstable deposit behavior is inherent in the character of their business. On the other hand, many of the smaller member banks are located outside of metropolitan areas, and the composition of their deposits is such that they can predict fairly accurately the timing of deposit and withdrawal of funds. Although their accounts may be subject to considerable seasonal variations, they typically do not have the types of short-term credit needs which can normally be satisfied at Reserve Banks.

Borrowing By Federal Reserve District

The extent to which member banks in particular Districts borrowed from their respective Reserve Banks is shown in Table 10. In each of the 3 years, the Federal Reserve Bank of Boston had the highest proportion of borrowers. Over three-fifths of the members borrowed in 1969. Although the proportion declined to just over one-half in 1970 and to roughly two-fifths in 1971, these were still the highest fractions for any of the Districts. The New York Federal Reserve District ranked second in each of the 3 years. Borrowers as a proportion of all members amounted to 50 per cent in 1969; 44 per cent in 1970, and 37 per cent in 1971. In both of these Districts, member banks have a long-standing tradition of reliance on the Federal Reserve.

At the opposite end of the spectrum, the District with the lowest percentage of borrowing members changed over the 3 years. In 1969, the Cleveland District was at the bottom-- as borrowers represented 16 per cent of all member banks. In both 1970 and 1971, Dallas was in the last position--with 12 per cent of its banks borrowing in 1970 and only 4 per cent in 1971. Again, in looking for an explanation of the observed experience, one is thrown back on the kind of considerations mentioned above in connection with the discussion of diversity among District borrowing patterns. The characteristics of the intra-District banking structure undoubtedly play a role. Beyond that, the different ways in which member banks view themselves with respect to access to the discount window may also have a bearing on the behavior noted.

Other detailed comparisons of borrowing patterns among Reserve Districts could also be made. However, the mosaic sketched in Chart I seems to be generally reproduced in the detailed statistics.

Time Span of Borrowings and Required Reserves

When member banks do borrow from the Federal Reserve, they must do so within specified guidelines governing the frequency and duration of borrowing. Moreover, the typical member bank seeks Reserve Bank accommodation with an eye toward meeting its required reserves during a given reserve accounting period. By 1969, all member banks were on a one-week reserve period basis. (Prior to September, 1968, country banks had a two-week reserve computation period.)

In an attempt to identify the time span of borrowing by the typical bank from the System, the approach in the present study was to focus on the average number of days during a given period on which a member bank was indebted to a Federal Reserve Bank. As already indicated, each member bank was examined on a daily basis during the entire 3-1/2-year period covered by this study. The results were as follows: during the whole 3-1/2-year period the member banks which borrowed were indebted to Reserve Banks for an average of 78 days. Since these 3-1/2 years were composed of 1,278 days, this meant that member banks borrowing from Reserve Banks were indebted to the System for about 6 per cent of the total time covered. The average number of borrowing days varied directly with size of bank. Among the largest group, the average number of borrowing days equaled 108--or approximately 8 per cent of the time. At the smaller end of the size spectrum, the average number of banks in the $3-7 million class averaged 66 borrowing days--or only 5 per cent of the time. On the other hand, the average number of borrowing days among banks in different size categories varied considerably with credit conditions. During 1969--a year of considerable monetary restraint--the banks with total deposits of $1.0 billion and over averaged 57 borrowing days; this represented 16 per cent of the days of that year. But in 1971, banks in the $1 billion and over class had 18 borrowing days, or an average

of only 5 per cent of the time. In contrast, banks at the lower end of the spectrum averaged about 40 borrowing days in 1969 (just over 10 per cent of the time), and in 1971 they averaged 45 days of indebtedness to Reserve Banks (more than 12 per cent of the time).

Over the 3-1/2 year period, all member banks which borrowed from the Federal Reserve had average required reserves of $11.2 million. However, as one would expect, the amount of required reserves varied considerably with respect to size of bank. For example, borrowing banks with $1.0 billion and over of total deposits had average required reserves of $225 million, while those in the smaller size group had average required reserves of only $134,000. In this analysis, the interest is not so much in the amount of reserves but rather in the proportion of their requirement which member banks borrowed from Reserve Banks. For the 3-1/2 years as a whole, those member banks which did borrow from the Federal Reserve obtained about 2-1/2 per cent of their required reserves from this source. This proportion varied sharply with credit conditions. Thus, in 1969, borrowings were 5 per cent of required reserves for all of the borrowing member banks--but only 1-1/2 per cent in 1971. The situation also varied noticeably during these years when the borrowing banks are examined by size. In general, the smaller banks obtained a larger proportion of their required reserves (about 4-1/2 per cent vs. 2 per cent) through Reserve Bank borrowing than did the borrowing institutions at the top of the size scale. Again, however, the relative position varied with credit conditions. In 1969, the largest banks obtained about 3-1/2 per

cent of their required reserves by borrowing from the Federal Reserve Banks, but in 1971 the proportion had dropped to 1 per cent. In contrast, the smallest member banks borrowed about 6-1/2 per cent of their required reserves from the System in 1969, but the fraction rose to 7 per cent in 1971. This general tendency for the banks to rely less on the Federal Reserve as their size class increased--and as credit conditions eased--is also evident in the data.

VI. Portfolio Structure and Member Bank Borrowings

In this study, we were interested in the type of bank likely to be a borrower from the Federal Reserve. As mentioned earlier, borrowing does tend to be positively related to size. We also expected to find a relationship between willingness to borrow and the borrowing banks' general portfolio strategy. The data do indicate some rather pronounced tendencies.

A look at Table 9 reveals that large banks tend to keep a higher proportion of their assets in loans. The $1 billion and over borrowing banks in 1969 had a loan to asset ratio of 56.6 per cent, whereas the banks in the smallest category had only 51.9 per cent. In periods of less stringent credit conditions than 1969, the ratio for all banks tended to be lower.

Note that the average loan to asset ratio for total borrowing banks is higher than the total for the nonborrowers. The difference is especially pronounced in 1969--55.4 per cent contrasted to 50.6 per cent. In the two latter years, the deficiency is not as great-- but still apparent. Borrowing banks tend to be more aggressive lenders. This was in accord with our expectations. Banks that seek profits through a greater volume

of loans are likely to be aggressive in the management of the liability side of the balance sheet as well. This aggressiveness is also illustrated in holdings of U.S. Government securities. The borrowing banks desire to hold Governments is decidely less. Looking at Table 9 again, we see that in 1969 nonborrowers held 13.7 per cent of their assets in these securities and borrowers held only 7.7 per cent. The difference is also pronounced in the two latter years. The borrowing group also had a higher propensity to buy more-- and to sell less--federal funds.

Table 10 presents the data by Federal Reserve District rather than size. Loan to asset ratios differ greatly among the Districts. Among borrowing banks, San Francisco member banks had the highest ratio (59.2) in 1969 and the Kansas City banks had the lowest (49.4). In each year, the San Francisco District had the highest ratio in both the borrowing and nonborrowing category. This probably reflects the greater deposit predictability (and the resulting greater willingness to tie up money in loans) that large branch banks enjoy.

The greater aggressiveness of borrowers is also shown in the weekly reported data in Tables 13 and 14. Borrowers hold far more commercial and industrial loans than do nonborrowers. These, of course, represent the most illiquid portion of total loans. Although borrowers hold fewer Government securities, the proportion of Treasury bills held is very similar. Need for Treasury bills may be uniform because these securities are used primarily to meet pledging requirements, and this need is not greatly different for borrowers or nonborrowers.

VII. Member Bank Borrowing and Alternative Sources of Funds

It was not a priori obvious whether borrowers at the Federal Reserve would be more or less likely to be aggressive bidders for alternative sources of funds. One could have reasoned that greater borrowing causes a lesser need for other funds. Alternatively, we could have reasoned that banks feeling in need of funds would tap all sources simultaneously.

The evidence developed here (Table 14) suggests that the use of alternative sources of short-term funds does differ slightly between borrowers and nonborrowers. For example, borrowing banks obtain a lesser proportion of their liabilities through issues of large denomination certificates of deposit. On average, Federal Reserve borrowers' purchases of federal funds is slightly greater. There is an interesting disparity by size of bank, however. In the $1 billion or over class, non-Federal Reserve borrowers have a ratio of funds purchases to liabilities of 11.7 per cent (1969 data). This compares to only 6.0 per cent for borrowers. In every other size class, the disparity is in the other direction. This occurs in each of the 3 years analyzed. Note that "other borrowing" is about the same for the users and non-users of the discount window. This category includes nonfederal funds borrowing from security dealers and other commercial banks, and repurchase agreements with non-financial corporations.

VIII. Concluding Observations

The main results obtained in this study of discount policy and borrowing by Federal Reserve member banks were summarized in Section I. Before closing, several additional observations can be made. First, the analysis suggests that smaller borrowers do rely on the Reserve Banks to meet a somewhat larger proportion of their required reserves than do the biggest institutions. Yet, it is the changing behavior of the latter which determines the most prominent features in the landscape of total member bank borrowing.

Over the 3-1/2 years covered in the study, banks with $1 billion and over in total deposits, on the average, represented 1 per cent of all member banks and 3 per cent of all the members which borrowed from Reserve Banks. The largest groups' required reserves averaged 58 per cent of the total, and they accounted for just under half of total borrowings. During 1969--a year of severe monetary restraint--the largest groups' share of required reserves remained essentially unchanged at 59 per cent of the total, while their share of borrowing declined to 41 per cent. In 1971, partly under the influence of easier credit conditions, the biggest banks' share of required reserves rose to 70 per cent, and their share of total borrowing climbed to 56 per cent. In contrast, the share of required reserves and borrowings accounted for by the smallest banks (less than 0.2 per cent) remained essentially unchanged. While borrowing banks in the middle of the size spectrum

showed modest changes in their proportions of required reserves and borrowings during the 3-1/2 years, they also contributed very little to the overall variation in member bank borrowing from the Federal Reserve.

If the volume of borrowing is taken as a rough approximation of the benefits associated with the privilege of discounting at Reserve Banks, the data examined in this study also suggest that the largest banks (with total deposits of $1 billion and over) obtain benefits that are somewhat less than their relative position in the System would imply. However, the large banks just below those in the top size category receive a somewhat larger share of the benefits. This tendency for the share of borrowing to exceed the respective share of required reserves extends down through the size spectrum including member banks with total deposits between $20 million and $50 million. (See Tables 12-a through 12-e.)

This general profile is not altogether surprising. As mentioned several times above (despite the noticeable variability of their deposits), the very largest banks are normally under close and continuous surveillance by the Federal Reserve. Thus, their indebtedness to the System is likely to be held under fairly firm restraint at all times. On the other hand, many of the large member banks just below the top size category also have deposits on their books that are normally quite volatile. Yet, they frequently are more able to turn to the Federal Reserve--among other sources--to

obtain the short-term credit needed to adjust their positions. In so doing, they become beneficiaries of Federal Reserve credit extended through the discount window to a degree somewhat in excess of their proportionate share of total member bank required reserves.

The evidence presented in this paper also suggests that borrowing by member banks is somewhat sensitive to money market interest rates. While the statistical foundation for this observation is less firm than one would wish, the general conclusion does seem to be supported. The inference to be drawn from these facts also seems clear: member banks which borrow from the Federal Reserve do seem to have at least a modest incentive to use the discount window at times when the discount rate diverges appreciably from interest rates in the money market.

Finally, as I reflect on the principal features of member bank borrowing which emerged from this study, several questions are raised in my own mind:

--Should borrowing by member banks continue to be viewed as a "privilege" rather than as a "right" of Federal Reserve membership?

--Should the discount rate be kept more closely in line with market rates? In fact, should the discount rate take on more of the characteristics of a penalty rate--and thus subject member bank borrowing to the price mechanism to a greater degree than has normally been the case?

--Should the administrative posture at the discount window in the different Reserve Banks be re-examined with the idea of enhancing uniformity of conditions affecting borrowing throughout the System?

Table 1. Adjustment Time for Federal Reserve System Discount Rate Changes, 1953-1971
(Number of Days)

Period	Increase			Decrease			Total Adjustment Time		
	Lead Time	Time Lag	Duration	Lead Time	Time Lag	Duration	Lead Time	Time Lag	Duration
1953-60	0.4	5.0	5.4	0.1	6.6	6.7	0.3	5.8	6.1
1963-65	1.1	2.6	3.7	0.0 1/	0.0 1/	0.0 1/	0.6	1.3	1.9
1967-69	3.4	1.1	4.5	0.1	4.8	4.9	1.8	3.0	4.7
1970-71	0.6	2.6	3.2	2.2	2.4	4.7	1.4	2.5	4.0
1953-71	1.2	3.7	4.9	1.0	4.7	5.7	1.1	4.1	5.3

1/ No rate decreases occurred during this period.

Note: "Adjustment Time" represents the weighted averages of days involved in the adjustment of discount rate changes, using as weights the number of Federal Reserve Banks posting the change on a given day. "Lead Time" is the number of days elapsed between action by the first Reserve Bank Board proposing a rate change and approval action by the Federal Reserve Board. "Time Lag" is the number of days elapsed between approval action of the Federal Reserve Board and the adjustment of the rate by the last Reserve Bank. "Duration" is the time elapsed between the beginning and end of the rate adjustment process.

Still other questions are raised in my mind, but I think these few raise enough substantive questions to keep those of us who work in the Federal Reserve System busy for a long time. I personally have not arrived at a firm position with respect to any of these issues, and I look forward to weighing them with my colleagues within the System.

- 0 -

Table 3. Behavior of Federal Reserve Banks in the Discount Rate Adjustment Process, 1953-1971

District	Reserve Bank	Increase						Decrease						Total Adjustment Process					
		Lead Bank		Coincident Bank		Lag Bank		Lead Bank		Coincident Bank		Lag Bank		Lead Bank		Coincident Bank		Lag Bank	
		Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases	Number of Cases	Per cent of Cases
1	Boston	4	18.2	3	13.6	15	68.2	7	41.2	2	11.8	8	47.1	11	28.2	5	12.8	23	59.0
2	New York	4	18.2	11	50.0	7	31.8	0	0.0	7	41.2	10	58.8	4	10.3	18	46.2	17	43.6
3	Philadelphia	3	13.6	9	40.9	10	45.5	2	11.8	8	47.1	7	41.2	5	12.8	17	43.6	17	43.6
4	Cleveland	6	27.3	4	18.2	12	54.6	2	11.8	8	47.1	7	41.2	8	20.5	12	30.8	19	48.7
5	Richmond	3	13.6	6	27.3	13	59.1	1	5.9	5	29.4	11	64.7	4	10.3	11	28.2	24	61.5
6	Atlanta	5	22.7	4	18.2	13	59.1	1	5.9	4	23.5	12	70.6	6	15.4	8	20.5	25	64.1
7	Chicago	4	18.2	10	45.5	8	36.4	3	17.6	4	23.5	10	58.8	7	17.9	14	35.9	18	46.2
8	St. Louis	5	22.7	7	31.8	10	45.5	4	23.5	4	23.5	9	52.9	9	23.1	11	28.2	19	48.7
9	Minneapolis	3	13.6	8	36.4	11	50.0	4	23.5	6	35.3	7	41.2	7	17.9	14	35.9	18	46.2
10	Kansas City	1	4.5	6	27.3	15	68.2	3	17.6	2	11.8	12	70.6	4	10.3	8	20.5	27	69.2
11	Dallas	4	18.2	6	27.3	12	54.6	3	17.6	2	11.8	12	70.6	7	17.9	8	20.5	24	61.5
12	San Francisco	4	18.2	7	31.8	11	50.0	4	23.5	4	23.5	9	52.9	8	20.5	11	28.2	20	51.3
	Average Position (All Banks)	3.8	17.3	6.8	30.1	11.4	51.8	2.8	16.5	4.7	27.7	9.5	55.9	6.7	17.2	11.4	29.2	20.9	53.6
	Total (Number of Actions)	22	--	22	--	22	--	17	--	17	--	17	--	39	--	39	--	39	--

Note: See Note on Appendix Table 1.

Table 2. Adjustment Time for Federal Reserve Banks
Discount Rate Changes, 1953-1971
(Number of Days)

District	Reserve Bank	Increase			Decrease		
		Lead Time	Time Lag	Duration	Lead Time	Time Lag	Duration
1	Boston	0.6	5.2	5.8	5.2	3.7	8.9
2	New York	0.5	3.5	4.0	0.0	2.1	2.1
3	Philadelphia	0.9	3.4	4.3	1.5	4.1	5.6
4	Cleveland	1.0	4.2	5.2	0.3	3.9	4.2
5	Richmond	0.7	5.1	5.8	0.1	5.6	5.7
6	Atlanta	1.9	2.9	4.8	0.2	5.1	5.3
7	Chicago	0.6	3.3	3.9	0.4	3.5	3.9
8	St. Louis	3.1	3.3	6.4	1.0	4.3	5.3
9	Minneapolis	0.2	2.7	2.9	1.0	4.2	5.2
10	Kansas City	0.3	4.5	4.8	0.1	4.4	4.5
11	Dallas	3.0	2.9	5.9	0.4	8.8	9.2
12	San Francisco	0.8	3.3	4.1	0.9	4.4	5.3
	Total System	1.2	3.7	4.9	1.0	4.7	5.7

Note: Weighted averages of days. (See note to Table 1.)

Table 5. Discount Rate Proposals Disapproved by the Federal Reserve Board, 1966, 1969, and 1971

District	Reserve Bank	1966	1969	1971	3-Year Total	Rates Proposed (Per Cent) 1966	1969	1971
1	Boston	2	1	0	3	5, 5	6-1/2	-
2	New York	1	0	1	2	4-1/2	-	5-1/4
3	Philadelphia	2	0	1	3	5, 5	-	5
4	Cleveland	2	0	0	2	5, 5	-	-
5	Richmond	0	0	0	0	-	-	-
6	Atlanta	0	0	0	0	-	-	-
7	Chicago	2	3	0	5	5,5-1/2	7,7,7	-
8	St. Louis	1	3	2	6	5	6,7,7	5,5-1/2
9	Minneapolis	1	0	0	1	5-1/2	-	-
10	Kansas City	0	1	0	1	-	7	-
11	Dallas	0	0	1	1	-	-	5-1/2
12	San Francisco	0	0	0	0	-	-	-
	Total	11	8	5	24			

Note: (1) All proposals involved rate increases.
(2) In 1966, 9 of the proposals were for 1/2 per cent to raise the rate from 4-1/2 to 5 per cent; 2 (Chicago and Minneapolis) were for 1 per cent to raise the rate to 5-1/2 per cent.
In 1969, 2 proposals were for 1/2 per cent - 1 (St. Louis) to raise the rate from 5-1/2 to 6 per cent and 1 (Boston) to raise the rate from 6 to 6-1/2 per cent. All other proposals were for 1 per cent to raise the rate from 6 to 7 per cent.
In 1971, 2 proposals (Philadelphia and St. Louis) were for 1/4 per cent to raise the rate to 5 per cent; 3 proposals were for 1/2 per cent - 1 (New York) to raise the rate from 4-3/4 to 5-1/4 and 2 (Dallas and St. Louis) to raise the rate from 5 to 5-1/2 per cent.

Table 4. Relative Position of Federal Reserve Banks Ranked by Size of Average Lead-Lag Position in Discount Rate Changes, 1953-1971 (Lead-Lag in Days)

Increases						Decreases					
Rank	Reserve Bank	Lead Position	Rank	Reserve Bank	Lag Position	Rank	Reserve Bank	Lead Position	Rank	Reserve Bank	Lag Position
1	St. Louis	3.1	1	Boston	5.2	1	Boston	5.2	1	Dallas	8.8
2	Dallas	3.0	2	Richmond	5.1	2	Philadelphia	1.5	2	Richmond	5.6
3	Atlanta	1.9	3	Kansas City	4.5	3	St. Louis	1.0	3	Atlanta	5.1
4	Cleveland	1.0	4	Cleveland	4.2	4	Minneapolis	1.0	4	Kansas City	4.4
5	Philadelphia	0.9	5	New York	3.5	5	San Francisco	0.9	5	San Francisco	4.4
6	San Francisco	0.8	6	Philadelphia	3.4	6	Chicago	0.4	6	St. Louis	4.3
7	Richmond	0.7	7	Chicago	3.3	7	Dallas	0.4	7	Minneapolis	4.2
8	Boston	0.6	8	St. Louis	3.3	8	Cleveland	0.3	8	Philadelphia	4.1
9	Chicago	0.6	9	San Francisco	3.3	9	Atlanta	0.2	9	Cleveland	3.9
10	New York	0.5	10	Atlanta	2.9	10	Richmond	0.1	10	Boston	3.7
11	Kansas City	0.3	11	Dallas	2.9	11	Kansas City	0.1	11	Chicago	3.5
12	Minneapolis	0.2	12.	Minneapolis	2.7	12.	New York	0	12	New York	2.1
	System Average Adjustment Time	1.2			3.7			1.0			4.7

Table 7. Member Banks Borrowing from the Federal Reserve Banks as a Percentage of Member Banks Borrowing From Any Source, 1959-1971

Year	All Districts	Districts 1	2	3	4	5	6	7	8	9	10	11	12
1959	84	90	83	95	84	79	70	85	72	91	91	80	65
1960	80	90	82	89	78	77	63	86	72	85	90	78	54
1961	71	81	77	84	66	70	48	77	40	68	86	46	36
1962	64	77	66	71	55	60	46	73	44	49	83	52	32
1963	65	76	68	69	68	54	49	74	40	68	80	53	37
1964	56	69	65	62	46	50	39	60	42	56	77	43	24
1965	45	56	64	57	35	48	40	58	34	59	71	31	22
1966	63	78	74	60	51	57	51	69	49	66	81	50	33
1967	44	57	64	38	27	39	29	48	34	40	65	30	27
1968	51	69	67	47	37	45	31	54	38	58	60	47	34
1969	62	91	71	52	38	61	45	62	55	69	80	56	39
1970	52	73	71	48	31	51	28	60	47	52	63	36	39
1971	35	52	58	33	21	37	24	43	20	27	48	12	23

Source: Division of Federal Reserve Bank Operations, Federal Reserve Board.

Table 6. Member Bank Borrowing and Required Reserves, 1951 - 1972
(Amounts in Millions of Dollars)

YEAR	Required Reserves	Borrowing from Federal Reserve Banks	
		Amount	Per Cent of Required Reserves
1951	19,667	293	1.5
1952	20,520	801	3.9
1953	19,397	777	4.0
1954	18,618	217	1.2
1955	18,903	666	3.5
1956	19,089	833	4.4
1957	19,091	850	4.5
1958	18,574	295	1.6
1959	18,619	811	4.4
1960	18,988	436	2.3
1961	20,114	83	0.4
1962	20,071	137	0.7
1963	20,677	269	1.3
1964	21,663	294	1.4
1965	22,848	492	2.2
1966	24,321	650	2.7
1967	25,905	178	0.7
1968	27,439	569	2.1
1969	28,173	1,103	3.9
1970	30,033	835	2.8
1971	32,496	412	1.3
1972 (July)	32,820	202	0.6

Table 9. Selected Portfolio Characteristics of Federal Reserve Member Banks, Borrowers vs. Nonborrowers, By Size of Bank, 1969, 1970 and 1971

Size of Bank (Total deposits in millions of dollars)	Number of Banks				Percentage of Total Assets						Percentage of Total Liabilities			
					Loans		U.S. Gov't. Securities		Federal Funds Sold		Total Borrowings		Federal Funds Purchased	
	Total	FED Borrowers	Non-FED Borrowers	FED Borrowers as Per Cent of Total	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers
							1969							
1,000 and over	49	44	5	89.8	56.6	54.2	6.1	7.7	1.2	1.6	1.0	3.6	5.1	7.7
500-1,000	55	48	7	87.3	54.3	56.7	7.4	8.0	2.2	1.5	1.4	*	6.1	1.4
100-500	336	271	65	80.7	54.0	51.0	9.3	12.3	1.6	2.3	0.5	0.2	2.7	1.6
50-100	336	207	129	61.6	53.4	51.3	11.9	12.6	1.4	2.3	0.2	*	1.0	0.7
20-50	1,063	409	654	38.5	53.3	50.9	12.6	13.3	1.5	2.8	0.3	0.1	0.5	[redacted]
12-20	942	241	701	25.6	51.2	49.1	13.7	15.8	2.0	3.6	0.2	*	0.4	
7-12	1,260	235	1,025	18.7	50.9	48.0	14.5	17.4	2.3	3.4	0.4	*	0.3	0.1
3-7	1,353	196	1,157	14.5	51.2	46.1	16.9	20.2	2.3	4.1	0.3	*	0.1	0.1
Under 3	483	44	439	9.1	51.9	43.6	20.9	23.8	1.2	3.6	0.6	*	0.1	*
Total	5,877	1,695	4,182	28.8	55.4	50.6	7.7	13.7	1.4	2.7	0.9	0.4	4.2	1.2
							1970							
1,000 and over	56	51	5	91.1	53.4	53.7	6.8	7.2	1.9	4.1	0.7	0.7	5.5	6.3
500-1,000	59	44	15	74.6	52.0	54.0	8.3	9.2	3.7	2.6	1.1	0.3	6.0	2.7
100-500	349	226	123	64.8	51.8	49.4	9.4	10.3	3.0	3.7	0.6	0.2	2.7	2.3
50-100	367	167	200	45.5	51.4	49.7	11.8	12.4	3.0	3.3	0.2	*	1.2	0.4
20-50	1,129	318	811	28.2	51.1	49.1	12.9	12.9	2.6	3.9	0.2	*	0.4	0.3
12-20	980	204	776	20.8	50.7	47.5	14.4	15.4	2.2	4.3	0.1	*	0.4	0.1
7-12	1,233	205	1,028	16.6	51.6	46.7	15.4	17.0	2.3	4.1	0.2	*	0.3	0.1
3-7	1,205	138	1,067	11.5	51.5	45.7	18.0	19.9	1.9	4.4	0.5	*	0.4	0.1
Under 3	398	38	360	9.6	50.0	42.3	21.5	24.0	1.3	4.5	0.3	*	0.4	*
Total	5,776	1,391	4,385	24.1	52.7	49.5	8.0	12.5	2.3	3.8	0.7	0.1	4.7	1.4
							1971							
1,000 and over	63	53	10	84.1	53.1	51.8	6.6	7.6	2.4	4.0	0.3	0.1	7.4	9.0
500-1,000	70	44	26	62.9	51.5	50.7	7.9	8.7	3.2	4.6	0.7	0.3	6.1	6.1
100-500	376	155	221	41.2	52.0	48.7	9.0	9.8	2.0	4.0	0.2	0.5	3.4	3.4
50-100	414	107	307	25.9	52.9	49.4	11.7	11.6	1.9	3.6	*	0.1	1.2	0.8
20-50	1,216	185	1,031	15.2	50.5	49.1	12.7	12.6	1.8	3.8	0.2	0.1	0.7	0.4
12-20	1,069	111	958	10.4	52.1	47.1	15.1	15.2	2.3	4.5	0.3	*	0.9	0.2
7-12	1,170	133	1,037	11.4	51.8	46.6	16.0	16.0	2.1	4.5	0.5	0.1	0.4	0.2
3-12	1,034	81	953	7.8	52.0	45.3	17.7	18.9	1.5	5.0	0.4	*	0.3	0.2
Under 3	318	31	287	9.8	48.4	42.1	23.5	22.3	1.8	6.1	1.4	0.1	0.3	*
Total	5,730	900	4,830	15.7	52.7	49.0	7.4	11.4	2.4	4.1	0.3	0.2	6.4	2.7

Source: Call Reports, December 31 of each year. *Less than 0.05 per cent.

Table 8. Member Bank Borrowing By Class of Bank, 1968 - 1972

	Total Borrowing (millions of dollars)[1]				Percentage Distribution		
	All Banks	Money Market Banks[2]	Other Reserve City Banks	Country Banks	Money Market Banks[2]	Other Reserve City Banks	Country Banks
1968							
January	237	51	111	75	21.5	46.8	31.7
February	361	110	126	125	30.5	34.9	34.6
March	671	165	288	218	24.6	42.9	32.5
April	683	171	283	229	25.0	41.4	33.6
May	746	144	262	340	19.3	35.1	45.6
June	692	107	258	327	15.5	37.3	47.2
July	525	99	152	274	18.9	29.0	52.1
August	565	194	161	210	34.3	28.5	37.2
September	515	177	194	144	34.4	37.7	27.9
October	427	74	186	167	17.3	43.6	39.1
November	569	79	274	216	13.9	48.2	38.0
December	765	315	270	180	41.2	35.3	23.5
Average (Estimated)	562	140	214	208	24.9	38.1	37.0
1969							
January	697	113	321	263	16.2	46.1	37.7
February	824	102	420	302	12.4	51.0	36.6
March	918	163	449	306	17.8	48.9	33.3
April	996	227	512	257	22.8	51.4	25.8
May	1,402	273	618	511	19.5	44.1	36.4
June	1,407	123	713	571	8.7	50.7	40.6
July	1,190	91	517	582	7.7	43.4	48.9
August	1,249	132	480	637	10.6	38.4	51.0
September	1,067	138	461	468	12.9	43.2	43.8
October	1,135	157	531	447	13.8	46.8	39.4
November	1,241	226	572	443	18.2	46.1	35.7
December	1,086	286	479	321	26.3	44.1	29.6
Average (Estimated)	1,105	169	506	430	15.3	45.8	38.9
1970							
January	965	227	455	283	23.5	47.2	29.3
February	1,092	157	535	400	14.4	49.0	36.6
March	896	184	436	276	20.5	48.7	30.8
April	822	288	372	162	35.0	45.3	19.7
May	976	199	477	300	20.4	48.9	30.7
June	888	132	489	267	14.9	55.1	30.0
July	1,358	138	682	278	10.2	50.2	20.6
August	827	220	424	183	26.6	51.3	22.1
September	607	131	369	107	21.6	60.8	17.6
October	462	23	338	101	5.0	73.2	21.8
November	425	71	301	53	16.7	70.8	12.5
December	321	29	264	28	9.0	82.2	8.8
Average	802	172	428	202	21.4	53.4	25.2
1971							
January	370	41	294	35	11.1	79.5	9.4
February	328	33	268	27	10.1	81.7	8.2
March	319	67	236	16	21.0	74.0	5.0
April	148	19	119	10	12.8	80.4	6.8
May	330	126	136	68	38.2	41.2	20.6
June	453	111	181	161	24.5	40.0	35.5
July	820	114	441	265	13.9	53.8	32.3
August	804	171	425	208	21.3	52.9	25.8
September	501	42	318	141	8.4	63.5	28.1
October	360	82	163	115	22.8	45.3	31.9
November	407	129	177	101	31.7	43.5	24.8
December	107	43	22	42	40.2	20.6	39.2
Average	414	82	232	100	19.8	56.0	24.2
1972							
January	20	---	---	20	----	----	100.0
February	33	5	12	16	15.2	36.4	48.4
March	99	75	9	15	75.8	9.1	15.1
April	109	53	22	34	48.6	20.2	31.2
May	119	62	31	26	52.1	26.0	21.9
June[p]	94	6	40	48	6.4	42.6	51.0
Average (Estimated)	79	34	19	26	43.0	24.0	33.0

1/ Monthly averages of daily figures.
2/ New York and Chicago banks only.
p/ Preliminary.

Table 11-a. Member Bank Borrowing in Relation to Required Reserves, By Size of Bank and Federal Reserve District, January 1, 1969 through May 31, 1972
(Amounts in thousands of dollars)

Category	Number of Banks: Total (Average during period)	Number of Banks: FED Borrowers (Average during period)	Number of Banks: FED Borrowers As Per Cent of Total	Average Number of Borrowing Days during Period	Average Amount of Required Reserves	Average Amount Borrowed	Borrowing as Per Cent of Required Reserves
Size of Bank (millions of dollars)							
1,000 and over	58	50	86.2	108	225,445	4,813	2.1
500-1,000	64	45	70.3	109	49,099	1,581	3.2
100-500	359	203	56.6	102	13,530	450	3.3
50-100	383	144	37.6	80	3,952	103	2.6
20-50	1,157	277	23.9	71	1,763	44	2.5
12-20	1,016	175	17.2	70	830	21	2.6
7-12	1,207	180	14.9	69	502	13	2.6
3-7	1,153	132	11.5	66	263	8	3.0
Under 3	378	37	9.8	86	134	6	4.4
Total	5,775	1,243	21.5	78	11,151	284	2.5
District							
Boston	229	110	48.0	84	6,748	306	4.5
New York	348	152	43.7	86	30,533	742	2.4
Philadelphia	319	56	17.6	45	9,025	176	2.0
Cleveland	470	56	11.9	47	14,326	255	1.8
Richmond	362	86	23.8	68	9,593	238	2.5
Atlanta	554	75	13.5	73	9,068	281	3.1
Chicago	946	246	26.0	87	8,048	266	3.3
St. Louis	454	64	14.1	80	5,943	139	2.4
Minneapolis	491	111	22.6	57	2,495	80	3.2
Kansas City	813	186	22.9	103	2,787	98	3.5
Dallas	635	65	10.2	75	7,655	202	2.6
San Francisco	154	36	23.4	84	78,440	1,229	1.6
Total	5,775	1,243	21.5	78	11,151	284	2.5

Table 10. Selected Portfolio Characteristics of Federal Reserve Member Banks, Borrowers vs. Nonborrowers, By Federal Reserve District, 1969, 1970 and 1971

Federal Reserve District	Number of Banks				Percentage of Total Assets						Percentage of Total Liabilities			
					Loans		U.S. Gov't. Securities		Federal Funds Sold		Total Borrowings		Federal Funds Purchased	
	Total	FED Borrowers	Non-FED Borrowers	FED Borrowers as Per Cent of Total	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers
							1969							
1. Boston	236	146	90	61.9	56.6	54.9	7.5	10.5	1.9	5.6	0.9	*	5.2	[illegible]
2. New York	364	180	184	49.5	54.6	53.9	6.2	11.0	0.9	3.6	0.6	0.1	4.5	
3. Philadelphia	345	83	262	24.1	57.7	54.4	18.1	11.8	2.0	3.7	1.2	*	4.4	0.7
4. Cleveland	476	76	400	16.0	54.5	52.3	9.5	14.3	2.6	2.7	0.6	0.6	4.1	0.7
5. Richmond	367	109	258	29.7	55.9	48.6	8.4	17.4	1.2	3.6	0.6	*	2.4	0.3
6. Atlanta	538	120	418	22.3	52.2	46.6	8.7	13.0	2.5	3.2	1.9	*	3.9	0.7
7. Chicago	954	332	622	34.8	55.9	50.2	9.5	15.1	1.5	2.2	1.2	0.9	3.4	2.5
8. St. Louis	466	103	363	22.1	51.4	44.7	9.7	18.1	2.3	2.4	0.4	0.1	4.6	0.5
9. Minneapolis	491	161	330	32.8	54.7	50.9	9.1	16.8	0.8	1.5	2.1	*	4.1	0.4
10. Kansas City	829	224	605	27.0	49.4	48.3	9.7	16.1	2.5	3.3	0.8	0.1	3.6	0.3
11. Dallas	640	116	524	18.1	51.5	49.6	7.7	10.8	1.8	2.3	0.5	1.1	5.5	2.9
12. San Francisco	171	45	126	26.3	59.2	57.4	7.0	9.4	1.2	1.6	1.1	0.3	4.5	1.5
Total	5,877	1,695	4,182	28.8	55.4	50.6	7.7	13.7	1.4	2.7	0.9	0.4	4.2	1.2
							1970							
1. Boston	232	126	106	54.3	53.7	53.5	8.1	10.2	1.7	5.8	0.4	*	6.1	0.7
2. New York	352	154	198	43.8	52.6	53.8	6.3	10.0	1.1	2.5	1.1	0.2	4.1	0.9
3. Philadelphia	321	60	261	18.7	53.2	55.3	8.6	10.1	3.2	3.0	0.6	0.2	5.3	1.8
4. Cleveland	470	66	404	14.0	50.4	50.5	9.7	14.4	4.0	2.8	0.1	0.1	4.5	1.2
5. Richmond	361	92	269	25.5	53.5	47.9	8.1	14.3	2.3	4.8	0.4	*	2.3	0.7
6. Atlanta	547	71	476	13.0	49.7	45.3	8.9	11.9	4.4	4.2	0.8	0.1	4.4	1.5
7. Chicago	945	286	659	30.3	53.5	48.0	9.6	14.4	2.0	4.4	1.2	0.2	5.1	1.8
8. St. Louis	460	78	382	17.0	49.6	45.2	9.9	15.1	3.7	4.6	0.1	0.1	7.1	1.2
9. Minneapolis	489	130	359	26.5	53.2	51.0	10.1	15.8	1.1	2.4	0.5	*	4.9	0.4
10. Kansas City	809	211	598	26.1	47.1	48.2	10.4	12.9	5.7	4.3	0.4	0.3	4.0	1.8
11. Dallas	634	77	557	12.2	49.6	46.5	7.0	10.6	5.4	4.3	0.8	*	9.2	1.2
12. San Francisco	156	40	116	25.6	55.2	54.6	8.1	9.2	2.7	3.0	0.1	0.4	4.3	[illegible]
Total	5,776	1,391	4,385	24.1	52.7	49.5	8.0	12.5	2.3	3.6	0.7	0.1	4.7	
							1971							
1. Boston	227	87	140	38.3	53.8	55.5	6.5	8.9	2.0	4.9	0.2	*	6.5	0.6
2. New York	340	126	214	37.1	52.6	51.1	5.9	8.8	1.0	3.1	0.3	1.4	5.3	2.0
3. Philadelphia	306	40	266	13.1	55.8	52.1	7.3	10.8	1.5	3.0	0.4	*	7.2	1.3
4. Cleveland	468	45	423	9.6	49.9	49.2	9.5	13.5	4.8	3.4	*	0.1	6.8	1.9
5. Richmond	360	67	293	18.6	53.1	50.9	7.5	10.8	2.5	3.6	0.3	*	4.0	1.4
6. Atlanta	562	57	505	10.1	49.7	46.0	7.5	11.2	3.4	4.7	0.8	*	6.8	1.9
7. Chicago	943	185	758	19.6	53.8	48.4	8.4	13.3	2.2	4.6	0.6	0.1	6.3	2.8
8. St. Louis	458	31	427	6.8	45.7	46.3	8.7	12.3	6.1	5.3	*	*	10.6	4.4
9. Minneapolis	490	68	422	13.9	53.0	50.0	10.7	13.8	3.3	2.7	0.6	0.1	6.0	2.6
10. Kansas City	796	147	649	18.5	49.9	47.5	10.7	10.9	4.1	5.5	0.6	0.2	5.6	4.1
11. Dallas	633	24	609	3.8	47.3	46.4	4.8	9.9	8.7	4.7	0.3	0.1	14.6	2.9
12. San Francisco	147	23	124	15.7	53.7	54.6	8.7	9.5	3.1	2.5	0.1	0.3	7.1	5.1
Total	5,730	900	4,830	15.7	52.7	49.0	7.4	11.4	2.4	4.1	0.3	0.2	6.4	2.7

Source: Call Reports, December 31 of each year.
* Less than 0.05 per cent.

Table 11-c. Member Bank Borrowing in Relation to Required Reserves, By Size of Bank and Federal Reserve District, 1970
(Amounts in thousands of dollars)

Category	Number of Banks: Total	Number of Banks: FED Borrowers	Number of Banks: FED Borrowers As Per Cent of Total	Average Number of Borrowing Days during Period	Average Amount of Required Reserves	Average Amount Borrowed	Borrowing as Per Cent of Required Reserves
Size of Bank. (millions of dollars)							
1,000 and over	56	51	91.0	43	234,670	6,650	2.8
500-1,000	59	44	74.6	36	50,918	1,751	3.4
100-500	349	226	64.8	38	13,661	580	4.3
50-100	367	167	45.5	32	3,913	130	3.3
20-50	1,129	318	28.2	35	1,743	71	4.1
12-20	980	204	20.8	38	824	37	4.5
7-12	1,233	205	16.6	41	503	26	5.1
3-7	1,205	138	11.5	46	274	18	6.5
Under 3	398	38	9.6	49	142	10	7.0
Total	5,776	4,385	24.1	38	14,874	478	3.2
District							
Boston	232	126	54.3	33	8,417	477	5.3
New York	352	154	43.8	38	41,602	1,313	3.2
Philadelphia	321	60	18.7	24	14,667	372	2.5
Cleveland	470	66	14.0	29	18,507	573	3.1
Richmond	361	92	25.5	29	12,484	348	2.8
Atlanta	547	71	13.0	39	12,315	469	3.8
Chicago	945	286	30.2	39	10,028	384	3.8
St. Louis	460	78	17.0	34	6,906	162	2.4
Minneapolis	489	130	26.5	36	3,082	172	5.6
Kansas City	809	211	26.1	52	2,791	147	5.3
Dallas	634	77	12.2	42	10,462	450	4.3
San Francisco	156	40	25.6	33	94,655	1,725	1.8
Total	5,776	1,391	24.1	38	14,874	478	3.2

Table 11-b. Member Bank Borrowing in Relation to Required Reserves, By Size of Bank and Federal Reserve District, 1969
(Amounts in thousands of dollars)

Category	Number of Banks: Total	Number of Banks: FED Borrowers	Number of Banks: FED Borrowers As Per Cent of Total	Average Number of Borrowing Days during Period	Average Amount of Required Reserves	Average Amount Borrowed	Borrowing as Per Cent of Required Reserves
Size of Bank (millions of dollars)							
1,000 and over	49	44	89.8	57	231,129	8,201	3.6
500-1,000	55	48	87.2	71	47,531	3,648	7.7
100-500	336	271	80.7	67	13,296	1,008	7.6
50-100	336	207	61.6	55	3,919	249	6.3
20-50	1,063	409	38.4	48	1,750	102	5.8
12-20	942	241	25.6	44	811	47	5.7
7-12	1,260	235	18.7	41	510	27	5.4
3-7	1,353	196	14.5	40	276	15	5.6
Under 3	483	44	9.1	37	146	9	6.5
Total	5,877	1,695	28.8	51	12,674	640	5.1
District							
Boston	236	146	61.9	54	7,358	597	8.1
New York	364	180	49.5	54	35,423	1,407	4.0
Philadelphia	345	83	24.1	35	10,513	403	3.8
Cleveland	476	76	16.0	33	16,503	569	3.5
Richmond	367	109	29.7	42	10,377	504	4.9
Atlanta	538	120	22.3	50	9,199	666	7.2
Chicago	954	332	34.8	58	9,010	659	7.3
St. Louis	466	103	22.1	57	6,098	395	6.5
Minneapolis	491	161	32.8	38	2,932	210	7.2
Kansas City	829	224	27.1	59	3,449	289	8.4
Dallas	640	116	18.1	54	7,425	454	6.1
San Francisco	171	45	26.3	57	85,454	2,673	3.1
Total	5,877	1,695	28.8	51	12,674	640	5.1

Table 11-e. Member Bank Borrowing in Relation to Required Reserves, By Size of Bank and Federal Reserve District, January 1 through May 31, 1972
(Amounts in thousands of dollars)

Category	Number of Banks: Total	Number of Banks: FED Borrowers	Number of Banks: FED Borrowers As Per Cent of Total	Average Number of Borrowing Days during Period	Average Amount of Required Reserves	Average Amount Borrowed	Borrowing as Per Cent of Required Reserves
Size of Bank (millions of dollars)							
1,000 and over	63	32	50.8	3	317,804	1,485	0.5
500-1,000	71	23	32.4	4	60,646	341	0.6
100-500	377	58	15.4	3	19,627	112	0.6
50-100	415	23	5.5	9	4,515	114	2.5
20-50	1,219	56	4.6	9	1,955	63	3.2
12-20	1,072	55	5.1	19	956	46	4.8
7-12	1,165	56	4.8	18	583	31	5.3
3-7	1,020	46	4.5	20	330	25	7.6
Under 3	313	17	5.4	27	153	19	12.6
Total	5,715	366	6.4	12	35,572	201	0.6
District							
Boston	222	26	11.7	5	21,392	162	0.8
New York	335	73	21.8	12	89,270	615	0.7
Philadelphia	303	13	4.3	14	12,935	79	0.6
Cleveland	466	10	2.2	3	51,935	64	0.1
Richmond	359	33	9.2	11	24,706	119	0.5
Atlanta	568	13	2.3	7	25,803	158	0.6
Chicago	942	60	6.4	8	19,932	113	0.6
St. Louis	433	11	2.5	7	7,874	64	0.8
Minneapolis	494	29	5.9	8	6,671	26	0.4
Kansas City	817	70	8.6	26	3,977	60	1.5
Dallas	632	11	1.7	17	22,589	84	0.4
San Francisco	144	17	11.8	4	123,847	213	0.2
Total	5,715	366	6.4	12	35,572	201	0.6

Number of banks for size breakdown estimated from 1970-71 change.
Number of banks for Districts based on June 30, 1972 Call Report.

Table 11-d. Member Bank Borrowing in Relation to Required Reserves, By Size of Bank and Federal Reserve District, 1971
(Amounts in thousands of dollars)

Category	Number of Banks			Average Number of Borrowing Days during Period	Average Amount of Required Reserves	Average Amount Borrowed	Borrowing as Per Cent of Required Reserves
	Total	FED Borrowers	FED Borrowers as Per Cent of Total				
1,000 and over	63	53	84.1	18	261,639	3,046	1.2
500-1,000	70	44	62.9	24	55,008	1,068	1.9
100-500	376	155	41.2	22	15,210	334	2.2
50-100	414	107	25.9	24	4,301	109	2.5
20-50	1,216	185	15.2	22	1,971	49	2.5
12-20	1,069	111	10.4	29	879	32	3.7
7-12	1,170	133	11.4	29	532	18	3.4
3-7	1,034	81	7.8	36	287	15	5.2
Under 3	318	31	9.8	45	152	11	7.1
Total	5,730	900	15.7	26	21,755	319	1.5
District							
Boston	227	87	38.3	25	12,111	376	3.1
New York	340	126	37.1	23	51,804	768	1.5
Philadelphia	306	40	13.1	14	17,961	302	1.7
Cleveland	468	45	9.6	14	22,899	277	1.2
Richmond	360	67	18.6	23	17,948	297	1.7
Atlanta	562	57	10.1	28	13,692	401	2.9
Chicago	943	185	19.6	28	14,633	230	1.6
St. Louis	458	31	6.8	21	6,499	49	0.8
Minneapolis	490	68	13.9	16	3,866	27	0.7
Kansas City	796	147	18.5	40	2,437	46	1.9
Dallas	633	24	3.8	29	23,110	342	1.5
San Francisco	147	23	15.7	17	175,420	1,188	0.7
Total	5,730	900	15.7	26	21,755	319	1.5

Table 12-b. Percentage Distribution of Member Banks, Required Reserves, and Amount Borrowed, By Size of Bank and Federal Reserve District, 1969

Size of Bank (millions of dollars)	Total Number of Banks	Number of FED Borrowers	Required Reserves	Amount Borrowed
1,000 and over	0.8	2.6	59.4	41.1
500-1,000	0.9	2.8	13.1	19.6
100-500	5.7	16.0	18.1	26.8
50-100	5.7	12.2	4.3	6.6
20-50	18.1	24.1	3.5	4.0
12-20	16.0	14.2	0.9	1.0
7-12	21.4	13.9	0.5	0.6
3-7	23.0	11.6	0.2	0.2
Under 3	8.2	2.6	*	*
Total	100.0	100.0	100.0	100.0
District				
Boston	4.0	8.6	5.1	8.2
New York	6.2	10.6	30.1	23.7
Philadelphia	5.9	4.9	4.1	3.1
Cleveland	8.1	4.5	5.8	3.9
Richmond	6.2	6.4	5.4	5.2
Atlanta	9.2	7.1	5.1	7.3
Chicago	16.2	19.6	13.8	20.0
St. Louis	7.9	6.1	3.0	3.8
Minneapolis	8.4	9.5	2.2	3.1
Kansas City	14.1	13.2	3.6	5.9
Dallas	10.9	6.8	4.0	4.8
San Francisco	2.9	2.7	18.0	11.1
Total	100.0	100.0	100.0	100.0

* Less than 0.1 per cent.

Note: Totals may not add to 100.0 due to rounding.

Table 12-a. Percentage Distribution of Member Banks, Required Reserves, and Amount Borrowed, By Size of Bank and Federal Reserve District, January 1, 1969 through May 31, 1972

Size of Bank (millions of dollars)	Total Number of Banks (Average during period)	Number of FED Borrowers	Required Reserves	Amount Borrowed
1,000 and over	1.0	2.9	57.9	48.6
500-1,000	1.1	3.1	13.6	17.3
100-500	6.2	14.9	18.1	23.6
50-100	6.6	12.7	4.5	4.6
20-50	20.0	24.3	3.8	3.8
12-20	17.6	15.0	1.1	1.1
7-12	20.9	15.1	0.7	0.7
3-7	20.0	9.6	0.2	0.3
Under 3	6.6	2.5	*	0.1
Total	100.0	100.0	100.0	100.0
District				
Boston	4.0	8.0	4.9	8.7
New York	6.0	10.7	29.2	27.9
Philadelphia	5.5	5.5	4.4	3.4
Cleveland	8.1	5.0	6.5	4.5
Richmond	6.3	6.4	5.5	5.4
Atlanta	9.6	6.6	5.4	6.6
Chicago	16.4	19.0	13.7	17.9
St. Louis	7.9	5.5	2.9	2.7
Minneapolis	8.5	9.8	2.2	2.8
Kansas City	14.1	14.6	3.6	5.0
Dallas	11.0	6.5	4.4	4.6
San Francisco	2.7	2.5	17.2	10.6
Total	100.0	100.0	100.0	100.0

* Less than 0.1 per cent.

Note: Totals may not add to 100.0 due to rounding.

Table 12-d. Percentage Distribution of Member Banks, Required Reserves, and Amount Borrowed, By Size of Bank and Federal Reserve District, 1971

Size of Bank (millions of dollars)	Total Number of Banks	Number of FED Borrowers	Required Reserves	Amount Borrowed
1,000 and over	1.1	5.9	70.4	55.9
500-1,000	1.2	4.9	12.3	16.3
100-500	6.6	17.2	12.1	18.0
50-100	7.2	11.9	2.4	4.1
20-50	21.2	20.6	1.9	3.2
12-20	18.7	12.3	0,5	1.2
7-12	20.4	14.8	0.4	0.8
3-7	18.0	9.0	0.1	0.4
Under 3	5.6	3.4	*	0.1
Total	100.0	100.0	100.0	100.0
District				
Boston	4.0	9.7	5.4	11.5
New York	5.9	14.0	34.5	34.8
Philadelphia	5.3	4.4	3.7	4.2
Cleveland	8.2	5.0	5.2	4.3
Richmond	6.3	7.4	6.1	6.9
Atlanta	9.8	6.3	4.0	7.9
Chicago	16.5	20.6	13.7	14.6
St. Louis	8.0	3.4	1.0	0.5
Minneapolis	8.6	7.6	1.3	0.6
Kansas City	13.9	16.3	1.8	2.3
Dallas	11.1	2.7	2.8	2.8
San Francisco	2.6	2.6	20.5	9.5
Total	100.0	100.0	100.0	100.0

*Less than 0.1 per cent.

Note: Totals may not add to 100.0 due to rounding.

Table 12-c. Percentage Distribution of Member Banks, Required Reserves, and Amount Borrowed, By Size of Bank and Federal Reserve District, 1970

Size of Bank (millions of dollars)	Total Number of Banks	Number of FED Borrowers	Required Reserves	Amount Borrowed
1,000 and over	1.0	3.7	63.7	56.5
500-1,000	1.0	3.2	12.9	13.9
100-500	6.0	16.3	15.8	20.9
50-100	6.4	12.0	3.5	3.6
20-50	19.6	22.9	2.8	3.5
12-20	17.0	14.7	0.8	1.1
7-12	21.4	14.7	0.5	0.1
3-7	20.9	9.9	0.1	0.3
Under 3	6.9	2.7	*	0.1
Total	100.0	100.0	100.0	100.0
District				
Boston	4.0	9.1	5.1	8.4
New York	6.1	11.1	31.1	30.5
Philadelphia	5.6	4.3	4.5	3.6
Cleveland	8.1	4.7	6.0	5.8
Richmond	6.3	6.6	5.7	4.9
Atlanta	9.5	5.1	4.2	5.0
Chicago	16.4	20.6	13.6	16.2
St. Louis	8.0	5.6	2.6	1.9
Minneapolis	8.5	9.4	1.9	3.3
Kansas City	14.0	15.2	2.9	4.7
Dallas	11.0	5.5	3.9	5.3
San Francisco	2.7	2.9	18.5	10.5
Total	100.0	100.0	100.0	100.0

* Less than 0.1 per cent.

Note: Totals may not add to 100.0 due to rounding.

Table 13. Selected Assets of Weekly Reporting Member Banks, Borrowers vs. Nonborrowers, By Size of Bank, 1969, 1970 and 1971

Size of Deposits (millions of dollars)	Number of Banks			FED Borrowing as Per Cent of Total	Percentage of Total Assets									
					Total Loans		C&I Loans		U.S. Gov't Securities		U.S. Treasury Bills		Federal Funds Sold	
	Total	FED Borrowers	Non-FED Borrowers		FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers
1969														
1,000 and over	43	39	4	90.7	55.2	52.4	29.0	27.0	6.5	8.8	1.0	1.4	2.0	4.1
500-1,000	54	47	7	87.0	56.1	57.3	22.2	21.6	7.8	8.9	0.7	0.2	1.6	0.9
100-500	218	183	35	83.9	54.0	50.7	19.0	15.2	10.0	14.2	0.5	0.9	1.9	2.5
Total	315	269	46	85.4	55.1	53.0	26.0	20.7	7.4	11.0	0.8	0.9	1.9	2.6
1970														
1,000 and over	48	43	5	89.6	55.0	56.7	28.2	25.0	6.9	8.2	1.3	1.1	2.0	4.0
500-1,000	55	42	13	76.4	55.5	55.4	21.7	20.6	7.8	8.4	0.8	0.5	2.5	2.2
100-500	210	145	65	69.1	53.7	50.4	18.3	18.3	9.4	11.1	0.7	0.9	2.6	3.6
Total	313	230	83	73.5	54.9	53.4	25.7	20.6	7.4	9.6	1.1	0.8	2.2	3.3
1971														
1,000 and over	56	47	9	83.9	52.9	53.3	26.1	22.9	7.1	7.1	1.2	1.1	2.3	4.0
500-1,000	63	47	16	74.6	52.8	53.1	20.6	20.8	8.0	8.7	0.8	0.8	3.0	3.0
100-500	192	129	63	67.2	51.0	48.2	17.4	17.2	9.3	10.8	1.1	1.4	2.9	3.5
Total	311	223	88	71.7	52.6	51.3	24.0	20.2	7.6	8.9	1.1	1.1	2.5	3.6

Source: Weekly Reporting Banks Series. (Annual Averages)

Note: There are 330 banks in the Weekly Reporting sample.

Table 12-e. Percentage Distribution of Member Banks, Required Reserves, and Amount Borrowed, By Size of Bank and Federal Reserve District, January 1 through May 31, 1972

Size of Bank (millions of dollars)	Total Number of Banks	Number of FED Borrowers	Required Reserves	Amount Borrowed
1,000 and over	1.1	8.7	78.1	64.4
500-1,000	1.2	6.3	10.7	10.6
100-500	6.6	15.9	8.7	8.8
50-100	7.3	6.3	0.8	3.6
20-50	21.3	15.3	0.8	4.8
12-20	18.8	15.0	0.4	3.4
7-12	20.4	15.3	0.3	2.4
3-7	17.9	12.6	0.1	1.6
Under 3	5.5	4.7	*	0.4
Total	100.0	100.0	100.0	100.0
District				
Boston	3.9	7.1	4.3	5.7
New York	5.9	20.0	50.0	60.9
Philadelphia	5.3	3.6	1.3	1.4
Cleveland	8.2	2.7	4.0	0.9
Richmond	6.3	9.0	6.3	5.3
Atlanta	9.9	3.6	2.7	2.8
Chicago	16.5	16.4	9.2	9.2
St. Louis	7.6	3.0	0.7	1.0
Minneapolis	8.6	7.9	1.5	1.0
Kansas City	14.3	19.1	2.1	5.7
Dallas	11.1	3.0	1.9	1.3
San Francisco	2.5	4.6	16.2	4.9
Total	100.0	100.0	100.0	100.0

* Less than 0.1 per cent.

Note: Totals may not add to 100.0 due to rounding.

Federal Reserve Board Action	Rate Change (Per Cent)	Lead Banks		Coincident Banks	Lag Banks		New Rate Level (Per Cent)
		Number of Banks	Number of Days	Number of Banks	Number of Banks	Number of Days	
1. January 15, 1953	+1/4	4		4	4		2
		2	7		2	4	
		1	3		2	7	
		1	1				
2. February 4, 1954	-1/4	1					1-3/4
		1	1	5	6		
					1	4	
					5	7	
3. April 13, 1954	-1/4	1		0	11		1-1/2
		1	5		2	2	
					3	9	
					1	10	
					1	13	
					1	15	
					2	31	
					1	37	
4. April 13, 1955	+1/4	0	-	1	11		1-3/4
					7	1	
					1	7	
					2	8	
					1	15	
5. August 3, 1955	+1/4	2		2	7		2
		1	6		5	1	
		1	2		1	2	
					1	8	
	+1/2	1		-	-		2-1/4
		1	7				
6. August 25, 1955	+1/4	0		1	10		2-1/4
					1	4	
					1	7	
					1	13	
					5	14	
					1	15	
					1	18	
7. November 17, 1955	+1/4	0	-	6	6		2-1/2
					2	1	
					3	4	
					1	5	
8. April 12, 1956	+1/4	3		6	1		2-3/4
		1	10		1	7	
		1	7				
		1	3				
	+1/2	1		1			3
		1	1				
9. August 23, 1956	+1/4	1		3	6		3
		1	7		1	1	
					4	4	
					1	7	
10. August 8, 1957	+1/2	0		4	8		3-1/2
					3	4	
					1	6	
					1	8	
					1	11	
					2	14	
11. November 14, 1957	-1/2	0	-	4	8		3
					1	4	
Divided Board					3	7	
Yes 4					3	13	
No 1					1	15	
12. January 21, 1958	-1/4	1		0	10		2-3/4
		1	5		6	2	
					2	6	
Divided Board					1	16	
Yes 4					1	23	
No 2							

Table 14. Selected Liabilities of Weekly Reporting Member Banks, Borrowers vs. Nonborrowers, By Size of Bank, 1969, 1970, and 1971

Size of Deposits (millions of dollars)	Number of Banks			FED Borrowing as Per Cent of Total	Percentage of Total Liabilities								
					FED Borrowings	Other Borrowings		Federal Funds Purchased		Total CD's (over $100,000)		CD's issued to others (over $100,000)	
	Total	FED Borrowers	Non-FED Borrowers		Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers	FED Borrowers	Non-FED Borrowers
1969													
1,000 and over	43	39	4	90.7	0.2	1.0	2.3	6.0	11.7	3.9	4.7	2.0	0.7
500-1,000	54	47	7	87.0	0.5	1.2	0.1	6.2	2.3	4.9	5.1	2.0	1.9
100-500	218	183	35	83.9	0.4	0.6	0.4	3.6	2.1	4.8	5.1	1.8	1.5
Total	315	269	46	85.4	0.3	1.0	0.9	5.6	5.3	4.2	5.0	2.0	1.4
1970													
1,000 and over	48	43	5	89.6	0.2	0.8	1.2	6.6	9.0	6.2	7.2	3.0	3.2
500-1,000	55	42	13	76.4	0.2	1.0	0.4	6.6	3.3	6.2	7.6	2.5	3.3
100-500	210	145	65	69.1	0.2	0.4	0.3	3.9	4.0	5.7	6.7	2.3	2.4
Total	313	230	83	73.5	0.2	0.7	0.5	6.1	5.0	6.1	7.1	2.8	2.9
1971													
1,000 and over	56	47	9	83.9	0.2	0.3	0.2	7.3	9.9	10.2	9.8	3.7	4.6
500-1,000	63	47	16	74.6	0.1	0.5	0.5	7.7	4.8	9.2	10.6	4.0	4.0
100-500	192	129	63	67.2	0.1	0.3	0.2	3.9	3.9	6.8	7.8	3.0	3.3
Total	311	223	88	71.7	0.2	0.3	0.3	6.8	6.3	9.6	9.3	3.7	4.0

Source: Weekly Reporting Banks Series. (Annual Averages)

Note: There are 330 banks in the Weekly Reporting sample.

Federal Reserve Board Action	Rate Change (Per Cent)	Lead Banks		Coincident Banks	Lag Banks		New Rate Level (Per Cent)
		Number of Banks	Number of Days	Number of Banks	Number of Banks	Number of Days	
26. November 18, 1967	+1/2	2		3	7		4-1/2
		1	9		3	1	
		1	2		3	2	
					1	6	
27. March 14, 1968	+1/2	2		8	2		5
		1	7		1	1	
		1	3		1	7	
28. April 18, 1968	+1/2	0		6	6		5-1/2
					1	1	
					5	7	
29. August 15, 1968	-1/4	0		1	11		5-1/4
					1	1	
					4	7	
					2	11	
					4	14	
30. December 17, 1968	+1/4	7		3	2		5-1/2
		4	5		2	2	
		3	4				
31. April 3, 1969	+1/2	8		3	1		6
		3	21				
		1	16				
		2	6				
		2	1				
32. November 10, 1970	-1/4	2		4	6		5-3/4
		1	8		4	2	
		1	1		2	3	
33. November 30, 1970	-1/4	5		0	7		5-1/2
		1	14		3	3	
		1	6		1	9	
		2	5		3	10	
		1	3				
34. January 1, 1971	-1/4	3		7	2		5-1/4
		1	24		1	1	
		1	8		1	7	
		1	1				
35. January 18, 1971	-1/4	3		3	6		5
		1	7		1	2	
		1	4		2	3	
		1	3		3	10	
36. February 12, 1971	-1/4	10		1	1		4-3/4
		1	22				
		1	15				
		1	8				
		1	4				
		6	1				
37. July 15, 1971	+1/4	1		3	8		5
		1	7		3	1	
					5	7	
38. November 10, 1971	-1/4	3		4	5		4-3/4
		1	6		3	1	
		2	1		1	2	
					1	8	
39. December 10, 1971	-1/4	3		1	8		4-1/2
		3	1		4	6	
					2	12	
					2	13	

Note: "Lead Banks" include those Federal Reserve Banks whose Boards proposed discount rate changes at least one (1) day prior to the date on which the Federal Reserve Board approved a rate change. "Coincident Banks" are those whose Boards acted on the same day the Federal Reserve Board approved a rate change. "Lag Banks" include those whose Boards acted at least one (1) day after the Federal Reserve Board approved a rate change.

Federal Reserve Board Action	Rate Change (Per Cent)	Lead Banks: Number of Banks	Lead Banks: Number of Days	Coincident Banks: Number of Banks	Lag Banks: Number of Banks	Lag Banks: Number of Days	New Rate Level (Per Cent)
13. March 6, 1958	-1/2	0	-	3	8		2-1/4
					1	1	
					1	4	
					5	7	
					1	14	
	-3/4	0		0	1		2-/4
					1	6	
14. April 17, 1958	-1/2	0		5	7		1-3/4
					2	4	
					3	7	
					1	13	
					1	21	
15. August 14, 1958	+1/4	1		0	11		2
		1	1		1	7	
					1	11	
					1	14	
					2	21	
					4	28	
					1	35	
					1	39	
16. October 23, 1958	+1/2	0		5	7		2-1/2
					1	4	
					1	6	
					1	7	
					2	11	
					1	13	
					1	14	
17. March 5, 1959	+1/2	0		4	8		3
					1	4	
					1	6	
					4	7	
					2	8	
18. May 28, 1959	+1/2	0		5	7		3-1/2
					2	4	
					2	7	
					1	13	
					2	14	
19. September 10, 1959	+1/2	0		8	4		4
					3	1	
					1	7	
20. June 2, 1960	-1/2	0		2	10		3-1/2
					8	7	
					1	8	
					1	11	
21. August 11, 1960	-1/2	0		4	8		3
					1	1	
					1	4	
					3	7	
					1	10	
					1	21	
					1	28	
22. July 16, 1963	+1/2	7		0	5		3-1/2
Divided Board		1	6		3	2	
Yes 3		6	5		1	7	
No 1					1	9	
23. November 23, 1964	+1/2	0		5	7		4
Divided Board					1	1	
Yes 5					4	2	
No 1					2	4	
24. December 3, 1965	+1/2	2					4-1/2
Divided Board		2	1	0	10		
Yes 4					2	3	
No 3					7	6	
					1	7	
25. April 6, 1967	-1/2	1					4
		1	1	9	2		
					1	1	
					1	7	