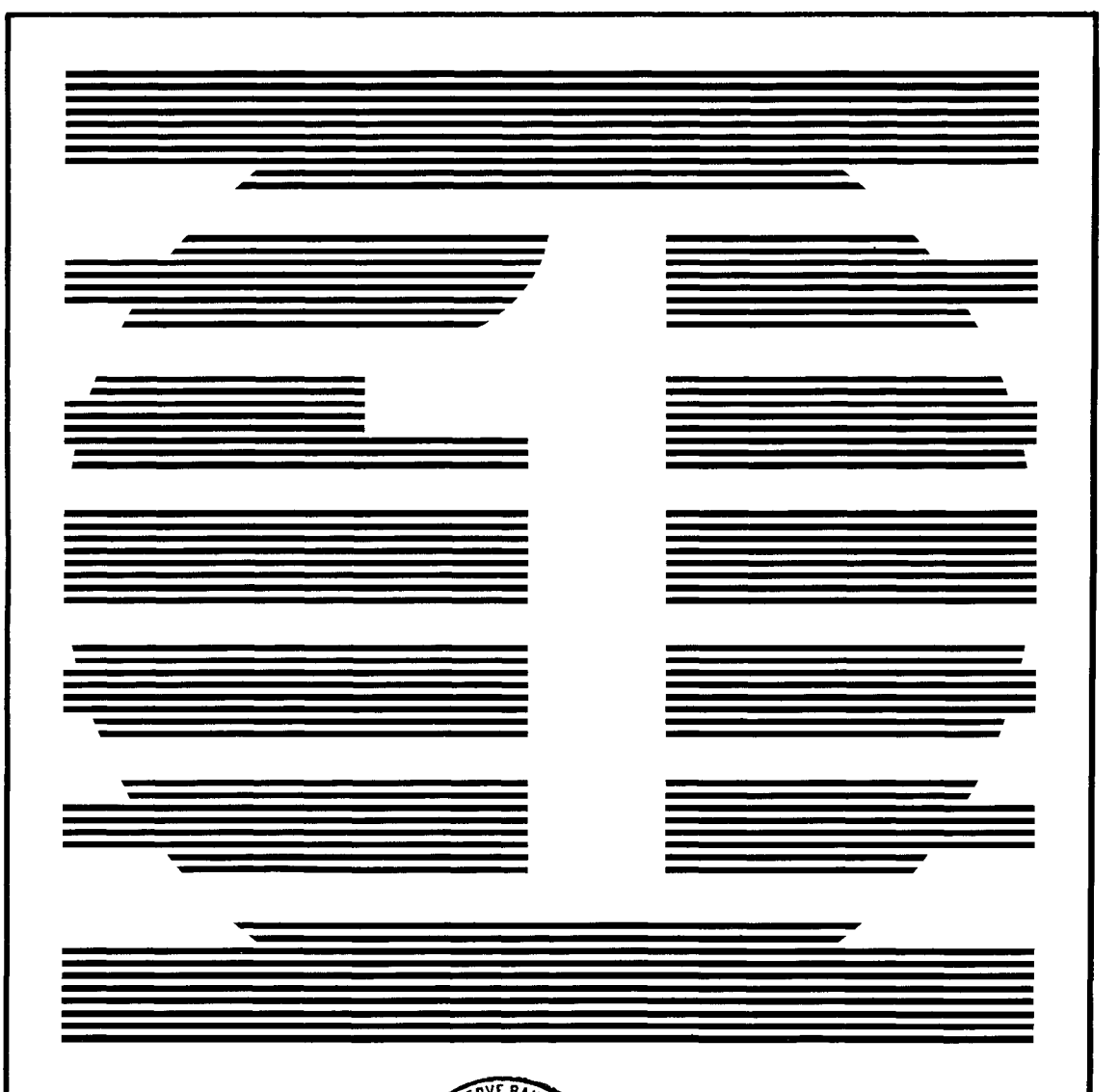
Volume 1

REAPPRAISAL OF THE FEDERAL RESERVE DISCOUNT MECHANISM



Board of Governors of the Federal Reserve System

PREFACE

The following report sets forth the conclusions and recommendations of a System steering committee appointed to reappraise and, where necessary, recommend redesign of Federal Reserve lending facilities. This report is the result of a three-year System-wide study. The proposals for the redesign of the discount mechanism are the product of a combination of research, experience, and judgment on the part of those involved in the study.

The Steering Committee, made up of members of the Board of Governors and Presidents of Federal Reserve Banks, was chaired by Governor George W. Mitchell. Other members included Governors Sherman J. Maisel and William W. Sherrill and Presidents Karl R. Bopp of Philadelphia, Edward A. Wayne of Richmond, Charles J. Scanlon of Chicago, and George H. Clay of Kansas City. Governor Charles N. Shepardson and President Harry A. Shuford of St. Louis served as earlier members of the Steering Committee until their respective retirements from the System, and William McC. Martin, Jr., Chairman, Board of Governors of the Federal Reserve System, served as a member of the committee, *ex officio*.

A staff Secretariat had the responsibility for developing proposals for Steering Committee review, and implementing the study outline as determined by the parent committee. This group was chaired by Mr. Robert C. Holland, Secretary of the Board. Serving on the Secretariat were Mr. Harold Bilby, Vice President and Senior Adviser of the New York Reserve Bank, Mr. David C. Melnicoff, Vice President and chief lending officer of the Philadelphia Reserve Bank, Mr. M. H. Strothman, Jr., First Vice President of the Minneapolis Bank, Mr. Philip E. Coldwell, now President of the Dallas Bank, and Mr. A. B. Merritt, First Vice President of the San Francisco Bank. Representing the Board staff were Mr. Howard Hackley, Assistant to the Board, Mr. John Farrell, Director of the Division of Bank Operations, and Mr. Frederic Solomon, Director of the Division of Bank Examinations. Prior to his retirement, Mr. Ralph A. Young, Senior Adviser to the Board and Director, Division of International Finance, also served on the Secretariat.

Mr. Bernard Shull of the Division of Research and Statistics was a member of this group and also served as Director of Research Projects with primary responsibility for the implementation and coordination of research activity in connection with the study. Miss Priscilla Ormsby was Secretary for the Secretariat. Others who contributed to the work of the Committee were: Mr. George Garvy, New York; Mr. Edward A. Aff, Philadelphia; Mr. Kyle K. Fossum, Minneapolis; Mr. T. R. Plant, Dallas; Mr. John B. Williams, San Francisco; and Mr. Brenton C. Leavitt, Mr. James C. Smith, Mr. Robert Forrestal, Mr. Walter Doyle, Mr. John Kiley, and Mr. Robert Gemmill, all of the Board staff. Special note should be made of the study of discount mechanisms in other major industrialized countries, an extensive review of foreign experience under the direction of Mr. George Garvy.

Several academic scholars also contributed to the Committee's deliberations through conferences and writings. These efforts were organized by Professor Lester V. Chandler, Chairman, Department of Economics, Princeton University, and Academic Consultant to the Discount Study.

The Board is indebted to those named above and to numerous others who have cooperated in the activities of this important and far-reaching study, culminating in the preparation of the final report.

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Volume 1

REAPPRAISAL OF THE FEDERAL RESERVE DISCOUNT MECHANISM

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Governor Sherman J. Maisel
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REPORT OF A SYSTEM COMMITTEE

I. SUMMARY OF THE PROPOSED REDESIGN OF THE DISCOUNT WINDOW

The proposed redesign of the discount mechanism has as its chief objective increased use of the discount window for the purpose of facilitating short-term adjustments in bank reserve positions. A more liberal and convenient mechanism should enable individual member banks to adjust to changes in fund availability in a more orderly fashion and, in so doing, should lessen some of the causes of instability in financial markets without hampering overall monetary control.

Central bank lending operations can provide funds to individual banks on either of two bases—continuous or intermittent. In the first case, banks are always in debt to the central bank, and the discount rate is varied in accordance with economic conditions to affect indirectly bank lending terms and prices. But the bulk of monetary influence is exercised by the imposition on the lending policies of commercial banks of such restrictions as the central bank believes suitable to the environment. This system, with variations, is typical of many foreign countries.

In the United States, on the other hand, banks in recent decades have not been, and, in the view of this report, should not be, permitted to remain continuously in debt to the Federal Reserve. Given the highly developed character of the U.S. economy and its financial structure, open market operations in Government securities by the central bank serve effectively as the preponderant means of secular reserve provision and the leading edge of monetary policy implementation. The role of the discount mechanism, on the other hand, is to cushion the strains of reserve adjustment for individual member banks and, thereby, for financial markets. In this context the discount window can beneficially assume an increased part of the burdens of intramonthly and seasonal reserve adjustments which are currently borne by open market operations. This increased use should come about both as credit is provided more liberally to individual banks faced with these adjustment needs and as increased numbers of banks are led to regard the window as a useful source of temporary or seasonal funds.

Two major and interrelated changes are included in the general design of the proposed discount window. These are: (1) a move toward more objectively defined terms and conditions for discounting; and (2) the inclusion of several complementary arrangements for borrowing at the window, each designed to provide credit for a specific type of need. These changes look forward to a generally higher level of borrowing being done by a rotating sample of member banks. However, such a higher level of borrowing would not mean a corresponding increase in total reserves, since increased borrowing would be expected to be about offset by correspondingly smaller net System purchases of securities in the open market.

The first of these changes will be accomplished by introducing specific quantity and frequency limitations on a part of borrowing and by increased reliance on the discount rate. These moves will permit a clearer and more unequivocal communication of discounting standards and limitations to member banks and will help to insure uniformity of window operation among districts and among banks.

No one of these types of controls can be expected to bear the entire burden of regulating discount-window use, however. The rate charged on borrowing, while normally expected to have a significant influence on a bank's use of the window, is not a dependable deterrent to excessive borrowing under pressure and, at the extreme, may actually become only a minor consideration. Limitations on the quantity and frequency of borrowing would also prove inadequate alone as methods of controlling borrowing. It would be impossible to construct a matrix of limitations a priori in such a way that they exactly accommodate, no more and no less, the varying and often unforeseeable needs of member banks for discount credit. For these reasons, the move toward objectively defined terms and conditions for lending at the window, important as it is seen to be, cannot be completely sufficient. Only through the application of administrative judgment over some part of the borrowing done at the window can the System adequately accommodate the widely differing needs of individual member banks, while at the same time maintaining the necessary monetary control.

The proposed redesign contains varied arrangements for the Federal Reserve to provide short-term adjustment credit, seasonal credit, and emergency credit. Short-term adjustment credit is further divided into the "basic borrowing privilege"—which provides credit on an automatic basis, within specified limits on amount and duration, to all member banks meeting the conditions specified in Section III—and other adjustment credit. The latter is available, under administrative control, to meet needs larger in amount or longer in duration than can be accommodated under the basic borrowing privilege. Seasonal credit will be provided to accommodate recurring demands over and above a minimum relative amount, for such amounts and duration as the applying member bank is able to demonstrate a need.

The redesigned discount window provides that the Federal Reserve will continue to supply liberal help to its member banks in general or isolated emergency situations. In addition, the redesigned window recognizes, and provides for, the necessity that—in its role as lender of last resort to other sectors of the economy—the Federal Reserve stand ready, under extreme conditions, to provide circumscribed credit assistance to a broader spectrum of financial institutions than member banks.

Each of these various types of credit accommodation, as well as the issue of discount rate policy, is discussed in some detail in later sections of this report.

II. BACKGROUND OF THE PROPOSED REDESIGN OF THE DISCOUNT WINDOW

A. Scope of the study

The Fundamental Reappraisal of the Discount Mechanism was launched in mid-1965. The study has involved a review of the effectiveness of the current discount mechanism, an appraisal of the extent to which operating rules might need to be altered in view of the changing economic

environment, and the formulation of specific proposals for implementing such changes as were found to be desirable.

The study has been under the over-all direction of a Steering Committee made up of three members of the Board of Governors and Presidents of four of the Federal Reserve Banks. Under this Steering Committee, a staff Secretariat was responsible for developing proposals for Steering Committee review and implementing the study outline as determined by the parent committee.

Over 20 individual research projects commissioned by the Committee provided historical perspective and quantitative and theoretical background for considering policy alternatives. Most of these projects were undertaken by members of the research staffs of the Board of Governors and the Reserve Banks, although several papers were also prepared by academic economists. Central bank lending experience was reviewed closely, both in the United States and in other major industrialized countries of the world. The System also had the benefit of a survey by the American Bankers Association of bank attitudes toward borrowing.

Drawing upon the results of this research, as well as ideas and suggestions from System personnel, bankers, and academic and other economists outside the System, the staff Secretariat formulated specific proposals for the redesign of the discount window. These proposals, with amendments and refinements growing out of further discussion within the Steering Committee and among other System personnel, are presented in this document.

B. Historical summary of the role of the discount window

The Federal Reserve Act in its original form contemplated use of the discount mechanism as the principal tool of central bank policy. In fact, the proportion of total reserves supplied via discounting never fell below 37 per cent during the 1920's and reached a peak of more than 80 per cent in 1921. During the 1920's, however, open market operations gradually but steadily began to displace discounting as a means of supplying reserves to the banking system. This trend was interrupted in the years 1928–30 and 1932–33, when discounting was relied upon heavily by many member banks to assist in their adjustments to the financial pressures that developed in those periods. After 1934, borrowing fell to negligible levels as banks became extremely liquid, reflecting a number of influences including enhanced wariness of indebtedness in any form, sizable reserve injections from gold inflows, and the liberal and increasingly sophisticated use of contracyclical open market operations. Throughout the 1940's the excess reserves accumulated during the middle and late 1930's and Federal Reserve purchases of U.S. Government securities at pegged prices provided ample reserve funds to meet wartime and postwar needs, and discounting activity was minimal.

The Treasury–Federal Reserve accord in March of 1951 freed the Government securities market from pegged rates, at a time when private demands for credit were strong. The immediate result was an upsurge in discounting activity—although still only to a monthly peak of $1.6 billion, or about 7 per cent of total reserves, in December of 1952. This increase was attributable in part to heavy loan demand but perhaps more significantly to the profitability of borrowing under the provisions of the excess profits tax temporarily in effect. In ensuing years credit demands eased, and the Government securities market continued to develop to an extent which per-

mitted effective implementation of the bulk of policy decisions through System purchases and sales of these assets. At the same time, most banks held ample supplies of these liquid securities; such holdings were an aftermath of war financing and enabled banks to make most adjustments in their reserve positions by selling Government securities in a generally efficient and flexible market.

Thus, despite the abandonment of the open market policy of pegging rates in effect before the accord, the discount window continued to serve only a marginal role as a supplier of reserves. It provided banks with assistance over the peaks of temporary, emergency, or seasonal needs for funds that exceeded the dimensions that the banks themselves were capable of reasonably meeting out of their own resources. To reinforce a policy of limited bank use of the discount window, the 1955 revision of Regulation A was issued, placing chief reliance upon bank reluctance to borrow, buttressed as and where necessary by disciplinary contacts by discount officers. Given this kind of discount policy, open market operations could be undertaken with a new degree of vigor and precision, secure in the knowledge that only marginal reserve additions would be introduced through the discount window. The chart on page 5 shows the amounts of Federal Reserve credit supplied by each of the three possible means—open market operations, discounting, and float—over the years, and Table 1 shows the relative proportions supplied by each for selected periods.

In the ensuing years, the discount window has been of less and less day-to-day significance in the operation of the monetary system, as banks have increasingly turned elsewhere to meet their short-term reserve needs. Even in this marginal role, the window has continued to fill needs which can be met in no other way. Distributive mechanisms among both economic and geographic sectors in the United States are often imperfect and in some cases clearly inadequate. This results in problems of reserve distribution which the Federal Reserve can compensate for only through a technique such as discounting. The window can meet the temporary needs of particular banks directly as they arise, without waiting for the sometimes sluggish distributive mechanisms to carry credit injected into the central money market to the point of actual need.

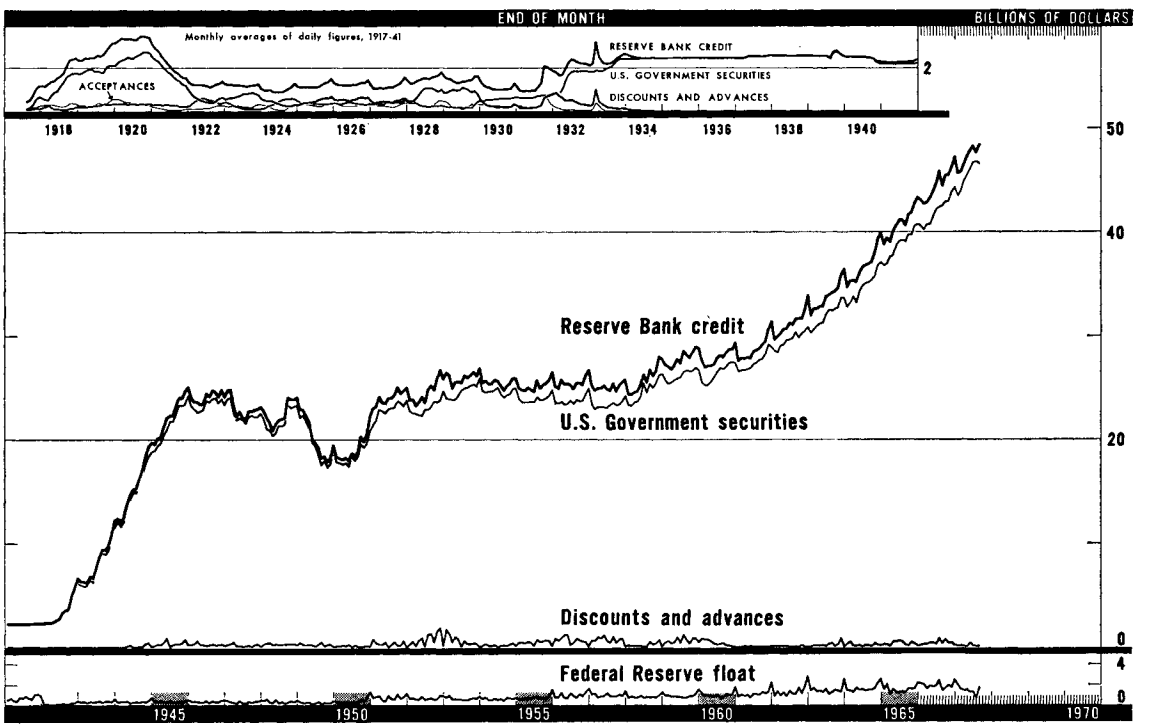
Discounting can also serve as an important adjunct to open market operations in the implementation of monetary policy. It is often difficult to determine in advance the exact degree of stringency which a given level of open market operations will create in the banking system as a whole, and virtually impossible to predict its impact on any single bank or group of banks. The existence of the discount mechanism, however, provides a means for individual banks to cushion temporarily the impact of such policy moves and therefore enables the Trading Desk of the Federal Reserve Bank of New York to carry out the System's open market operations more aggressively than would otherwise be practicable. In addition,

TABLE 1

SOURCES OF RESERVE BANK CREDIT
(Percentage of total)

Period	Open market operations	Discounting	Float	Total
1920–27	37	59	4	100
1928–33	65	33	2	100
1934–44	96	1	3	100
1945–50	97	1	2	100
1951–53	95	2	3	100
1954–59	95	2	3	100
1960–66	95	1	4	100

RESERVE BANK CREDIT



the level and dispersion of borrowing serves as a meter of disaggregated market forces and financial pressures, providing increased certainty in the implementation of monetary policy.

Apart from these functions of the discount mechanism largely concerned with reserve creation, the window provides a unique vehicle for direct communication between Reserve Banks and member banks. It has the potential to make an invaluable contribution to bankers' understanding of monetary trends and thus to their appreciation of and cooperation with Federal Reserve policies and actions.

C. Need for an appropriately redesigned discount window

Short-term and seasonal fluctuations in loans and deposits are fundamental facts of commercial banking. They can be relatively large for individual banks and, in the absence of readily available and efficient means of adjustment, can cause problems not only for individual bank managements but also for the smooth functioning of the entire financial system.

Banks' difficulties in adjusting to such fluctuations in their funds are compounded by several factors. The U.S. banking system is composed of a very large number of individual institutions, each of which is subject to a variety of short-term pressures. In the net aggregate, these pressures may not normally appear severe. However, the gross size and distribution of swings in fund flows can produce abrupt pressures on individual banks for which they can prepare only at the cost of excessive liquidity and a significant limitation on the credit resources they make available to their communities. More-

over, the liquidity instruments used are dependent on financial markets and mechanisms which often do not function with sufficient speed and elasticity to guarantee that a bank can always effect its desired adjustments through these means. And not all member banks have adequate access to such markets.

In those periods when all banks held sizable volumes of liquid Government securities, they were able to effect their adjustments easily in the highly developed and almost universally accessible secondary market for these assets, and liquidity problems were of little concern. Since World War II, however, non-Federal debt has generally increased far more rapidly than Federal debt, and bank portfolios have reflected this trend. The supplies of liquid assets available for reserve adjustment have been further curtailed by the rise in the total of public deposits which must be collateralized by the hypothecation of specified kinds of assets, most of which are fairly liquid.

As banks in recent years have placed a much larger share of their resources into municipal obligations and into business, consumer, and mortgage loans, their supply of readily salable assets has been less and less of a cushion against unexpected deposit fluctuations. Part of the answer to this problem has been found in the sale of such portfolio assets. Secondary markets for these assets are decidedly inferior to the Government securities market, however; they range from the municipal bond market—fairly well developed at least for the bonds of larger and better-known municipalities, but subject to large price fluctuations—to those for conventional mortgages and agricultural paper —rudimentary or virtually nonexistent.

More striking has been increasing bank resort to the issuance of short-term liquid liabilities. This trend can be seen in the rapid growth of the Federal funds market, the issuance of marketable certificates of deposit and debentures, and the increasingly heavy reliance of some money market banks on the Euro-dollar market. All of these latter devices, by whatever name they are known, are quite likely to be largely outside the orbit of the bank's service area and thus different from the normal demand and savings deposits obtained in that area. Some of the smaller, more isolated banks do not, and in considerable measure cannot, effectively tap these sources of funds. Such banks therefore tend to hold a sizable proportion of their assets in liquid form and as a result may be providing less credit to their communities than would be desirable.

This increased willingness on the part of banks to borrow from other sources has not been accompanied, however, by a parallel increase in borrowing at the discount window. A considerable reluctance to borrow from the central bank has in fact been maintained, largely through the application of the current Regulation A, which emphasizes that banks should resort to borrowing from the Federal Reserve only on a short-term basis when other sources of funds fall short of their appropriate needs.

Thus the present window continues to serve well to hold the volume of reserve additions introduced through borrowing to a minimum. However, with short-term reserve needs of individual banks persisting and in many cases growing, and the historically important methods of meeting these needs declining in usefulness, very low totals of borrowing from the Federal Reserve are no longer consistent with optimum performance of the banking system.

Complicating these problems arising from the changing financial environment has been the fact that the current administration of

the discount window has not been well understood by many commercial bankers. Failure of the Federal Reserve to communicate clearly, consistently, and unambiguously with member banks regarding the availability of discount–window accommodation has caused many of these banks to view this as an uncertain source of credit. In addition, occasional Federal Reserve counsel as to what would be regarded as appropriate adjustments for borrowing banks has led many banks to regard the window as having too great a potential for interfering with bank management decisions. As a result, many banks having temporary needs for funds often make adjustments by more costly, less efficient avenues than that afforded through the discount window, sometimes to the detriment of adequate credit availability for their local communities.

Furthermore, the design and language of the current Regulation A, relying as it does primarily upon bank reluctance to borrow and, where necessary, administrative actions by the Federal Reserve, provides considerable opportunity for differences in administration from one district to another and from one case to another. Many of the apparent nonuniformities of administration are considered justified, since no two borrowing cases are identical and actions must be adapted to fit the differing circumstances of borrowing banks. However, comments of participants in borrowing transactions and such objective evidence as can be brought to bear argue that at times such administrative differences have been greater than could be explained by differing circumstances of individual banks.

What emerges from this review is a picture of a Federal Reserve discount mechanism which must be modernized and redesigned if it is to play a significant role in the changing financial environment. It is believed that the redesign of the discount window herein proposed can bring the mechanism into closer touch with the prevailing economic climate and lead to a more effectively functioning member banking system.

III. SHORT-TERM ADJUSTMENT CREDIT

The adjustment action initiated by banks in financial markets in response to temporary loan and deposit fluctuations can at times contribute to excessive short-run market instability, particularly since the precise timing and amplitude of temporary swings are not predictable. In addition, short-run fluctuations in loans and deposits give rise to operations that impair to some extent the efficient operation of the financial system. The impairment is the result of otherwise needless transactions which commercial bank managers must conduct in order to maintain a margin of liquidity sufficient to meet unforeseen swings. If the adjustment alternatives open to the bank are limited in number and availability, this liquidity margin may have to be disproportionately large or costly in terms of foregone yield or potential capital loss on security sales.

For those reasons, one of the basic functions of the Federal Reserve System has been to provide temporary additions to commercial bank reserves through loans to member banks, in order to cushion the process of adjustment within the financial mechanism. Such credit accommodation undoubtedly leads to somewhat wider short-run fluctuations in aggregate reserves; but such movements, usually quickly reversed,

are regarded as less destabilizing than the fluctuations in pressures on financial markets and institutions that would otherwise result.

A. Basic borrowing privilege

A key objective of the proposed redesign of the discount mechanism is to formalize the terms of limited and temporary access to the window through the establishment of a "basic borrowing privilege" for each member bank unless and until otherwise notified. A basic borrowing privilege is defined as access to Federal Reserve credit by member banks upon request through the discount window within the limits of the law and according to precisely stated limits on amounts and frequency. To some extent, these borrowing privileges represent a formalization of the existing practice of providing temporary credit over a period of time whenever requested by member banks, but under existing practices neither the amount nor the duration of such limits is specified in the Regulation.

Through a basic-borrowing-privilege arrangement, however, the Federal Reserve would make unambiguously clear to member banks the terms of their access to this type of temporary credit. With clearly defined, precisely stated limits, a high degree of uniformity of administration of the basic borrowing privilege should be assured to all member banks.

The explicit nature of the borrowing privilege arrangement will enable member banks to use the Federal Reserve discount window more readily when they need funds for short-term adjustment purposes and find no more convenient alternatives at hand at comparable cost. This facet of the redesigned mechanism should be particularly attractive to the great majority of small member banks that currently make no recourse to the discount window.

The Federal Reserve does not now provide permanent additions to the loanable funds of individual banks through the discount window, and the proposal herein advanced does not alter that fundamental principle. Therefore, it is necessary to impose some limitation on the frequency and duration of credit provided to a member bank through a basic borrowing privilege. The recommended operational objective is for temporary credit accommodation to be extended over a long enough period to cushion short-term fluctuations and permit orderly adjustment to longer-term movements; but not for so long as to invite procrastination in the making of needed adjustments by individual borrowing banks or to delay unduly the response of the banking system to a change in general monetary policy.

On the basis of extensive review of past bank balance sheet fluctuations and borrowing patterns, the Steering Committee has concluded that the above objective is appropriately served by the following limitation: a bank shall not be empowered to draw on its basic borrowing privilege if such borrowing would cause it to be indebted to its Federal Reserve Bank (within or in excess of its basic borrowing privilege, but excluding any use of its seasonal borrowing privilege as provided on pages 14–16) in more than—(6–13) out of the last —(13–26) reserve periods.[1] The—(13–26) period interval is conceived of as a moving span; hence, eligibility for temporary adjustment

[1] The ranges indicated here and below extend from those limitations felt to provide the minimum meaningful assistance to member banks to the maximums believed compatible with the aims of monetary management. Final choices of limitations within these ranges will be made on the basis of experience and further deliberations.

credit under the basic borrowing privilege in the current reserve period is based upon adjustment borrowing frequency (both within a bank's basic borrowing privilege and in excess of that amount) during the immediately preceding — (12–25) periods.

The total amount of credit available to member banks—through the temporary adjustment credit program as well as through other types of borrowing at the discount window—must also be controllable if over-all objectives of monetary policy are to be achieved. In determining the maximum credit exposure which could be tolerated, consideration must be given not only to the absolute amount of credit provided but also to the potential fluctuations in borrowing from reserve period to reserve period. The recommended operational objective is for basic borrowing privileges to be large enough individually to be significant to each member bank, and large enough in the aggregate to cushion a significant part of the swings in market factors affecting reserves, but not so large in total as to exceed the capacity of open market operations to offset any excessive reserve creation or destruction resulting from the total of coincident bank drawing on or repayment of their basic borrowing privileges.

From the point of view of equity and efficient administration, the distribution of the sum total of borrowing privileges among banks needs to be simple and fairly stable, based on a formula that is easily verified and related in some reasonable way to the needs and creditworthiness of the borrowing bank. All things considered, the most practical method of establishing the basic borrowing privilege is deemed to be as a fixed percentage of each bank's capital stock and surplus. The combined total of a bank's capital stock and surplus is a conventional measure of its ability to service and repay indebtedness. Furthermore, it is a relatively stable item, and changes therein are promptly reported to the Reserve Banks in connection with the required purchases of Federal Reserve stock. Moreover, use of capital stock and surplus as a base discriminates least against newly organized banks in their access to the basic borrowing privilege.

The distribution of basic-borrowing-privilege access among member banks might, at first glance, seem to be most equitably accomplished by according the same percentage of capital stock and surplus to all; however, the practicalities of a manageable swing in aggregate credits and of vast differences in bank size argue for higher percentage limits on the basic borrowing privilege of small banks than on that of large banks. A constant percentage constraint applied to all banks which would result in a tolerable total credit exposure would provide so little credit to small banks that the program would be of relatively little use to them. If the percentage limit were increased uniformly so as to provide a reasonable amount of credit to most banks, the aggregate basic borrowing privilege would be excessive and could jeopardize the ability of the Federal Reserve System to meet its monetary policy objectives.

Analytical evidence also supports such a distinction. Studies have confirmed that, while the largest banks often experience wide deposit fiuctutaions on a very short-time basis, small banks tend to face relatively larger fluctuations over periods of several weeks or longer than do large banks. This results in the main from their more limited opportunities for geographic and functional diversification of depositors. Though the empirical work done on the asset side is thus far less extensive, these same considerations would almost certainly apply

to loan totals. An inverse relationship between loan and deposit changes may be traced to the fact that both bank borrowers and depositors are influenced by common or related factors.

On the other hand, large banks needing to borrow funds to meet temporary outflows have more ready access to money market sources here and even abroad. They generally have more and cheaper alternatives because of their proximity to corporate, institutional, and governmental lenders of funds, the continuous information flow between themselves and these lenders, the ability and initiative of many of their specialized money managers, and finally their ability to tailor liability offerings to the size and maturity preferences of a wide range of customers.

These considerations indicate that large banks have, on the whole, less relative need for and greater access to external sources of credit and therefore have less relative need for assured short-term credit accommodation from the Federal Reserve.

Given all these considerations, and after review of the historical borrowing experience of various classes of banks, the Steering Committee recommends granting to each qualified member bank a basic borrowing privilege, measured by reserve period averages, equal to the following proportions of the bank's total capital stock and surplus:—(20–40) per cent on the first $1 million; —(10–20) per cent on amounts between $1 million and $10 million; and —(10) per cent on amounts in excess of $10 million.

Although the maximum credit extension which could currently result under this plan, again a reserve-period-average basis, is estimated as approximately —($2.5–$3.8) billion, the credit actually extended under the basic borrowing privilege would almost certainly be significantly less than this figure. Because of the diversity of fund flows among banks and the restriction on frequency of use discussed above, not all banks should be expected to be making full use of their basic borrowing privileges in the same reserve period.

The initial quantitative limitations suggested above may well need to be adjusted from time to time as experience with the use of the basic borrowing privilege develops. It is not intended, however, that such limitations should be changed so frequently as to disturb orderly bank planning for the utilization of such privileges in the course of reserve adjustment operations.

While temporary adjustment credit under the basic–borrowing–privilege program is to be generally available upon request, it is necessary to impose two specific qualifying conditions in addition to those general conditions arising from statute. First a bank, to be entitled to use of its basic borrowing privilege, must be in satisfactory internal condition. Otherwise access to discount window credit will be subject to administrative review. In such cases the Reserve Bank will determine the over-all condition of the bank, taking into consideration capital adequacy, soundness of loans, liquidity, and quality of management. If the Reserve Bank, after taking into account all these factors, judges that the bank's over-all condition is too poor to warrant access to discount credit without administrative review, that bank's basic borrowing privilege will be withdrawn until sufficient improvement is shown in its condition. During that interval, any adjustment borrowing which the bank undertakes at the discount window would be immediately subject to administrative review. Notification of such withdrawal would be given in timely

fashion, and in the absence of such direct notification, a bank would be able to rely on assured access to discount credit so long as it stayed within the previously defined limits on amount and frequency.

The second qualifying condition is an administrative rule that a bank borrowing under its basic borrowing privilege refrain from simultaneously providing net new funds to the money market—specifically, aside from possible infrequent transactions that result from miscalculations or large, unforeseen movements in the bank's position, it should not be a net seller of Federal funds in the same reserve period in which it is borrowing from a Reserve Bank. This restriction, a continuation of a policy already in force, is retained to preclude a large day-to-day retailing operation in Federal Reserve credit obtained through the discount window. It is recognized that banks could undertake to accomplish much the same purpose by resort to more indirect means, but currently the funds market is the only vehicle that can handle extensions of credit among banks on very short notice near the ends of reserve periods, when banks would probably be most interested in doing so. If obvious practices of circuitous transfers of credit in evasion of this provision should develop, consideration will be given to broadening and strengthening the scope of the provision commensurately.

The basic–borrowing–privilege program is both desirable and practical. Its adoption would serve as a clear communication to member banks that the discount window is changed. The program promises to contribute to more effective relations between member banks and Federal Reserve Banks while it improves the efficiency of the financial system in general by providing a ready access to at least a measure of temporary adjustment credit for both large and small member banks.

B. Other adjustment credit

The basic borrowing privilege described in the previous section would be the normal method of extending short-term credit to member banks, but it is not conceived as adequate to encompass all of the varying credit needs of banks which justify the use of temporary adjustment credit. Experience has shown that circumstances will arise when adjustment credit is required in larger amounts or for longer duration than can be accommodated under the limits of the basic borrowing privilege. Such supplemental credit should also be available on as unambiguous terms as possible. This credit, it should be emphasized, is in addition to and not in substitution for the other types of credit described in this paper—namely, the basic borrowing privilege, the seasonal borrowing privilege, and emergency credit.

Borrowing beyond the privilege limits would be subject to administrative procedures broadly similar to those which have been progressively developed in recent years under existing discount arrangements. These procedures can be thought of as a sequence of administrative actions ranging from review, which would include informational concern as to the nature of the borrowing bank's portfolio policies and the sources of its lendable funds, through conferences, during which Reserve Bank officials would consult with the management of the borrowing bank as it endeavors to develop a solution to its problems, to actual discipline, when the bank would be asked to begin paying off its loan.

In any case where a member bank, dur-

ing a consecutive —(12–26)-week period, has received short-term adjustment credit in any amount in more than —(6–13) weeks (that is, when the frequency limitation on the basic borrowing privilege is exceeded), the Reserve Bank will appraise the situation, perhaps in consultation with the bank, and make a determination as to the appropriateness of continued credit extension to that bank. This determination will be made in light of any specific indications that a timely forthcoming paydown of Federal Reserve indebtedness will occur by reason of expected inflows of funds or some other orderly program of balance sheet adjustment. Even if an extension is deemed justified by the surrounding circumstances, continuous review will be maintained throughout the course of the borrowing. Should the initial or any subsequent analysis indicate the absence of circumstances warranting a continued provision of supplemental credit, the Reserve Bank will initiate action with a view toward obtaining an appropriate adjustment. The precise timing and nature of such administrative action will, as now, remain at the discretion of the Reserve Bank, taking into account the circumstances in the individual case.

In actual fact, the basic-borrowing-privilege limitation on amount may be exceeded more often than the limitation on frequency. The former event, like the latter, will call for an internal review of the case. Such borrowing above base will probably occur from time to time as a result of bank efforts to cushion sharp temporary drains, and therefore, as now, could usually be expected to be quickly repaid without any need for Reserve Bank intervention. However, if the balance sheet of the bank suggested that factors other than such temporary drains were responsible for the borrowing, the Reserve Bank could undertake administrative actions and, if it were called for, might request an early adjustment by the bank. In all cases, the scope and thrust of the adjustment required would be related, as it currently is, to all aspects of the bank's position and historical borrowing record and to the desirability of achieving an orderly program of realignment of bank assets and liabilities, with the choice among alternative adjustment procedures continuing to rest with the bank's own management.

As this implies, the fact that a bank exceeds the amount or frequency limitation of its basic borrowing privilege does not mean that it is immediately contacted and asked to reduce its borrowing but only that it loses its immunity to such contact and administrative review. In contrast to the arrangements in some foreign countries, where a line of credit (similar in principle and design to the basic borrowing privilege) is designed to control *total* use of the discount window, the proposed redesign includes the borrowing privilege only as a limited source of reserves, with supplemental borrowing taking place from time to time as a normal occurrence, especially on the part of larger banks. Therefore, member banks can expect to receive such discount credit as they have a justifiable need for, in excess of the specific limits on the basic borrowing privilege.

An adjustment program compatible with the bank's situation will be expected of every borrower of supplemental credit, although in the case of clearly short-term and self-reversing fund flows this may require little or no overt action on the part of the borrowing bank. Supplemental adjustment credit should be thought of as temporary, and increasingly extended use will result in an increasing probability that the bank will be asked to work off its debt to the Federal

Reserve. Discount officials should be continuously informed and should undertake administrative discipline promptly in any situation where it becomes apparent that a bank is following the practice of using supplemental adjustment credit to finance a short-term position in money market assets.

The guidelines herein set down for the administrative control of supplemental adjustment credit have been general and may appear to leave too great latitude for the exercise of discretion by discount officers. To articulate any more specific rules or guidelines in this document is neither practical nor desirable, however. In the light of case-by-case decisions that would be made under the proposed procedures and subject to the underlying principle of equal treatment for banks in equal circumstances, standard operating procedures should develop in all discount offices. The final section of this report recommends arrangements to foster effective coordination of these procedures among all Federal Reserve offices.

IV. SEASONAL CREDIT ACCOMMODATION

A. Needs for seasonal credit assistance

Seasonal fluctuations in loans and/or deposits create asset-and-liability-management problems which many smaller banks seem unable to accommodate without impairing in one way or another the quality and adequacy of banking service they offer to their communities. Such recurring pressures, similar in nature and origin and probably to some extent overlapping the short-term fluctuations already discussed, tend to be the greatest in smaller communities where the economy is frequently dominated by agriculture or by a single industry of relatively small units. The consequence of such specialization is that the economic base in the communities is not sufficiently diversified to provide a supply of bank funds with adequate flexibility to meet marked seasonal changes in loan requirements and deposit positions. While the correspondent banking system provides a measure of credit to some of these communities, most often in the form of overline arrangements for loans exceeding the lending limit of the local banks, available evidence clearly indicates the need for more and in some cases differently structured credit to meet adequately the seasonal needs of the communities. Because of size, structure, and location, banks in small towns are often at a relative disadvantage in obtaining credit from other external sources, such as the issuance of large-denomination certificates of deposit or participation in the Eurodollar or Federal funds markets.

Regulation A currently provides that discount credit may be extended on a short-term basis to enable a member bank to adjust its asset position in cases of seasonal requirements for credit "beyond those which can reasonably be met by use of the bank's own resources." This policy, articulated in the revision of Regulation A in 1955, was adopted against the background of the heavily liquid positions of almost all banks during the earlier postwar years and their consequent ability to meet most seasonal drains effectively by selling assets.

With the passage of time, however, the liquidity positions of banks in many of the smaller communities described have been markedly reduced by expanding seasonal and secular demands for credit on the one hand and lagging community net income and deposit growth on the other. Particularly in agricultural areas, where credit

needs have been rising very rapidly, such trends seem likely to continue, progressively narrowing the ability of the local banks to meet the short-term credit demands in their communities. Despite these trends, the discount window has continued to provide only short-range and varying credit assistance to member banks experiencing seasonal fluctuations.

Under these circumstances, it has become appropriate to modify present seasonal lending practices at the discount window to provide increased assistance to member banks in accommodating seasonal demands upon them. The discount window can perform this function better than any other monetary tool, since only through it can the Federal Reserve make credit available directly where and when it is needed.

B. Seasonal borrowing privilege

It is proposed that each Federal Reserve Bank be authorized to establish a "seasonal borrowing privilege," renewable from one year to the next upon submission of appropriate evidence, for any of its member banks experiencing a seasonal need for funds of the kind and dimensions outlined below. The intent of the arrangement is to provide reasonably assured credit access to banks with definable and relatively substantial seasonal pressures for the approximate duration of such pressures, normally expected to be several months, but possibly ranging up to as much as 9 months in exceptional cases.

The seasonal borrowing privilege at the discount window is limited to cases in which the applicant member bank can demonstrate a probable recurring increase in its need for funds, arising from expanding demand for regular customer loans or shrinking deposits, or some combination thereof, which is expected to continue for a period of more than 4 weeks and is of sufficient size to be of significance in the asset and liability management of the bank. Loan and deposit fluctuations which are relatively small or which do not continue for as long as 4 weeks should be accommodated by internal bank policies or by recourse to adjustment credit assistance from the discount window and are not deemed to qualify a bank for special seasonal credit accommodation, despite frequency of occurrence.

The size of a bank's seasonal need for funds within any 12 months is to be measured by comparing the net intrayear changes in levels of deposits and loans to customers in the bank's market area. Since the minimum time period is fixed at four consecutive weeks, banks might have the option of using calendar months or, on a more refined basis, a 4-week moving average on which to base the estimate of their seasonal need. Seasonal estimates would be established essentially by projecting past years' experience, adjusted as appropriate to exclude nonrecurring movements.

In order for the bank to qualify for a seasonal borrowing privilege, its projected seasonal need for funds must exceed __(5–10) per cent of its average deposits subject to reserve requirements during the preceding calendar year. Any part of that need in excess of this limit is eligible for financing through the discount window subject to the other conditions described in this section. Use of such a "deductible" principle is designed to encourage individual bank maintenance of some minimum level of liquidity for purposes of flexibility and also to limit the aggregate total of seasonal borrowing privileges to an amount consistent with the aims of over-all monetary management.

Figures in Table 2 suggest the nature of the calculation of a seasonal credit need. In this illustration the total swing in net fund availability is $1.0 million, measured from the peak of $3.0 million in January, February, and March to the trough of $2.0 million in July, August, and September. Assuming an average level of deposits subject to reserve requirements of $5.0 million in the preceding calendar year, the swing clearly exceeds the minimum level of —(5–10) per cent of such deposits and therefore qualifies the bank for a seasonal borrowing privilege. The amount of the seasonal borrowing privilege at its maximum would be —($750,000–$500,000). Credit actually outstanding under the seasonal borrowing privilege would be expected to follow the pattern of gradual increase to a peak, followed by tapering off, as suggested in the table.

In the negotiation of a seasonal borrowing privilege, the Reserve Bank must have in its possession evidence demonstrating that the applying member bank has a significant seasonal need, what amounts of credit it expects to need, and the expected profile and duration of such needs. In many cases the bulk of this evidence will already be on file with the Reserve Bank. However, member banks should submit with their application any supplemental evidence they have at hand, especially with regard to altered seasonal demands which they have reason to expect. Such information is needed, preferably somewhat in advance of the actual takedown of credit, not only for scheduling and maintaining internal review over the seasonal borrowing but also to enable the System to conduct open market operations with some foreknowledge of the approximate volume and timing of seasonal injections of reserves which are expected to occur at the discount window. This knowledge will help to minimize the degree of unexpected fluctuation in borrowing which could make the achievement of monetary policy objectives more difficult.

TABLE 2

CALCULATION OF A SEASONAL CREDIT NEED

Month in base year	Total deposits	Total customer loans	Net fund availability		Seasonal swing from peak
1	5.3	2.3	3.0		.....
2	5.2	2.2	3.0	Peak	.....
3	5.2	2.2	3.0		.....
4	5.0	2.5	2.5		−.5
5	4.8	2.6	2.2		−.8
6	4.8	2.6	2.2		−.8
7	4.6	2.6	2.0		−1.0
8	4.7	2.7	2.0	Trough	−1.0
9	4.8	2.8	2.0		−1.0
10	5.0	2.5	2.5		−.5
11	5.4	2.4	3.0	Peak	.....
12	5.2	2.2	3.0		.....

Given a demonstrated seasonal need on the part of a member bank, the Reserve Bank will arrange to extend credit in the amount and for the duration needed (within the limits previously defined). Under current law, firm arrangements are limited to 90 days duration (except in the case of discount of eligible agricultural paper, for which the maximum duration is 9 months). However, in the event that a member bank's seasonal needs persist beyond the 90-day period, the Reserve Bank will consider sympathetically requests for further extensions of credit in accordance with the initial seasonal credit arrangement. In no case, however, would the duration of all seasonal borrowings under such an arrangement be permitted to exceed 9 consecutive months.

Under normal circumstances, the amount

of credit requested in the original arrangement should not be revised in midseason. The intention is that drawings of the seasonal credit, in accordance with projected needs, would be relatively firm and not subject to day-to-day or week-to-week fluctuations because of minor unexpected fund withdrawals or additions or resort to temporarily cheaper financing elsewhere. However, it is recognized that many factors of an unpredictable nature can accentuate or diminish the seasonal outflows, and the potentials for change, while probably not great in the aggregate, are sufficient in the case of the individual bank to make it impractical to bar all readjustments in the credit arrangement.

The Reserve Bank will periodically review the performance of the borrowing member bank, and should this review indicate that the seasonal need is not materializing as contemplated in the arrangement or that the bank is failing to operate in line with the arrangement in some other way, these factors would have a definite bearing on the Reserve Bank's evaluation of future applications for seasonal credit accommodation on the part of that bank. However, the Reserve Bank would also retain the option to curtail an outstanding seasonal credit arrangement which proves to be unneeded.

Because blocks of borrowed funds extended under seasonal credit arrangements will not be generating pressure on the borrowing banks to adjust assets or other liabilities in order to repay promptly (as do more conventional borrowings), they will be supplying reserves but will otherwise be neither adding to nor subtracting from the bite of general monetary policy. The reserve supply from takedowns of seasonal borrowing privileges can be offset to the extent desired by open market operations; conversely, these blocks of seasonal credit should prove sufficiently immune to any moderate changes in national reserve availability—particularly if the discount rate is kept reasonably closely in line with market rates—so as not to offset the latter changes substantially.

Given the other needs for credit at the smaller rural banks, for developmental capital as well as for day-to-day working capital, the more liberal granting of discount credit for seasonal purposes is regarded as one of the more important steps the System can take in this field. The assurance of adequate seasonal access should help to foster more definitive asset management by small banks and can also be expected to assist various larger banks which may qualify for seasonal credit accommodation.

V. EMERGENCY CREDIT ASSISTANCE

In its traditional central banking function, the Federal Reserve System is the ultimate source of liquidity to the economy. This role carries with it the responsibility to deal with emergency situations as they affect both member banks and the economy generally. Severe pressures encountered by banks and other financial institutions within the past few years, involving increasing illiquidity and interdependence and interaction among such institutions, emphasize the importance of the Federal Reserve's role in emergency situations.

The financial system's liquidity—excessive in the late 1940's, more than ample in the 1950's, and reasonably adequate at the start of the 1960's—has sometimes barely covered requirements in recent years. The asset structure of commercial banks and savings institutions reflects this downward trend, as

do increasingly aggressive efforts on the part of bank management to manipulate liabilities in pursuit of liquidity. Wide interest rate fluctuations in recent years attest to these factors.

Under present conditions, sophisticated open market operations enable the System to head off general liquidity crises, but such operations are less appropriate when the System is confronted with serious financial strains among individual firms or specialized groups of institutions. At times such pressures may be inherent in the nature of monetary restraint, in the sense that monetary policy actions, no matter how impersonally applied, often have, in fact, excessively harsh impacts on particular sectors of the economy. At other times underlying economic conditions may change in unforeseen ways, to the detriment of a particular financial substructure. And, of course, the possibility of local calamities or management failure affecting individual institutions or small groups of institutions is ever-present. It is in connection with these limited crises that the discount window can play an effective role as "lender of last resort."

This responsibility is not construed as placing the Federal Reserve in the position of maintaining the financial structure *in statu quo*. The System should not act to prevent losses and impairment of capital of particular financial institutions. If pressures develop against and impair the profitability of institutions whose operations have become unstable, inappropriate to changing economic conditions, or competitively disadvantaged in the marketplace, it is not the Federal Reserve's responsibility to use its broad monetary powers in a bail-out operation. Except in the case of member banks, where its responsibilities are somewhat more direct, the System should intervene in its capacity as "lender of last resort" only when liquidity pressures threaten to engulf whole classes of financial institutions whose structures are sound and whose operational impairment would be seriously disruptive to the economy.

A. Emergency lending to member banks

The Federal Reserve System has a clear responsibility to lend to member banks in both isolated and widespread emergency situations. It is expected that such assistance would often have beneficial effects for the economy as a whole, but in such cases the immediate responsibility of the System is directly to the member bank. This is one of the benefits of Federal Reserve membership—paid for in a sense by the maintenance of nonearning assets in satisfaction of reserve requirements—and a basic source of confidence in the banking system.

Therefore, the Federal Reserve will be prepared to give prompt and sympathetic consideration to providing the needed credit assistance to a troubled member bank, after having obtained the assurance of the chartering authority that the bank is solvent and that steps are being taken to find a solution to its problems. Emergency credit assistance through the discount window should be provided to member banks under essentially the same procedures as those employed in the case of short-term adjustment credit (in excess of the basic borrowing privilege). However, *ad hoc* exceptions or alterations in these arrangements—within statutory limitations—will at times be required to deal effectively with emergency situations.

Any member bank borrowing in an emergency situation will be under extensive administrative review. This review will include a program of coordination with the relevant supervisory and chartering authorities and will ordinarily take the form of counseling and such other direction as is needed

to work out of the situation. Administrative discipline may have to be applied in the case of an emergency caused by mismanagement or dishonesty (at least until the offending management is removed), but Federal Reserve efforts in an emergency situation would normally be geared to less drastic means of helping the member bank to reestablish a viable position. This will, in most cases, require credit for longer than would be permissible under the ordinary administration of temporary credit provision, but this will be expected and regarded as appropriate.

B. The System as "lender of last resort" to the economy through nonmember institutions

The role of the Federal Reserve as the "lender of last resort" to other financial sectors of the economy may, under justifiable circumstances, require loans to institutions other than member banks. The apparent general approval of recent instances of lending and offering to lend to nonmember institutions has strengthened the belief that the System's ability to carry out this function should be readily available for use when needed. In contrast to the case of member banks, however, justification for Federal Reserve assistance to nonmember institutions must be in terms of the probable impact of failure on the economy's financial structure. It would be most unusual for the failure of a single institution or small group of institutions to have such significant repercussions as to justify Federal Reserve action.[2]

The Federal Reserve Act places no explicit limitations on the types of institutions eligible for direct emergency credit assistance, since it authorizes direct advances to "any individual, partnership, or corporation"; but in fact, rather stringent limitations are imposed by the requirement that these advances be secured by "direct obligations of the United States." [3] In effect this means that, in an emergency, credit in any significant amount could probably be extended to nonmember, at least nonbank, institutions only by using a member bank as a conduit. That is, the Federal Reserve would lend funds to cooperating member banks that would in turn make loans to nonmember institutions. The relevant Federal agency can also sometimes serve in the role of a conduit, so long as that agency has lending authority and assets eligible for Federal Reserve acquisition. Thus the current law is not prohibitive of indirect lending to nonbank institutions, although it does involve additional arrangements and costs over those that would be involved in direct loans.

Decisions as to what types of institutions will be regarded, under justifiable circumstances, as eligible for emergency credit are best made in the light of the surrounding circumstances and relative severity of particular situations. Therefore, no inclusive or exclusive list of the types of institutions to which emergency credit may be extended should be established in advance of anticipated possible developments. Federal Reserve credit would be advanced to nonmember institutions only after other avenues of relief have been exhausted. Depositary institutions, the suppliers and holders of the na-

[2] An exception might be made in a case where the Federal Deposit Insurance Corporation requested Federal Reserve assistance for a nonmember commercial bank while the FDIC carried out a program to remedy the situation.

[3] In unusual and exigent circumstances the Board of Governors, by the affirmative vote of at least five members, may authorize any Federal Reserve Bank to discount eligible paper for any individual, partnership, or corporation which is unable to obtain adequate credit accommodation from other banking institutions. However, in practice this provision is of little use, since nonmember institutions typically have only very limited holdings of eligible paper.

tion's liquidity, are the most likely to encounter situations where this is necessary, and for this reason emergency credit would be accorded, in all but the most extraordinary circumstances, only to those institutions.

Supervised nonmember financial institutions would be required to obtain the support and assent of the relevant supervisory agency to receive Federal Reserve emergency credit. On the other hand, the Federal Reserve should not be obligated to lend to nonmembers merely on the request of their supervisor. While institutions can be declared insolvent only by the chartering authority or the courts (and such a declaration would effectively preclude Federal Reserve lending), the System should retain the option to reject requests for assistance even when the other agency considers the institutions solvent.

When lending to nonmembers, the System will require, in cooperation with the relevant supervisory agency, that the institutions develop and pursue a workable program for alleviating their difficulties and will follow the progress of the agreed-upon program closely. Credit will be provided only at a significant penalty rate vis-à-vis that charged member banks. This penalty rate can be thought of as offsetting, in part, the cost of maintaining reserves with the System which is continuously borne by member banks.

C. Support of distressed markets through the discount window

It is possible that, in periods of severe monetary stringency, markets for certain financial instruments, such as Federal, State, and local government securities, corporate securities, and mortgages, may become so distressed by disappearance of buyer interest, necessitous selling or "dumping" of issues, or other influences that a crisis develops which threatens the entire financial fabric of the nation. Under such circumstances, the Federal Reserve will be prepared to take action in a variety of ways to forestall the developing crisis.

Action through the Open Market Account, where possible, is the appropriate means for dealing with such a widespread problem. However, in a situation of extreme emergency, consideration would be given to making the discount window available to member banks (and, more remotely, to nonmember financial institutions) in order to reduce necessitous sales of these assets and thus to alleviate crisis pressures in the market.

VI. DISCOUNT RATE POLICY

The proposed redesign of the discount window contemplates an increase in the numbers of banks regarding the window as a useful source of funds. One of the major obstacles acknowledged to exist currently in this area is the confusion on the part of member banks as to the terms and conditions for discounting. The redesign should substantially reduce banker uncertainty by the specific quantity-and-frequency limitations regulating the basic borrowing privilege. But the discount rate also has a significant role to play in this operation if the mechanism is to result in an improved adjustment process.

Achieving maximum effectiveness calls for maintenance of the discount rate consistently at a level reasonably close to rates on alternative instruments of reserve adjustment. The exact relationship to market rates

at any time will depend largely on current monetary conditions and policy objectives, but it would be expected that related market rates would move higher relative to the discount rate in periods of restraint and lower relative to the discount rate during periods of ease.

The closer linkage of the discount rate to market rates will probably call for more frequent changes in the discount rate than have been made in recent years. It is believed that such changes can be achieved by more active communication within the System and will become easier as the pattern of more frequent discount rate adjustments tends to reduce the unpredictable announcement effects which often attach to a given rate change. As banks come to regard the window as a more liberal and useful source of funds, with no risk of administrative pressures within the confines of the basic borrowing privilege and a clearer understanding of the limitations attaching to other borrowing, price will naturally become a more meaningful factor in their decisions. Thus rates on alternative means of adjustment will tend to cluster somewhat more closely around the discount rate. Because a measure of administrative review will continue to attach to some discounting, however, market rates are likely to be somewhat above the discount rate so long as reserves are in scarce supply and rate relationships are allowed to seek their own levels.

There are several limitations on using rate as the sole or even major instrument for control of borrowing. Complete rate flexibility is neither practical nor desirable. Under certain circumstances, too frequent or poorly timed changes could contribute to instability in the structure of market rates. This could be particularly true in a period of tightness when increasing reserve cost could rapidly escalate market rates.

Because of the Federal Reserve's role as the lender of last resort, the demand curve which it faces may be somewhat different from that applying to other lenders. Ordinarily, this difference should not be very significant, but during periods of stringency the demand for accommodations from the System could conceivably become highly inelastic, particularly in the very short run when banks may face liquidity or credit demands (including those from long-valued customers) without having immediate access to adequate alternative sources of funds. In such instances, the exclusive use of price as the allocator of funds at the discount window could be severely damaging to the long-run stability of financial institutions.

There may also be occasions when relationships between U.S. rates and those abroad, or between bank and market rates or those being paid at other financial institutions, are so delicately poised that Federal Reserve discount rate changes may have to be withheld in order to avoid triggering highly disadvantageous flows of funds. At such times, the overriding importance of other relevant national interests involved may compel the discount mechanism to operate with greater reliance upon its quantitative and administrative controls and less upon the impersonal criterion of rate.

These limitations should not, however, be thought to deprecate the role which the discount rate can play under normal circumstances; usually rate can serve as a pervasive, sensitive, clearly uniform, and flexible control mechanism. But the limitations mentioned demonstrate the impracticality of exclusive reliance on rate. Other controls —quantity and frequency limitations and, when necessary, administrative actions— must be not only available but also in use if the System is to be sure that discounting

operations do not subvert monetary control generally.

Under the present Regulation A, with the great bulk of Federal Reserve loans carrying maturities of 15 days or less, few problems arise with regard to outstanding loans when the discount rate is changed. The circumstances would become somewhat different, however, if a seasonal loan were to be outstanding for as long as 9 months. As an integral part of the proposal for redesign, therefore, it is recommended that all discount rate changes be made immediately applicable to all outstanding loans. The suggested provision would eliminate the tendency for banks to overestimate their seasonal needs in order to "lock in" credit in anticipation of an expected rate increase. The automatic rate adjustment would also be helpful in achieving the objectives of monetary policy, since it would avoid allowing relatively long-term loans to remain outstanding at the earlier rate, thereby increasing the lag in the impact of a policy-motivated rate change. Lastly, without this type of built-in adjustment, banks whose borrowing begins shortly before a rate decrease would be unfairly penalized or would be forced to go through the administratively burdensome procedure of repaying their loans and reborrowing at the lower rate.

Discount rates will continue to be established by the Boards of Directors of the Reserve Banks, subject to review and determination by the Board of Governors. This method of rate-setting carries with it the possibility of short-term inter-district differences in the discount rate. Such short-term differences are not viewed as a problem, and the proposed redesign contains no special provisions to prevent them, mainly because the machinery for achieving uniformity, through use of the requirement of approval by the Board of Governors, is available in the event that it is needed. In any case, it is probably somewhat unrealistic to contemplate the maintenance of wide inter-district rate differentials over any period of time in the highly interdependent economy of the Nation.

As noted in Section V, emergency credit to the economy through nonmember institutions should be provided only at a significant penalty relative to the discount rate. While the responsibility of the Federal Reserve to provide lender-of-last-resort credit to the economy through these institutions is generally recognized, it remains true that the benefits of membership in the System must be maintained and member banks should therefore receive some measure of preferential treatment. This penalty rate might be thought of as offsetting in part the cost of maintaining reserves with the System, which is continuously borne by member banks.

VII. ANCILLARY RECOMMENDATIONS OF THE STEERING COMMITTEE

A. Provisions for coordination of discount administration

The increased reliance on the discount rate and on quantity and frequency limitations to regulate borrowing behavior, which constitutes an essential part of the redesign of the discount mechanism, will permit a clear and unequivocal communication of these facets of discounting standards and limitations to member banks and will thereby help to promote uniformity of window operation among districts and among banks. However, the retention of a measure of administrative control is seen as necessary if the System is to accommodate adequately the widely differing needs of individual member banks while

at the same time maintaining the necessary monetary control. It is intended that such administrative control be applied in the most uniform and consistent manner possible in line with the principle of equal treatment for banks in equal circumstances. Regulation and machinery to help insure this objective are therefore regarded as appropriate.

One effective move in this direction will be the formalization of a practice already in existence. Recent years have seen a significant increase in the level and frequency of communication among the discount officers of the 12 Reserve Banks. These officials now hold an annual conference and monthly telephone conference calls in addition to the more informal contacts among individual districts.

These discussions are devoted in large part to the exchange of information on the ways in which individual borrowing cases are being handled. Out of this exchange administrative guidelines have been developing which can be referred to by discount officers faced with a new or unusual situation. This development is seen as an evolutionary process, with the character of the guidelines expected to change somewhat over time in line with experience and changes in the surrounding economic climate. However, the need for machinery for fostering the development of such guidelines and maintaining them (that is, currently existing and perhaps stepped-up contacts among all discount officers) is recognized, and such further arrangements as are felt necessary will be implemented as part of the redesigned discount window.

B. Changes in reserve regulations to facilitate end-of-period reserve adjustment

The Steering Committee endorsed the lagged reserve proposal adopted by the Board of Governors as an amendment to Regulation D. Under this plan, which will become effective September 12, 1968, all member banks have a 1-week reserve accounting period with required reserves based upon deposits 2 weeks earlier. Vault cash to be counted as reserves is also lagged 2 weeks. Banks are permitted to carry forward to the next reserve period excess reserves or reserve deficiencies of up to 2 per cent of required reserves. This plan, including a number of other less significant changes, should ease adjustment problems at the end of reserve periods and is a move complementary to the redesign of the discount mechanism fostering a smoother and more effectively functioning member banking system.

C. On-going studies of means of improving the shiftability of bank assets and liabilities

A possible type of credit accommodation not provided for in the redesigned window is long-term credit to meet the needs of banks servicing perennial credit-deficit areas or sectors. It was concluded that the solution to this problem does not properly lie within the scope of discount-window operations. To undertake to provide credit for such a purpose would enmesh the System in socio-economic and political problems beyond its proper scope and could distort the balance sheet structure of commercial banking in some communities by financing the expansion of loan portfolios far beyond the limits of deposits. More direct and fundamental answers to the credit-deficit problem are believed to lie in the improvement of secondary markets for bank assets and liabilities.

The Steering Committee therefore recommends that *ad hoc* task forces be established within the Federal Reserve System—possibly also drawing on the talents of other agencies

and groups—to pursue detailed studies of the feasibility of providing long-term credit assistance through some types of market-perfecting actions. It is recognized that extensive work has already been done in this area, with only limited success, but the Steering Committee nonetheless regards improvement of secondary markets as the most promising solution to the credit-deficit problem and feels that further investigation can be fruitful.

These studies will have to recognize and evaluate the possibility that the development and expansion of such markets may in itself impose further responsibilities on the Federal Reserve System in periods of extreme monetary stringency. As banks are led to concentrate an increasing portion of their adjustment efforts in these markets, the possibilities will increase that conditions in one or more of them could become so disrupted that it would become necessary to take action to forestall the developing crisis. Such action could include making the discount window available to banks to reduce necessitous sales of these assets, thus alleviating crisis pressures in such markets. Further consideration of this possibility is contained in Section V, "Emergency Credit Assistance."

REPORT ON RESEARCH UNDERTAKEN IN CONNECTION WITH A SYSTEM STUDY

Bernard Shull
Board of Governors of the Federal Reserve System

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REPORT ON RESEARCH UNDERTAKEN IN CONNECTION WITH A SYSTEM STUDY

I. INTRODUCTION

The research effort of the discount study got under way in the late summer of 1965. The Steering Committee, under whose guidance the research program was developed, stated two related objectives at its first meeting on August 10 of that year. The first was "to review operational shortcomings of the discount function," with a view to developing "potential reforms within the scope of contemporary discount philosophy as to rate and administrative control." To this end the discount study Secretariat was instructed to develop a plan aimed at throwing "additional light on the economic, attitudinal and other factors influencing differing use of the discount window among districts and by banks" and to survey "Reserve Bank discount experience." The second objective was to reappraise the "discount function as an instrument of System policy" and to evaluate "alternative formulations." This second objective was considered to require an extended study, including investigation of the changing problems of banks in different geographic areas and an analysis of foreign experience, with a view toward recommending fundamental changes in current philosophy and practices.

The two objectives were initially kept separate and, in fact, certain minor recommendations for revision pursuant to the first objective were made early in the course of the study.[1] However, the research undertaken for both purposes has, in practice, blended into a reasonably unified program aimed at providing information on the operations of the mechanism by which credit is provided to member banks through advances and discounts (hereafter referred to as the discount mechanism) and on proposals for change. The research program, which was developed in the last half of 1965, came to fruition in a series of papers and reports submitted for the most part in late 1966 and in 1967.[2] These papers were

NOTE.—The author wishes to acknowledge the helpful comments of Robert C. Holland, Robert Lawrence, Emanuel Melichar, and James Pierce of the Board of Governors, George Garvy of the Federal Reserve Bank of New York, Lester V. Chandler of Princeton University, and Ralph A. Young, formerly Senior Adviser to the Board. He has benefited substantially from continuing discussion, over a period of several years, with numerous Reserve Bank officials associated with discount operations, and wishes to note, in particular, the extended colloquy with Harold Bilby of the Federal Reserve Bank of New York and David Melnicoff of the Federal Reserve Bank of Philadelphia. It should not be inferred that any or all of those mentioned fully agree with all the views expressed. This report is republished here as it was initially prepared for the Steering Committee and published in August 1968.

[1] In particular, recommendations were made with respect to changes in the maturity and negotiability requirements of Regulation A. A questionnaire was sent to the Reserve Banks regarding their discount operations to meet the Committee's first objective, but as described below, it proved to be of substantial value in meeting the second.

[2] Citation of these papers (some unpublished) is by author, title, and the general reference: "(Discount Study)." References are to the documents and manuscripts that were available when this Report was prepared. Some have undergone substantial editorial revision, including changes in authorship and title. Results of other staff studies are also presented in the text, and staff members responsible are indicated in footnotes. Complete citation of published material is provided in footnotes. A bibliography of discount study papers cited in the text and of related unpublished Federal Reserve System documents is provided in Appendix A.

prepared, for the most part, by the staffs of the Reserve Banks and the Board, but several were undertaken by academic economists.[3]

Over-all, the reappraisal has concentrated on the current rationale of the discount mechanism, its operations since the last revision of Regulation A in 1955, and its effectiveness in serving several types of purposes. These include not only purposes relating to monetary policy but also those relating to bank supervision and the provision of credit to individual banks for adjustment to short-term fluctuations in reserves. Considerable time and attention has been given to the development and evaluation of proposals that could meet deficiencies uncovered. In addition, there has been a reconsideration and clarification of the function of the discount mechanism in providing credit to member banks and other financial institutions under certain specified conditions, for example, in emergencies.

The aim of this report is to provide, in light of the issues of concern, a review and an evaluation of the research undertaken in connection with the Federal Reserve System's reappraisal of its discount mechanism, and, in particular, to indicate the findings that have important implications for change in the mechanism. The nature of the report is such that a considerable amount of "sifting and winnowing" of the available research papers has been necessary. Reference is made throughout to specific papers and other staff studies. In addition, reference is made from time to time to the other published and unpublished literature on the issues raised by the study. Several investigations made by the author, not incorporated into specific papers, are also discussed where relevant. It will be observed that, in a number of cases, gaps in information preclude definitive answers, and results are presented as suggestive rather than conclusive.

In reviewing the research, certain limitations in scope should be noted. First, there has not been a full evaluation of the relative roles of open market operations and the discount mechanism as "tools of monetary policy." It became clear early in the study that there would be no pressing need for this. While some aspects of open market operations have been considered, and some deficiencies in supplying reserves through open market operations are noted below, there did not seem to be any persuasive reason to contemplate a drastic change in relative roles such as took place in the 1930's and thereafter.[4]

Secondly, a systematic evaluation of monetary policy, in its theoretical approach and practical implementation, was not attempted. It was considered important, of course, to review aggregate borrowing and the free-reserve variant as measures of monetary restraint and as targets for policy, particularly in light of some of the findings reported below. However, for the most part, the discount mechanism was evaluated within the framework of monetary policy as it currently exists. Recommendations for

[3] In addition, Professor Lester V. Chandler, of Princeton University, was employed as an academic consultant; he helped maintain a liaison with scholarly effort, which included the holding of a seminar attended by a number of prominent contributors to academic discussion on monetary policy and the discount mechanism. See Priscilla Ormsby, "Summary of Issues Raised at the Academic Seminar on Changes in the Discount Window" (Discount Study); and replies from economists to letter from Lester V. Chandler, Spring 1966, "The Federal Reserve Discount Mechanism and Discount Policies" (Discount Study).

[4] In addition, a joint Treasury–Federal Reserve System study of the U.S. Government securities market began in early 1966. See Board of Governors of the Federal Reserve System, *Fifty-second Annual Report: Covering operations for the year 1965,* p. 217.

change were clearly seen as having important implications for monetary policy; and these implications have been under continuing study.

Finally, it should be noted that no effort is made in this paper to review in detail the relationships between the research findings and the recommendations that have been developed by the principal committees on specific aspects of the discount mechanism. Full evaluation of current policies, judgments as to prospective conditions, and broader socioeconomic considerations, as well as the research findings underlying such recommendations, are developed in the separate reports of the committees.

II. EVOLUTION OF THE CURRENT DISCOUNT MECHANISM

The current formulation of the discount mechanism developed out of a study by the Federal Reserve System in 1953-54.[1] The principal proposals of the System Committee on the Discount and Discount Rate Mechanism were adopted and implemented in 1955 by a revision of Regulation A.[2] However, the rationale of the 1955 revision, as well as the administrative techniques adopted, developed out of some of the earliest System experiences. So, for example, it was noted soon after the revision of 1955 that "the central bank turned back to old ways of doing things." [3] In form, this was true; but in substance, as will be discussed below, the statement requires modification. The following review and analysis of the early development of the discount mechanism is meant to provide some perspective in considering its more recent changes and functioning.

A. Reluctance to borrow as a rationale for rationing credit

Transformation of the discount mechanism from the principal instrument of central bank policy to a coordinate, though seemingly unimportant, tool is a matter of continuing historical interest.[4] This transformation has been closely associated with the concept of "reluctance to borrow" as a rationale for restricting credit flows at the discount window.

Development of coordinated open market operations in the early 1920's, and recognition that the "real bills" doctrine was not a realistic standard for extending credit, necessitated a reconsideration of the basis for Reserve Bank credit extension. With commercial banks engaged in a wide variety of lending functions, eligibility and associated statutory requirements were inadequate.[5] Rationing credit by means of differential discount rates was evidently viewed as a potentially effective device in the early 1920's. But short-lived and misconceived experiments with rate control and credit lines quickly disabused the Reserve Banks

[1] System Committee on the Discount and Discount Rate Mechanism, "Report on the Discount Mechanism," Mar. 12, 1954 (hereinafter referred to as "Report on Discount Mechanism, 1954").

[2] Federal Reserve *Bulletin,* January 1955, pp. 8, 9.

[3] Edward C. Simmons, "A Note on the Revival of Federal Reserve Discount Policy," *The Journal of Finance,* December 1956, p. 415.

[4] See, for example, A. James Meigs, *Free Reserves and the Money Supply* (University of Chicago Press, 1962), chapter II; Milton Friedman and Anna Jacobson Schwartz, *A Monetary History of the United States,* 1867-1960 (Princeton University Press, 1963), chapters 5, 6; and Karl Brunner and Allan H. Meltzer, *The Federal Reserve's Attachment to the Free Reserve Concept,* Committee on Banking and Currency (U.S. Government Printing Office, May 7, 1964), pp. 2–17.

[5] As distinct from eligibility requirements, there were attempts in the 1920's to limit discount credit by requiring additions to collateral. Clay J. Anderson, "Evolution of the Role and the Functioning of the Discount Mechanism" (Discount Study).

that attempted to use them and, it would seem, the System in general. Hardships worked by progressive rate formulas on banks with persistent outflows of funds proved to be long-remembered experiences.[6]

A reluctance to be in debt continuously had evidently been a periodic characteristic of the commercial banking system during the preceding decades.[7] A System policy was developed that built upon this characteristic by maintaining that it was also not traditional for the central bank to lend continuously.[8] Restricting Reserve Bank credit in this way was, to some degree, successful in the 1920's and "helped to make open market operations rather than rediscounting the main instrument for quantitative control." [9]

Emphasis on reluctance may be looked at as a substitute for rationing and distributing credit by means of the discount rate or by requirements related to eligible collateral.[10] It involved an attempt at persuasion by the Federal Reserve as to the degree of credit restraint at the discount window that is desirable in light of "sound" commercial bank operations and effective central bank policy. Because the desired objective was a consensus or agreement on these matters, the approach taken may conveniently be called "the reluctance convention." [11]

Supporting bank reluctance to borrow was consistent with both monetary management and supervisory objectives. As well as facilitating the adoption of the "reserve position" approach to the implementation of monetary policy,[12] "(i)t established relations between member banks and Reserve Banks that facilitated attempts at qualitative control, for example, over the stock market in 1929".[13] More generally, it provided a heuristic standard for bank supervision.[14]

The significance of this standard for bank supervision was clarified in a series of events

TABLE 1

MEMBER BANKS BORROWING CONTINUOUSLY FOR A YEAR OR MORE FROM RESERVE BANKS

As of—	Number
1925–August 31	593
December 31	517
1926–December 31	457
1927–December 31	303

SOURCE.—Board of Governors, Federal Reserve System, internal memoranda on banks that borrowed continuously from Reserve Banks in 1925, 1926, and 1927.

[6] Three of the four Reserve Banks that established progressive rates based them on credit lines tied to the amount of reserves deposited by each bank at the Reserve Bank. As reserve balances fell, the credit line contracted and the rate on borrowing could increase to very high levels. A highly publicized case involved a rate of 87.5 per cent. *Ibid.*

[7] Riefler has noted that "long before the establishment of the reserve system, it was one of the fundamental traditions of sound banking practice in this country, that a bank's operations should be confined to the resources which it derived from its stockholders and depositors, and interbank borrowing was at all times limited. When it did occur, it was viewed with such distrust as an evidence of weakness, or at the least of unsound practice, that various subterfuges were developed by banks to conceal borrowing in their published statements." Winfield Riefler, *Money Rates and Money Markets in the United States* (Harper and Bros., 1930), pp. 29, 30. However, such reluctance as did exist appears to have weakened considerably from time to time, for example, after World War I. See Friedman and Schwartz, *op. cit.*, p. 268.

[8] See *Thirteenth Annual Report of the Federal Reserve Board: Covering operations for the year 1926;* Riefler, *op. cit.*, p. 29.

[9] Friedman and Schwartz, *op. cit.*, p. 269.

[10] A fuller analysis of "reluctance to borrow," viewed in this way, is presented below in Section III.

[11] See J. M. Keynes, *A Treatise on Money,* (MacMillan and Co., London, 1930), vol. 2, p. 239. Keynes wrote "(t)he history of the Federal Reserve System since the war has been, first of all, a great abuse of the latitude thus accorded to the Member Banks . . . and subsequently a series of efforts by the Reserve authorities to invent gadgets and conventions which shall give them a power, more nearly similar to that which the Bank of England has, without any overt alteration of the law."

[12] *Tenth Annual Report of Federal Reserve Board: Covering operations for the year 1923,* pp. 13–16; Meigs, *loc. cit.*

[13] Friedman and Schwartz, *op. cit.*, p. 269.

[14] A discussion of such standards may be found in Kalman J. Cohen and Frederick S. Hammer, "Linear Programming and Optimal Bank Asset Management Decisions," *The Journal of Finance,* May 1967, pp. 153–54.

beginning in 1925. In that year data were collected by the Board on the number of member banks indebted continuously for at least a year.[15] It was found that as of August 31, 1925, 588 member banks had been borrowing for a year or more from Federal Reserve Banks.[16] Of the 588 continuous borrowers, 239 had been borrowing since 1920; and 122 had begun borrowing before that. It was also found that about 150 of the continuous borrowers were then in an "overextended" position.[17]

In a review of these data, it was noted that 259 national member banks had failed since 1920, and a guess was made that at least 80 per cent had been habitual borrowers prior to their failure.[18] In what was to become an accepted position within the System, it was stated that ". . . in borrowing, . . . the bank uses the best assets it has and puts him, the depositor, in a less satisfactory position with regard to the additional assets of the bank, because those rediscounts are not of as high a quality as the paper which the bank hypothecates." [19] Consequently, the Reserve Bank should carefully investigate the conditions and behavior of the borrowing bank in order to protect its depositors.[20]

In subsequent years, additional surveys of a similar nature were made. In each, the number of continuous borrowers in an "extended or unsafe condition" and the number "likely to liquidate borrowing" during the coming year were indicated. In addition, data were gathered on the number of continuously borrowing banks reported in the previous survey that had since gone out of existence.[21]

Emphasis on reluctance also reflected a concern about an "equitable" distribution of reserves provided by the System. Excessive borrowing by some member banks was viewed as unfair to other member banks in that the total pool of reserves was, at the time, considered limited.[22]

B. Development of concept of appropriate borrowing

The movement away from rationing credit by eligibility requirements to rationing by the "reluctance convention" was accompanied by the development of a set of rules for administering the discount window.[23] A basis for the "surveillance" of borrowing banks had been established in the early 1920's. The Board's Annual Report for

[15] The data were requested in a letter from Walter L. Eddy, Secretary to the Federal Reserve Board, to all Federal Reserve Agents, dated Sept. 15, 1925.

[16] See Table 1. The figure of 593, shown in Table 1, is a subsequent revision.

[17] Overextended banks were defined as "those reported in statement accompanying request for authority to close books of Federal Reserve banks on December 31, 1925, as having been in an over-extended condition on November 1." The data were attached to a memorandum from Mr. Smead to Mr. Eddy entitled "Banks borrowing from the Federal Reserve Banks continuously for the year ending August 31, 1925," Jan. 22, 1926.

[18] Statement of O. M. W. Sprague, Minutes of Joint Conference of the Federal Reserve Board with the Governors and Chairman and Federal Reserve Agents of the Federal Reserve Banks, Nov. 4-5, 1925, pp. 75ff. The minutes report that Professor Sprague, who was serving as a consultant to the Board, indicated 888 member banks borrowing continuously, but in light of the original reports in the records this must be an error. Sprague severely criticized "habitual" borrowing, noting that neither eligibility nor discount rates were "effective agencies for preventing banks from becoming over extended. . . ." See also the letter written by John Perrin to the Federal Reserve Board on "Destructive Effect of Over-Lending to Member Banks," Feb. 26, 1926. It is well to note, however, that the causal relationship between "overborrowing" and banks getting into difficulty cannot be viewed as one way. Clearly a bank may borrow large amounts for long periods because it is in difficulty for independent reasons, for example, because it has made bad loans.

[19] Sprague, Minutes of Joint Conference, *op. cit.*, p. 77.

[20] *Ibid.*

[21] For example, it was reported that of the 457 continuous borrowers in 1926, 41 had suspended operations during 1927, while 24 more had liquidated voluntarily or merged. Memorandum from Mr. Smead to Federal Reserve Board, "Member banks borrowing from Federal Reserve Banks continuously during 1927," May 10, 1928.

[22] Anderson, *op. cit.*

[23] *Ibid.*

1923 had reaffirmed that credit should not be used for investment or speculative purposes, in accordance with the real-bills doctrine.[24] While it noted that "(c)redit for short-term operations in agriculture, industry, and trade . . . is a productive use of credit," it also stated that "(t)here are no automatic devices . . . for determining, when credit is granted by a Federal reserve bank . . . whether the . . . extension of credit by the member bank (is) for non-productive use." [25] The same report stated that "(p)rotection of their credit against speculative uses requires that the Federal reserve banks should be acquainted with the loan policies and credit extensions of their member banks. . . ." [26]

Secondly, a restriction on continuous borrowing was developed. The Board's Annual Report for 1926, no doubt with the 1925 study of continuous borrowing in the background, stated:

> Even where the paper is unexceptionable in every respect, the reserve bank must be fully assured in addition that further credit may be granted to this member not only "safely and reasonably," but also "with due regard for the claims and demands of other member banks." This question arises not infrequently in cases where a member bank remains continuously in debt to a reserve bank for a considerable length of time. In such cases, inquiry may fairly be made as to whether the member bank's use of reserve bank credit does not in effect amount to increasing its own capital out of reserve bank funds.[27]

The Report goes on to note that because the Federal Reserve System represents a "cooperative pooling of . . . funds" this is unfair and, moreover, "(i)t may also impair the ability of the borrowing bank in case of insolvency to meet its obligations to depositors."

The earlier emphasis on short-term paper under the real-bill standard was altered to emphasize short-term borrowing:

> . . . the funds of the Federal reserve banks are primarily intended to be used in meeting the seasonal and temporary requirements of members . . .[28]

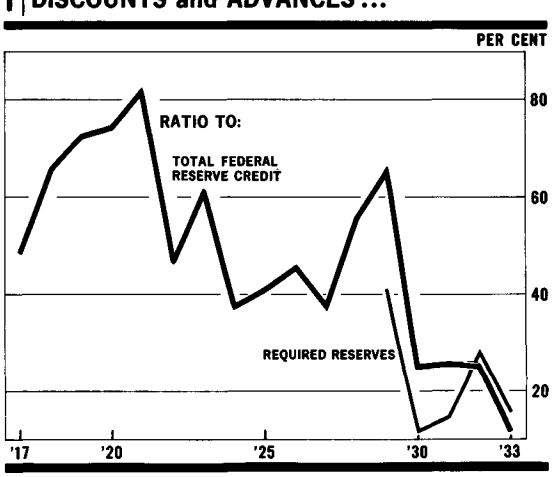
And finally, the principle that borrowing should normally be confined to unusual or adverse circumstances was stated:

> In using their influence to discourage member banks from making continuous use of the lending facilities of the reserve banks, the operating officials of the reserve banks are not only protecting the resources of the Federal reserve system as a whole, but are also helping individual member banks to conserve their capacity to borrow at the reserve bank at times when adverse economic conditions in their localities and among their customers may make additional dependence upon the resources of the reserve system not only justifiable but necessary.[29]

The restriction on "borrowing to profit," [30] with a provision for long-term credit

[24] *Annual Report, Federal Reserve Board, 1923,* p. 33.
[25] *Ibid.,* p. 34, 35.
[26] *Ibid.,* p. 35; Reserve Bank surveillance actually began in the period of "direct pressure" following World War I. In the spring of 1920, the Board asked "Reserve Banks to submit a written report of methods used to keep informed on how member banks were using Reserve Bank credit." See Anderson, *op. cit.*
[27] *Thirteenth Annual Report of Federal Reserve Board: Covering operations for the year 1926,* p. 4.
[28] *Ibid.*
[29] *Ibid.,* p. 5.
[30] That the issue of "borrowing-to-profit" had not been resolved by the mid-1920's is indicated by the

1 | DISCOUNTS and ADVANCES ...



in "unusual circumstances," was indicated in the Board's Annual Report for 1928:

> It is a generally recognized principle that reserve bank credit should not be used for profit, and that continuous indebtedness at the reserve banks, except under unusual circumstances, is an abuse of reserve bank facilities.[31]

Absent the explicit limitation on seasonal borrowing to amounts beyond those "which can reasonably be met by use of the bank's own resources," all the principles of current discount administration can be found by this date.

C. Activity at the discount window in the 1920's

A major proportion of the reserves supplied by the Federal Reserve in the 1920's were provided through borrowing by member banks. Discounts and advances as a proportion of Federal Reserve credit reached a peak of about 82 per cent in 1921 and never fell below 37 per cent during the period (Chart 1). In addition, the proportion of member banks borrowing from the Reserve Banks generally ranged around 60 per cent during the 1920's (Table 2). It was not uncommon, evidently, for hundreds of banks to be continuously borrowing amounts in excess of their capital and surplus.[32]

For the decade as a whole, the proportion of Federal Reserve credit supplied through the discount window fluctuated considerably but showed a clear decline after 1921. The proportion of member banks borrowing also reached a peak in 1921. This peak was not reached again until the crisis year of 1933, by which time the number of member banks had declined substantially (Table 2). Reports on continuous borrowers in 1925 and thereafter, reviewed above, were consistent with an active Board policy to

fact that in 1925, John Perrin, Chairman of the Board at the Federal Reserve Bank of San Francisco, felt it necessary to inquire of the Federal Reserve Board about the "propriety" of a member bank borrowing to purchase Government securities. Perrin noted that he did not think this was in any way wrong. In fact, he said, "(t)he advance in prices (of governments) has demonstrated the bank's soundness in Judgment (sic) in thus adding to profits at a time of relatively small earnings." He indicated, however, that a question had been raised by one of the directors of the Reserve Bank who was a "competing banker." [Telegrams from John Perrin to Federal Reserve Board, April 18, 1925, and April 21, 1925] The Board did not answer the questions directly but requested further information on the bank in question.

[31] *Fifteenth Annual Report of Federal Reserve Board: Covering operations for the year 1928,* p. 8.

[32] *Annual Report, Federal Reserve Board, 1926,* p. 5. Interest in this figure stemmed from the fact that prior to the establishment of the Federal Reserve System, national banks were not generally permitted to borrow in excess of their capital and surplus.

... relative to Federal Reserve credit and required reserves

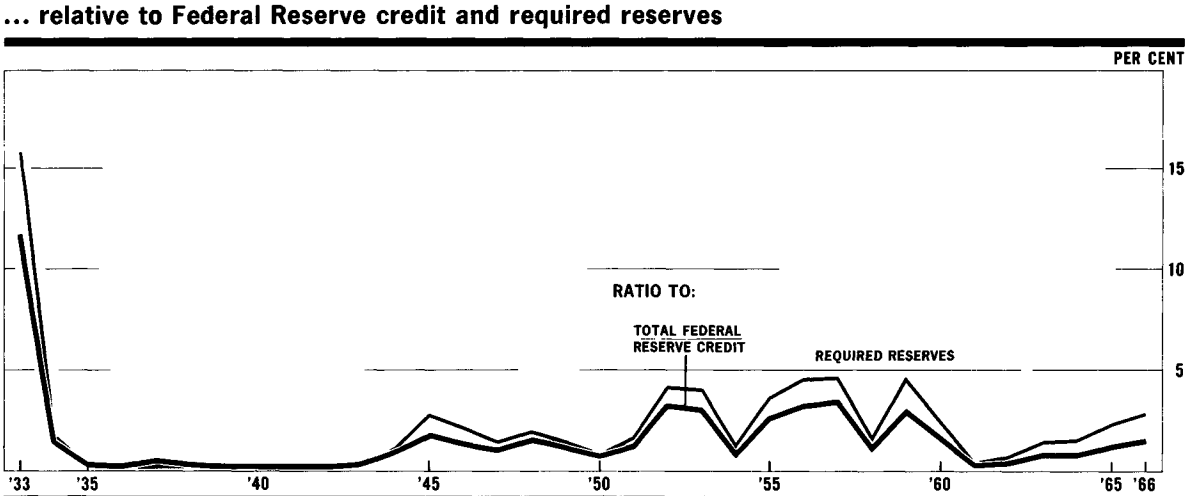


TABLE 2

MEMBER BANKS BORROWING AT FEDERAL RESERVE BANKS, 1915-35

Year	Member banks		Proportion borrowing
	Number discounting paper [1]	Total number [2]	
1915	1,920	7,615	25.2
1916	1,788	7,606	23.5
1917	3,127	7,653	40.9
1918	5,493	8,213	66.9
1919	5,993	8,822	67.9
1920	6,941	9,399	73.8
1921	7,415	9,745	76.1
1922	6,956	9,892	70.3
1923	6,333	9,856	64.3
1924	6,060	9,650	62.8
1925	5,183	9,538	54.3
1926	5,343	9,375	57.0
1927	4,869	9,099	53.5
1928	4,718	8,929	52.8
1929	5,113	8,707	58.7
1930	4,991	8,315	60.0
1931	5,260	7,782	67.6
1932	5,017	6,980	71.9
1933	4,270	5,606	76.2
1934	1,393	6,375	21.8
1935	692	6,410	10.8

[1] Represents number borrowing one or more times during year; figures are from annual reports of the Federal Reserve.

[2] From *Banking and Monetary Statistics*, Board of Governors of the Federal Reserve System, Washington, D.C., 1943.

discourage continuous borrowing.[33] The number of member banks borrowing continuously for a year or more was cut in half between August 1925 and the end of 1927 (Table 1).[34]

[33] The files for 1926–29 include a number of letters reflecting the efforts of the Board and the Reserve Banks to eliminate continuous borrowing for such purposes as carrying Government securities and operating in the call loan market.

[34] It should be noted, however, that in August of 1925 there existed a policy of mild monetary restraint induced by the flow of bank credit to the stock market, while in December 1927 there existed a policy of mild ease, induced by both international and domestic considerations. See Elmus R. Wicker, *Federal Reserve Monetary Policy, 1917–1933* (Random House, 1966), pp. 95-116; and Lester V. Chandler, *Benjamin Strong, Central Banker* (The Brookings Institution, 1958), pp. 435-47. The decline in numbers of continuous borrowers might be attributed in part to the change in monetary policy as well as to the change in discount policy.

D. The "failures" of the 1920's

The generally acknowledged successful conversion from a discount mechanism based on the "real bills" doctrine to a discount mechanism based on "reluctance to borrow" in the 1920's was accompanied by generally acknowledged unsuccessful attempts to use the discount mechanism in certain ways to achieve certain purposes. As mentioned, these "failures" include the attempt to use the discount rate, credit lines, and collateral requirements to control the extension of credit and also attempts to use preferential or penalty rates and "direct pressure" to influence the final use of credit.[35] Such experiences are hardly conclusive in themselves in precluding certain objectives or the use of certain techniques today. But they are of much interest—for example, in suggesting the difficulties that would be involved in using the discount mechanism for purposes of selective credit controls.[36]

[35] Anderson, *op. cit.*

[36] See Lester V. Chandler, "Selective Credit Control" (Discount Study).

III. THE CURRENT DISCOUNT MECHANISM

The banking crisis in the early 1930's led to liberalization of collateral requirements for borrowing from Reserve Banks. Emphasis was further shifted during this period from the technical requirements of eligibility to the requirement that collateral be "satisfactory." However, for almost two decades after 1933—during economic depression, World War II, and the early postwar period—borrowing activity at Reserve Banks remained at very low levels. Discounts and advances averaged only $11.8 million between 1934 and 1943, and $253 million between 1944 and 1951. Little interest was expressed in the intellectual and operating characteristics of the discount mechanism.

With the revival of flexible monetary policy after the "accord" in 1951 there was also a revival of concern about the possible "over-extension" of credit through the discount window. Partly as the result of a profit incentive to borrowing introduced by the excess profits tax,[1] discounts and advances increased to more than $1.6 billion in mid-1952 and remained over $1 billion during the first 4 months of 1953.[2] "These developments in particular" according to the System Committee on the Discount and Discount Rate Mechanism established in 1953, "brought under discussion within the System the whole question of the philosophy and effectiveness of its existing discount mechanism." [3]

A. The 1955 revision of Regulation A

The System Committee that had been established to study the question recommended that Regulation A be formulated so as to place reliance on and give support to the "tradition against borrowing." It was argued that, by doing so, the discount mechanism would serve both monetary policy and supervisory purposes. As a result, discounting could not be used to relieve for long or indefinite periods the pressure of monetary restraint upon the banking system and its customers. In addition, support given to the "tradition against borrowing" would contribute to the financial soundness of individual banks and the banking system. At the same time, it was argued, the discount window could serve to meet the "needs" of individual member banks for credit accommodation to facilitate short-run adjustments resulting from monetary restraint; that is, it would serve as a safety valve. More generally, short-term credit would be available to permit adjustment to unexpected declines in deposit flows and increases in loan demand; and longer-term credit, to help ameliorate emergency situations. In addition, it was believed that this "modernized philosophy" would serve to eliminate "incompatible interdistrict differences in discount methods" among the Reserve Banks.[4] This conception of the discount mechanism was essentially adopted in the 1955 revision of Regulation A. It is most clearly stated in the "General Principles" of the Foreword to the Regulation.

While the terminology of the "General Principles" is almost identical to that used in the 1920's, the 1955 revision reflected a difference in at least one important respect.[5] Concern about excessive borrowing in 1952 and 1953 arose when borrowing increased to over $1 billion. This was not a low dollar figure by 1920 standards. But in 1952–53, it represented only about 4 per cent of required reserves and 3 per cent of Federal Reserve credit. The revision of Regulation A in this situation reflected a choice to restrict activity at the discount window well below even the lowest relative levels reached in the 1920's and to provide almost all reserves by open

[1] Under a ruling by the Bureau of Internal Revenue in 1951, borrowing by banks could be included in their capital base for the purpose of calculating excess profits tax liabilities.

[2] See Bernard Shull, "The Rationale and Objectives of the 1955 Revision of Regulation A" (Discount Study).

[3] "Report on Discount Mechanism, 1954," p. 22.

[4] The report states: "(l)ack of a modernized discount philosophy . . . is a factor fostering undesirable regional differences in discount practices. . . . While some incompatible interdistrict differences in discount methods may now exist, the Committee is persuaded that differences not supported by variations in regional conditions and needs would be largely eliminated by a Regulation A reoriented along the lines suggested." "Report on Discount Mechanism, 1954," pp. 23, 34.

[5] In addition to the restriction on continuous borrowing the "General Principles" cite three "appropriate" purposes for borrowing (to meet "sudden" deposit withdrawals, seasonal requirements beyond those that can "reasonably" be met, and emergency needs resulting from "unusual situations" or "exceptional circumstance") and three "inappropriate" purposes ("principally" to profit from rate differentials, to obtain a tax advantage, or to extend an "undue" amount of credit for speculative purposes).

market operations. In qualitative terms, the 1955 revision was essentially a revival and codification of the rationale and administrative guidelines that had evolved in the 1920's. In the post-World-War-II environment, with commercial banks holding large amounts of liquid Government securities, it was intended to be far more restrictive than what had been achieved earlier. The intervening years in which banks had not made very much use of the window, in effect, permitted a major quantitative change, albeit a relative one, in operations.

The increased degree of restriction was most clearly expressed in reference to the issue of credit for seasonal purposes. It was indicated that the Federal Reserve had responsibility for responding to the seasonal swings in reserves that affect the banking system as a whole, but that member banks should generally meet foreseeable seasonal swings out of their own resources.[6] Since seasonals are, by definition, largely foreseeable, it is reasonable to believe that credit for such purposes was intended to be restricted to the exceptional case.[7] The emphasis on temporary borrowing, as indicated symbolically by a 15-day maximum maturity in normal circumstances, was intended *to further support* the general exclusion of borrowing for seasonal purposes.[8]

It was argued that this restriction was necessary to make a monetary policy of restraint effective. The report stated:

> If the member banks generally meet their normal operating responsibilities, use of the System discount facility would ordinarily be limited and would increase appreciably at times only in response to System operations directed at credit restraint.[9]

The Committee felt this was both desirable and practical. It noted that any attempt to meet the seasonal "needs" of individual banks could result in a redundancy of credit, since increases in demand by some banks are typically accompanied by decreases in demand by others. Reserve Bank credit made available to individual banks for seasonal purposes would inevitably have an effect on general credit conditions through the loan and investment process. "An oversupply of reserve funds through the discount window to meet seasonal needs of individual banks may thus render more difficult the conduct of general credit and monetary policy." [10] The System would rely on open market operations to compensate for seasonal (and other undesired) drains from the banking system as a whole and would rely on existing institutions and markets to distribute reserves to the individual banks experiencing declines in deposits or increases in loans. The principal market on which the distribution of reserves was seen to depend was the Government securities market.

> By maintaining an adequate portfolio of short-term Government securities and other money market paper which can be sold as needed, individual member banks in providing for ordinary seasonal requirements may assure themselves of *a satisfactory access to funds available* in the credit market. . . . Nearly all banks hold a considerable amount of Government securities not only at periods of seasonal ease but also on a continuing basis.[11]

[6] See "Report on Discount Mechanism, 1954," pp. 26, 27, and Appendix B.

[7] "It appears to the Committee that a limitation of Reserve Bank credit extensions for seasonal requirements to those 'which cannot reasonably be anticipated and met by the use of the member bank's own resources' is a desirable safeguard. . . . there will be extraordinary seasonal cases, most likely smaller bank situations, which will require discount acceptance on the basis of a reasonable evaluation by Reserve Bank officials of the special considerations giving rise to the borrowing need." *Ibid.*, pp. 26, 27.

[8] *Ibid.* Compare Section 202.2, note 1, of Regulation A. 12 CFR 201, as revised effective Feb. 15, 1955, with Section 2, note 6, of the previous revision in 1937.

[9] *Ibid.*, p. 26.

[10] *Ibid.*, Appendix B, p. 1.

[11] *Ibid.*, Appendix B, pp. 10, 11 [italics added]. The report also noted that "undue seasonal reliance of some member banks on discounts goes back more to inadequate holdings of cash assets and short-term Government securities than to the pressure of strong seasonal movements in deposits and loans," p. 12.

In addition, the Committee stated that the problem, even for the highly seasonal bank, is generally not unmanageable; "the proportion of resources that is stable is substantial. . . ." [12] Finally, it was suggested that correspondent banking relationships ameliorate the seasonal problem, at least for city banks.

Seasonal movements in interbank loans are not consistent, and in any event the magnitude of such loans is small. Interbank deposits (however), are considerably larger and show considerably larger fluctuations in dollar amounts over the year. . . . Thus, city banks actually gain funds at the period of their peak seasonal need. . . .[13]

B. Reliance on the tradition against borrowing

As noted, the conception of the discount mechanism as a strategic instrument of Federal Reserve policy was to be implemented through reliance on the tradition against borrowing.

A major lesson brought out by the bank credit liquidation (in the early 1920's) . . . was that it was unsound for any member bank to use continuous indebtedness to its Reserve Bank as a resource for conducting regular banking operations. . . . In the severe banking crisis and liquidation in the early Thirties, adjustment problems of the aggressive, continuous borrowing banks made evident the hazards to safety of depositor funds. . . . Because of this costly lesson, it was possible by the mid-Thirties to speak of an established tradition against member bank reliance on the discount facility as a supplement to its resources. . . . *Future discount policy . . . should build on the tradition as a keystone.*[14]

The tradition against borrowing was to be supported through the statement of a set of "General Principles" in Regulation A. These principles were designed ". . . to guide Reserve Banks in lending and member banks in Reserve Bank borrowing."

It is reasonable to believe that the "Principles," which are now found in the Foreword to Regulation A,[15] were not intended to be applied independently of one another as limits on the supply of borrowed funds. Rather, they represent a set of terms that roughly describe the kind of borrowing behavior expected of a bank "reluctant to borrow." [16]

In combination, they were intended to facilitate the rationing process, that is, to help discount officers and committees make a distinction between sufficiently reluctant (appropriate) and insufficiently reluctant (inappropriate) borrowing. It is suggested in the Committee's report that the duration of borrowing was to be used to establish a rebuttable presumption that borrowing was for an inappropriate purpose.[17] The purposes that were viewed as inappropriate, such as borrowing to profit from rate differentials, were those that implied reliance on borrowed funds in the "normal" course of business.[18]

Nevertheless, it was not expected that difficult rationing decisions would have to be made very often, or in the case of very many

[12] *Ibid.*, Appendix B, p. 11.

[13] *Ibid.*, Appendix B, pp. 6, 7 [parenthetical material added]. Presumably, the country bank problem would be ameliorated by the drawing down of excess cash deposited with correspondents during periods of seasonal tightness.

[14] *Ibid.*, pp. 10-13 [parenthetical material and italics added].

[15] *Ibid.*, p. 23. The "General Principles" suggested by the "Report on Discount Mechanism, 1954" and the "General Principles" as finally embodied in the Foreword to Regulation A as revised in 1955 are essentially identical.

[16] Shull, *op. cit.*

[17] It was expected that an "initial" request for credit by a member bank would normally be granted, and the question of continuous borrowing ". . . would arise first at the time of the first renewal." "Report on Discount Mechanism, 1954," Appendix C, p. 7. Certain "objective procedures . . . would facilitate administration where findings indicated that developments other than those stated were responsible." *Ibid.*, p. 34. With each successive period in which borrowing occurs, the report noted, "the probability that the borrowing stems from inadvertent causes obviously decreases." *Ibid.*, Appendix C, p. 10.

[18] Much of the analysis in the report relates to changes affecting individual banks under conditions of uncertainty. The definition of what, for example, constitutes an "unforeseeable seasonal decline in deposits" was not rigorously developed.

banks. The Committee's report suggested that most banks were sufficiently reluctant in their borrowing behavior to satisfy the requirements of monetary policy and bank supervision and that only a few aggressive banks borrowed excessively. It was expected that the revised Regulation, by indicating the System's position, would support the many adhering to the tradition against borrowing, while the work of discount officers and Reserve Banks would influence the behavior of the aggressive few.[19]

In summary, the administrative procedure suggested—involving Reserve Bank surveillance and frequent contact with continuous borrowers—was intended to influence bank attitudes by promoting the tradition against borrowing and, thereby, reducing the demand for credit. Where necessary, administration provided a device for rationing the supply of credit.[20]

C. Operations since 1955

Information on the manner in which the "General Principles" of Regulation A have been and are administered was obtained through a general questionnaire sent to each Reserve Bank,[21] an additional questionnaire sent to the discount departments of five Reserve Banks,[22] and a variety of other sources.[23] A reasonably complete picture of discount-window administration has been obtained.

It would appear that "initial" requests for credit are invariably accommodated promptly, with little if any discussion and with little inconvenience to the borrower.[24] In most circumstances no real effort is made to ascertain the purpose of borrowing initially.[25] Beyond this initial accommodation, the administrative process can, for purposes of analysis, be broken down into three consecutive stages: (1) surveillance of the borrowing bank; (2) a decision with respect to the "appropriateness" of the borrowing; and (3) in cases where an "inappropriate" decision is reached, the undertaking of "administrative counseling" or "discipline" aimed at securing repayment and "educating" the borrower in the appropriate use of the discount window.

These three stages may be viewed as elements in the process of nonprice rationing and "moral suasion" at the discount window. It is useful to discuss briefly the substance of the approach taken, and then to consider certain related problems that have come to light.

1. Nonprice rationing. The administrative procedures adopted by the Reserve Banks are essentially identical to the procedures envisioned in the 1954 Report on the Discount Mechanism. Surveillance takes place through observation and analysis of data on the operations of borrowing banks and through direct inquiries. An initial decision that borrowing which has continued over some time is "inappropriate" may be viewed as tentative. It is dependent on a variety of factors. These include some that are "given" when credit is extended (the amount borrowed, the previous borrowing record of the bank, the stated purpose);

[19] "Report on the Discount Mechanism, 1954," pp. 36–40.

[20] *Ibid.*

[21] "Questionnaire to Federal Reserve Banks Regarding Discount Operations," Oct. 1, 1965 (hereinafter referred to as "Questionnaire, 1965").

[22] This questionnaire was part of a review of member bank borrowing cases conducted by Kyle E. Fossum, Federal Reserve Bank of Minneapolis.

[23] These include descriptive presentations by several discount departments of their administrative procedures, quarterly borrowing reports by each Reserve Bank to the Board of Governors on problem borrowing cases, and periodic conference calls among the discount officers of all Reserve Banks and staff members of the Board of Governors.

[24] By "initial" is meant the first request of a bank that is not currently subject to surveillance for reason of previous borrowing.

[25] Shull, *op. cit.*

some that vary while the credit is outstanding (the borrowing bank's asset and liability management); and, of course, "time" itself, since duration is taken as evidence of "reluctance." These factors may be thought of as interacting in influencing the initial "appropriate-inappropriate" decision.[26]

Once the appropriateness of an outstanding debt has been seriously questioned, "administrative counseling" or "discipline" is undertaken. This procedure has been described by a Reserve Bank discount officer as follows:

> . . . a Reserve Bank official will promptly write, phone or arrange a conference with the member banker whose bank borrowings from the Fed. become frequent or extensive. Whatever form of communication is used, the Reserve banker's purpose is the same: to solicit from the borrowing member additional information about the circumstances that are causing his bank to borrow heavily or frequently; and depending on the nature of these circumstances, to counsel with the member bank about whether his bank's continued use of the discount window appears appropriate and consistent with principles established by the Board of Governors and set forth in its Regulation A.

If the "inappropriate" presumption is maintained while borrowing continues, "counseling" is "escalated" by meetings between Reserve Bank and borrowing bank officials at successively higher levels to "explain" the standards established by Regulation A, to request the presentation of a repayment program, and as a final measure to indicate that the bank's request for renewal of credit will not be honored. This procedure for restricting the duration and amount of credit is consistent with the view that the objective is to reach, if possible, a mutual understanding and agreement on the standards of Regulation A.[27]

A reasonable idea of the extent and qualitative significance of nonprice rationing was suggested in an analysis of replies to the questionnaire sent to the discount departments of five Reserve Banks. The questionnaire requested information on cases in 1965 and 1966 in which the borrowers were "counseled."

A fairly substantial proportion of borrowing banks were contacted for administrative purposes during 1965 and 1966. In both years, over one-quarter of the reserve city bank borrowers were "counseled" (Table 3). In 1965 only 8 per cent of the country bank borrowers were "counseled," but the figure rose to 23 per cent during the period of increased monetary restraint in 1966. For 13 of the 48 reported banks "counseled" in 1965 (the only year for which data are available), the Reserve Banks decided conclusively that continued borrowing would be inappropriate, and they requested full or partial repayment.

TABLE 3

BORROWERS AND "COUNSELED" BORROWERS IN FIVE FEDERAL RESERVE DISTRICTS, 1965 AND 1966

Item	1965		1966	
	Reserve city banks	Country banks	Reserve city banks	Country banks
Number of member banks...	67	2,145	67	2,101
Borrowing at least once:				
Number.....	57	384	62	551
Percentage borrowing.....	*85*	*18*	*93*	*26*
Borrowers counseled:				
Number.....	16	32	17	129
Percentage of total borrowers.....	*28*	*8*	*27*	*23*

The rise in the number of country banks counseled in 1966 is indicative of the increased burden imposed on discount administration during periods of monetary restraint. In part, pressure may be attributed to restricting the growth of bank reserves to a rate below that at which loan demand was growing. In part, it may be at-

[26] *Ibid.*
[27] *Ibid.*

tributed to an increasing differential between market rates and the discount rate, which made borrowing at the discount window a relatively profitable source of reserves.[28] In periods of restraint, the differential between market rates and the discount rate generally increases, and in 1966, of course, the differential widened substantially.

In qualitative terms the effect on discount administration was described as follows by a Reserve Bank discount officer:

> . . . there was some tendency for 1966 cases to be a little stickier than those in 1965. The borrowing periods involved were somewhat longer than average; frequently more calls or letters were needed to accomplish the desired results; and bankers were generally slower in accepting suggestions involving alternate ways of adjusting their positions.

From the member bank's point of view, limitations on future borrowing capacity and inconvenience involved in negotiations with Reserve Banks would tend to raise the actual "cost" of credit once a judgment were reached that the borrowing is inappropriate.[29] Moreover, a considerable degree of uncertainty must attach to the use of the discount mechanism. There would be uncertainty about (1) the duration over which an initial request for credit will be considered appropriate; (2) the rate at which the real cost of credit will rise, in terms of the inconvenience of being "counseled" and the implicit reduction in future borrowing capacity; and specifically (3) the effect of the past borrowing record on (1) and (2). When credit is initially extended, the Reserve Bank is generally not in a position to indicate to the borrowing bank the frequency or duration over which borrowing will be considered appropriate.[30] Uncertainty surrounding the terms and conditions on which credit is available and, in addition, the subjective aversion of banks to being "counseled" would also influence the relative attractiveness of discount-window accommodation and of borrowing from other sources.

The "costs" imposed on borrowing banks by administrative contacts under current procedures are, in general, indeterminable. They are difficult, if not impossible, to control—depending as they do on subjective as well as objective factors. They are, consequently, susceptible to nonuniformities among member banks and over time.

2. Administrative differences. In recent years, questions have arisen about the uniformity of discount-window administration among districts.[31] Replies to the questionnaire sent to each Reserve Bank in 1965 provided substantial evidence that understanding as to the significance of the restrictive terms of the "General Principles"

[28] See Donald R. Hodgman, "Member Bank Borrowing: A Comment," *Journal of Finance,* March 1961, pp. 90-93, for a discussion of both causes. Empirical findings on the responsiveness of the demand for credit to market and discount rates are discussed below.

[29] Since the amount of a loan (relative to bank size) is taken as one indication of "purpose," the cost of borrowing over any extended period of time would be positively related to the amount, *ceteris paribus.* Shull, *op. cit.*

[30] *Ibid.*

[31] For example, the report of the Commission on Money and Credit stated: "Clearly the intent of the Federal Reserve Board is to have discount administration relatively homogeneous among the twelve Federal Reserve banks, and the commission urges continued efforts to assure uniform standards of discounting practice. Uniform standards, of course, mean that like circumstances result in like treatment, at the same time permitting differences in practice where regional differences in economic conditions or needs require." *Money and Credit: The Report of the Commission on Money and Credit* (Prentice-Hall, 1961), p. 66.

More recently a study was undertaken by the American Bankers Association which has included a survey of commercial banks on questions relating to the use of the discount window. The survey questionnaire has included a question asking the bank's impression as to whether administration of the discount function varies from one Federal Reserve district to another. About one-third of those responding felt that there were differences. See *The Discount Function,* The American Bankers Association, New York, 1968, p. 50. See also David T. Lapkin and Ralph W. Pfouts. "The Administration of the Discount Function," *The National Banking Review,* December 1965, pp. 179–86.

differs in important ways. In consequence, the Regulation is or could be administered in substantially different ways among districts. Differences of importance among Reserve Banks were identified with respect to borrowing for seasonal purposes, borrowing "to profit from interest rate differentials," and "continuous" borrowing. With respect to "continuous" borrowing, differences reported involved the duration of "continuous" in the administrative "rules of thumb" reported, whether or not one or more groups of banks (for example, country banks, small rural banks) were excluded from the general "rules" and whether or not such "rules" were in terms of "days" as well as reserve periods in debt. Information on discount-window administration in borrowing cases that involved conditions not specifically referred to in the Foreword to Regulation A (such as borrowing while lending to correspondents) was also obtained from the survey. This information also indicated considerable differences among Reserve Banks and, for the most part, was consistent with the differences in interpretation of the three major "Principles" indicated above.

The nonuniformities reported in the responses to the questionnaire should be clearly distinguished from differences in circumstances that are, in fact, sanctioned by the Regulation. The regulatory design leaves considerable discretion to the Reserve Banks in deciding, on the basis of all the information available, whether a particular borrower is sufficiently reluctant in his borrowing behavior. The differences reported, however, derive from differences in the definition and interpretation of the "General Principles."

Reserve Bank responses to the questionnaire tended to fall into three categories: a lower, or below average, group with respect to the extension of credit; an upper group; and a broad middle range. While these distinctions are essentially qualitative in nature, the standards and the interpretations expressed appeared to be more homogeneous within the groupings, particularly the upper and lower, than between them.[32]

It is worth noting that there has been no attempt to translate the "General Principles" into explicit operational standards and criteria. The individual "Principles" were not intended to be specified in this way. To define them more precisely would change the Regulation from being *principally* an intended influence on demand to *principally* a device for rationing supply; and the basis for rationing would change from one where borrowing, if done reluctantly, were appropriate to one as yet undefined.[33]

3. Relations between Reserve Bank and member bank. Responses to the 1965 questionnaire also produced evidence to suggest that the borrower-lender relationship established under Regulation A contains elements of friction not normally found in commercial borrower-lender relationships. These apparently stem from both the highly restricted nature of the accommodation and the diffi-

[32] The middle group included districts that were, in fact, in the "middle range" in their administration and also districts about which there was insufficient information to make a judgment. The classification variables are used in a regression analysis focusing on the influence of trend, the results of which are provided in Table 12.

[33] In a study of the determinants of borrowing in six districts for which weekly reporting data for individual banks were available, it was found that in districts where relatively large amounts were borrowed from the Federal Reserve, relatively large amounts were also borrowed from other sources. (Leslie Alperstein, "A Reevaluation of the Determinants of Member Bank Borrowing from the Federal Reserve," unpublished doctoral dissertation, University of Pittsburgh, 1967.) The six districts included five that, on the basis of the questionnaire responses, had been classified in the "middle range." This finding, while suggesting the importance of demand as a determinant of borrowing, remains consistent with the existence of administrative differences.

culties in communicating the basis on which credit is extended and restricted.

Most of the Reserve Banks expressed varying degrees of concern about the adequacy of the discount mechanism in meeting the kinds of demands for credit arising at member banks. Several indicated that member banks were not obtaining sufficient funds from the discount window to meet what were believed to be reasonable demands.[34]

Some Reserve Banks also reported difficulties in communicating in a satisfactory way to member banks the basis of appropriate borrowing at the discount window. These and others reported serious difficulties in determining, in accordance with the "General Principles," the purposes for which funds are borrowed.[35] At least one Reserve Bank suggested that rationing under Regulation A generates resentment among borrowers.

It was noted above that replies to the questionnaire on borrowing cases in which "counseling" was undertaken indicated that in 1965 there were 13 such cases at five Reserve Banks in which it was decided that borrowing was inappropriate. In four of these cases the borrowing bank indicated that it felt unfairly or inadequately treated. While it is difficult to know how representative such a figure is, the direction of the bias seems clear. One discount officer noted:

> I think it is unrealistic to think that you are going to get any fair appraisal of attitude by asking member banks whether they agree with Reserve Banks; I mean it's like the traffic cop asking whether you agree with him when you go through a red light . . . I mean, four banks were honest enough to indicate some difference of opinion.

To the extent that the responses suggest a significant degree of misunderstanding and/or dissatisfaction by member banks, they tend to confirm the other reports mentioned.

Even during the period of severe monetary restraint in 1966 many large banks chose not to borrow at the discount window, but rather to pay considerably higher rates elsewhere.[36] This policy on the part of potential borrowers reaffirmed earlier choices that had resulted in a rise in the Federal funds rate above the discount rate after many years in which the latter rate had represented an upper limit. The aversion of large banks to borrowing at the discount window has also been reported by discount officers as an indication of misunderstanding or dissatisfaction with administration.[37]

The effects of discount-window administration on large banks is one aspect of current relationships that requires consideration. Regardless of the friction, however, most reserve city banks do borrow from Reserve Banks at least occasionally during any year. The proportion of country banks that normally do not borrow even once a year is, on the other hand, relatively large—running in recent years around 75 to 80 per cent (Chart 2). Many nonborrowers in the country bank classification never borrow from any source and therefore may be presumed not to have and/or not to recognize profitable opportunities for borrowing. However, the estimated proportion borrowing from all credit sources has been consistently larger than the proportion borrowing at the discount window (Chart 3). In 1966 about 25 per cent of country member banks borrowed from the

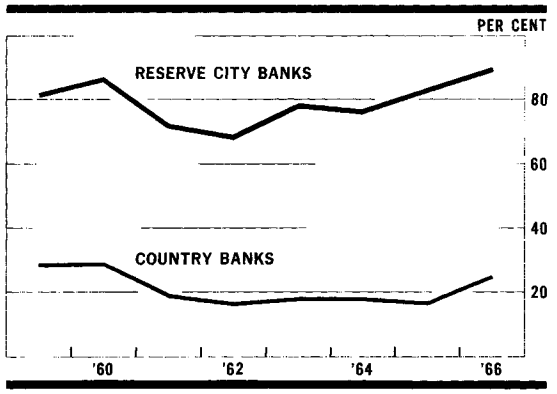
[34] "Questionnaire, 1965."

[35] It also seems clear that a number of Reserve Banks have adopted more or less arbitrary rules on amount and frequency of borrowing as proxies for actual purpose. It is noteworthy that such rules are, in effect, proxies for a proxy since the purpose restrictions were intended to throw light on "reluctance."

[36] See Dolores P. Lynn, "Reserve Adjustments of the Eight Major New York City Banks During 1966" (Discount Study).

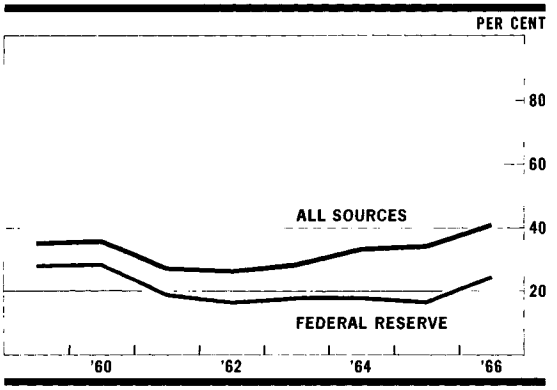
[37] The attitude of some large banks was complicated in 1966 by the introduction of a special lending program at the discount window under the so-called "September 1 letter." An inquiry into the impact of this program was also undertaken.

2 | Member Bank Borrowing at Federal Reserve
Ratio of number of borrowers to all member banks



System, while 41 per cent were estimated to have borrowed from all sources. Given the relatively attractive rates on one-day or one-

3 | Country Bank Borrowing
Proportion borrowing from Federal Reserve and others



period money at the discount window, and the absence of any absolute restriction on borrowing for short periods, it is reasonable to believe that many nonborrowers also misunderstand and/or are dissatisfied with the discount facility.

D. Comparison with foreign experience

In comparing the Federal Reserve's discount mechanism with discount mechanisms in industrial countries abroad, it was found that "(o)nly a few of the central banks surveyed base the administration of the discount window on the assumption that commercial banks are reluctant to borrow (and to stay in debt) . . ." [38] In a number of the countries surveyed "discounting is considered a normal source of a considerable part of the banking system's cash reserves rather than merely a safety valve, available normally only for a very short period, pending adjustment of bank assets and liabilities." [39]

Since the conditions that make open market operations the monetary instrument of choice in the United States do not exist in most other industrial countries, the discount window has continued to be a principal tool of monetary policy. "Against the background of foreign experience, our discount mechanism, no less than our entire monetary and banking system, appears as a unique case. . . . " [40]

In recent years, many foreign central banks have been confronted with the problem of excess liquidity in the banking system resulting from foreign exchange surpluses and, to some degree, Government deficits. In these countries, efforts have been made to restrict the growth of the reserve base, in part by restricting the extension of credit at the discount window and in part by developing other means of control. Some techniques, long used in the United States, have been introduced abroad—for example, open market operations, reserve requirements, and the use of moral suasion. In addition, relatively unfamiliar devices have been used. These include (1) controls aimed at limiting the expansion of bank credit direct-

[38] George Garvy, "The Discount Mechanism in Leading Industrial Countries Since World War II" (Discount Study), Part I [over-all review], Part II [country studies]. Parenthetical material added.
[39] *Ibid.*
[40] *Ibid.*

ly, for example by means of limits on loans or permissible rates of increase during specified time periods; and (2) controls aimed at limiting the expansion of credit indirectly through quantitative restrictions on borrowing at the discount window and through use of various types of penalty rates.

Indirect controls have traditionally included the use of the discount rate as a device to restrict the extension of credit. In some countries the discount rate has developed into a structure of rates related to the size and duration of borrowing, borrowing within or above some specified quota, and/or borrowing in order to extend credit for some preferred or nonpreferred purpose or type of loan.

All the countries surveyed have a multiple rate structure. But most have not been able to place exclusive reliance on rate.[41] For example, in recent years even the United Kingdom, which has traditionally relied heavily on rate, has also found it necessary to rely to a significant degree on moral suasion.[42]

Exclusive reliance on rate has not proved practicable for a variety of reasons; but it should be noted that not all of these reasons are relevant in the economic and institutional environment of the United States. Attempts to ration credit by rate in countries where there are automatic linkages between the discount rate and bank lending or deposit rates, and in countries where discount credit accounts for a substantial proportion of bank reserves, will quickly result in relatively large interest rate movements throughout credit markets. There has been considerable concern in the countries surveyed that such rate fluctuations would be disruptive to financial markets. In countries where international capital flows are an important source of bank reserves, there has been concern about the offsetting effect of rate increases that would induce inflows of funds from abroad.[43] In countries where the use of rate means frequent variation in the "official" discount rate, there has been concern about "announcement effects." In Canada the problem of announcing increases in the discount rate was met, between 1956 and 1962, by tying the discount rate to the Treasury bill rate.[44]

There appears to have been no effort in foreign countries to maintain nonrate rationing constant in changing economic circumstances, as is the case in the United States. (This difference may perhaps be attributed to the fact that the controls over credit extension elsewhere are aimed principally at serving the objectives of monetary management and not, as in the United States, the purposes of bank supervision as well. If there is no need to select a standard of "reluctance" acceptable to the conditions of bank "soundness," which by its nature cannot be varied easily, there is no apparent reason to maintain an inflexible degree of nonprice rationing.) In addition, it was found that foreign central banks do not uniformly frown upon, or penalize relending at a profit.[45]

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[41] Among other controls should be noted the use of mandatory liquidity ratios to immobilize assets that could otherwise be used to borrow at the central bank. *Ibid.*, Part II, "France."

[42] *Ibid.*, Part I and Part II, "United Kingdom."

[43] *Ibid.*, Part I.

[44] *Ibid.*, Part II, "Canada."

[45] *Ibid.*, Part I. In contrast to the discount mechanisms of foreign central banks, which are principally if not exclusively tools of monetary policy, the advance mechanism of the Federal Home Loan Bank System in the United States is principally if not exclusively a tool for facilitating the adjustment and growth of locally oriented savings and loan associations. The availability of credit in all maturity ranges, on a large scale, to relatively small institutions has been accompanied, in recent years, by restrictions of a supervisory nature. The Federal Home Loan Bank Board has imposed restrictions aimed at curtailing credit to associations engaged in "unsound" practices as evidenced by the growth of "slow assets" (Staff review of Home Loan Bank System by Lynn Styles, Federal Reserve Bank of Chicago, and Robert King, Board of Governors.)

IV. RELEVANT CHARACTERISTICS OF THE FINANCIAL ENVIRONMENT

The discount mechanism as it was formally designed in 1955 is built on a number of hypotheses about the economic environment in which it was intended to operate. There was a perceived ecology on whose approximate existence the usefulness of the mechanism was considered to be dependent. The hypothesized "outside" conditions may be contrasted with the "inside" workings of the mechanism itself discussed above.

Some important issues that arise in evaluating the discount mechanism relate to the current validity of the environment hypothesized in 1955. The hypotheses themselves range from views about bank motivation and behavior to the functioning of financial markets. In this section these hypotheses will be elaborated and also evaluated in the contemporary environment.

A. Bank motivation

The relative importance of the several values motivating bankers in their borrowing decisions has been and is a critical issue in evaluating the current discount mechanism. As discussed above, if banks are "reluctant" to borrow and/or remain in debt to an important degree, then debt can be viewed as having a uniquely restrictive impact on bank behavior. Presumably banks would not be particularly sensitive to differentials between market rates and the discount rate. If, on the other hand, banks are not particularly reluctant to borrow, then the restraint imposed by an increase in the aggregate debt of the banking system is not automatic, and emphasis must shift to the restriction imposed by nonprice rationing at the several discount windows.

1. Need versus profit. The theoretical issues involved in the debate over whether banks borrow out of "need" or for "profit" appear largely resolvable.[1] "Need" may be identified with a reluctance to borrow, which may be interpreted as meaning that bankers attach a negative utility to incurring debt. There is no theoretical difficulty in incorporating a disutility attributable to debt into a function, including profit from borrowing, which bankers are assumed to maximize.[2] As a result of doing so, however, empirical issues are raised. In general these relate to the responsiveness of borrowing to interest rates, that is, in the interest elasticity of demand for borrowing;[3] and to the effect of past borrowing behavior (that is, outstanding debt) on current borrowing.

2. The "tradition against borrowing" in System thought. The "tradition against borrowing" and related concepts, that is, "reluctance to borrow" and "reluctance to borrow continuously," have, as indicated, dominated System thinking about the discount mechanism since the mid-1920's. They have, by and large, dictated the role ascribed to the discount rate and the strategy of the System toward member bank asset and liability management. It is worth noting, however, that the issue was never simply whether banks were, at a given time, reluctant to borrow, but also whether the "reluctance

[1] Anderson, *op. cit.;* David M. Jones, "A Review of Recent Academic Literature on the Discount Mechanism" (Discount Study).

[2] See Murray E. Polakoff, "Reluctance Elastictity, Least Cost, and Member Bank Borrowing: A Suggested Integration," *Journal of Finance,* March 1960, pp. 1-18; Polakoff, "Federal Reserve Discount Policy and Its Critics," *Banking and Monetary Studies,* edited by Dean Carson (Richard D. Irwin, Homewood, Illinois, 1963), pp. 190-212; Donald R. Hodgman, *loc. cit.;* Stephen M. Goldfeld and Edward J. Kane, "The Determinants of Member Bank Borrowing; An Econometric Study," *Journal of Finance,* September 1966, pp. 499–514.

[3] Goldfeld and Kane, *op. cit.*, pp. 502-03.

convention," as supported by System policy. was viable over the long run.[4]

It is reasonable to believe that the current reconciliation of "need" versus "profit," described above, is not alien to the theoretical views underlying the current discount mechanism. Reluctance has generally been presumed to influence the demand for credit by reducing bank responsiveness to differentials between market rates and the discount rate. Reluctance to borrow may then be interpreted as an attitude possessing some value in a system of values that includes profit;[5] the position and slope of the demand schedule can theoretically be obtained from the relevant costs and returns on borrowed funds and the preferences of bankers.

The so-called "reluctance to borrow continuously" suggests that banks will aim at zero amounts of long-term borrowing in managing their assets. Such reluctance would also tend to reduce the amount borrowed. Borrowing would be negatively related to existing debt or, perhaps more generally, associated with the pattern of borrowing in the recent past. It has been argued that, during periods of restraint, reluctance takes hold when banks begin to be continuous borrowers, as indicated by the fact that aggregate borrowing at the discount window had reached a relatively high level.[6]

It was clearly recognized, in at least some System documents, that the slope and position of demand schedules for borrowing would vary from bank to bank, as preference systems would vary. However, the belief implicit in the 1955 revision was that, for the banking system as a whole, demand is not very high or elastic,[7] and/or could be so influenced.

Finally, it appears to have been well understood that the preference systems of banks could, and in fact do, change radically from time to time. The large amounts of borrowing during the expansion of 1920-21, and the surveys of continuous borrowing in 1925 and thereafter, clearly indicated that an acceptable degree of reluctance was neither an automatic nor inevitable condition.

In the early 1950's, many in the System no doubt believed that the experience of the 1930's had supported the attitude of reluctance in a substantial way. But, at the same time, the concern that led to a revision of Regulation A reflected a belief that reluctance was waning. In consequence, it may be inferred that the relationships among borrowing, interest rates, and bankers' preferences were viewed as changing with the business climate.

In this context, terms such as "tradition against borrowing" and "borrowing out of need" may be taken as oversimplifications. Reluctance to borrow has been viewed as "traditional" principally in the sense that economic circumstances encouraging reluctance are viewed as traditionally recurring phenomena. The expectations, and therefore the attitudes, of bankers toward borrowing have been seen as both determining and being determined by the current and past states of the economy. Finally, "borrowing out of need," with its real-bills overtones, is a misleading term in that it

[4] The revision of the discount mechanism in 1955 on the basis of "reluctance" was not, however, accepted uncritically throughout the System; this is indicated in papers and memoranda prepared during the 1953-54 study. See in particular, Karl R. Bopp, "Role of the Discount Rate," in Statements of Associate Economists of the Federal Open Market Committee before the Conference of Presidents, June 21, 1954, and, in reply, Winfield Riefler, "Volume of Borrowing vs. Profitability of Borrowing," Memorandum to Discount Rate Committee, Aug. 19, 1954.

[5] Jones, *op. cit.*

[6] Bopp, *op. cit.*

[7] See Riefler, "Volume of Borrowing vs. Profitability of Borrowing," *op. cit.*

suggests a bank motivation that is not, in reality, independent of borrowing aimed at a better earnings position.

3. Interest elasticity of demand for borrowed funds. Empirical studies testing the relationship between market rates and borrowing have for the most part had available only highly aggregated data. On the basis of such data, there have been findings that borrowing is positively related to profitability (for both reserve city and country banks) and that elasticities are sufficiently large to reject the hypothesis that banks are insensitive to rate spreads.[8]

One study of borrowing by weekly reporting member banks in six Federal Reserve districts, mentioned above, found that borrowing activity at the discount window was related to a number of factors, including a measure of bank liquidity, bank size, the difference between the bill rate and the discount rate, and the district in which member banks are located. The measures of borrowing activity included the proportion of banks borrowing in each district, the frequency with which the banks borrowed, and the proportion of deposits borrowed. A variety of tests were made which tended to support the findings that holdings of liquid assets are negatively related to borrowing, that bank size is positively related to borrowing, and that the difference between the bill rate and discount rate is positively related to borrowing. In addition, it was found that borrowing activity varied significantly among districts. Finally, it appeared that the same determinants explained borrowing from other sources more fully than they did borrowing from the Federal Reserve.

These findings are generally in accord with expectations. They tend to confirm that borrowing from the Federal Reserve is responsive to relationships between market rates and the discount rate, and also to internal portfolio considerations. The fuller explanation of borrowing from non-Federal Reserve sources is consistent with the existence of a more complicated and restrictive constraint on the supply of funds at the Federal Reserve; this constraint was not specified in the model.[9]

Because it has not been possible to specify precisely the supply function for borrowing from the Reserve Banks, studies up to now have not been able to distinguish effectively between the reluctance of banks to borrow and what might be thought of as the willingness, in different circumstances, of Reserve Banks to lend. A failure of banks to respond to rate differentials might be due to either. To the extent it is due to the latter, no light is thrown on the issue of bank reluctance, though it is evident that borrowing can be controlled by the Reserve Banks.

Beyond this conceptual issue, it should be noted that there is relatively little empirical evidence on the relationship between the previous pattern of borrowing and current borrowing.[10] Nevertheless, among the large

[8] Jones, *op. cit.*

[9] Alperstein, *op cit.* See also Stephen Goldfeld, *Commercial Bank Behavior and Economic Activity: A Structural Study of Monetary Policy in the Postwar United States* (Amsterdam: North Holland Publishing Co., 1966), pp. 43-50; Goldfeld and Kane, *op. cit.*, pp. 503-06; Murray E. Polakoff and William L. Silber, "Reluctance and Member Bank Borrowing: Additional Evidence," *The Journal of Finance*, March 1967, pp. 88–92.

[10] However, see Frank de Leeuw, "A Model of Financial Behavior," in *The Brookings Quarterly Econometric Model of the United States,* edited by James S. Duesenberry (Rand McNally & Co., 1965), p. 513. According to de Leeuw, "the negative influence of lagged borrowing—banks' 'reluctance to borrow'—is greater when funds are flowing in than when banks are short of funds." Also see Goldfeld and Kane, *op. cit.*, pp. 505, 506, 511, 512. Goldfeld and Kane state: "current borrowings will vary positively with the level of borrowing in previous weeks, with the influence of past borrowings falling off (and perhaps, because of surveillance costs, even becoming negative) as they recede into the more and more distant past"

money market banks at least, there is substantial evidence from their asset and liability management that reluctance to borrow is not an important attitude in restraining policies. The large New York banks, for example, show continuous basic reserve deficiencies of substantial amounts, even though relatively little borrowing is done at the discount window.[11] As to smaller banks, it would be difficult to generalize about their attitudes toward borrowing. But there seems to have been, in recent years, a growing acceptance of participation in credit markets such as the Federal funds market.[12]

4. Federal Reserve influence on bank attitudes. As indicated above, System views on bank borrowing imply a belief that there is an element of reluctance in bank attitudes toward debt that can be emphasized and supported by System efforts. The issue raised by this view cannot be completely resolved by economic analysis.

It should be noted that the financial conditions that have historically tended strongly to support a reluctance of banks to borrow have now largely disappeared. These include: (1) the close financial interdependency among banks that existed before the development of modern monetary policies and that tended to make banks cautious about interbank borrowing; (2) the intimate concern of most depositors with matters such as the collateral hypothecated by the management of their banks, which apparently existed prior to the introduction of Federal deposit insurance and modern monetary and fiscal policies; and (3) high rates of bank failure (in the 1920's and early 1930's) associated with different economic circumstances and earlier views of economic policy.

Little can be said with certainty about the Federal Reserve's current influence on bank attitudes toward borrowing. The most direct influence would likely be on attitudes toward borrowing at the discount window. However, to the extent the discount window represents a little used source of funds by relatively few banks, it seems doubtful that the window can be used effectively to influence attitudes that are continually being shaped in a growing variety of credit markets. Particularly in view of the existence of other sources of credit and the interbank markets for excess funds, the attempt to influence attitudes is more likely to affect the real cost of credit at the discount window than the preference systems of banks with respect to borrowing in general.

B. The bank adjustment problem

The discount mechanism provides a method by which banks can meet reserve requirements when, for one reason or another, reserve deficiencies develop toward the end of reserve periods, and also when large and more sustained outflows of funds develop during particular seasons of the year or in periods of financial emergency. It has been observed that small, unit banks are generally less well equipped to handle seasonal and other adjustment problems through financial markets than are large branch banks.[13] It

(p. 506). However, the existence of multicollinearity in the borrowing variables for previous periods made it difficult to distinguish the effects of successively earlier debt positions (p. 512). In addition, it has been argued that as the rate spread widens the rate-effect on borrowing will, after some point, become negative. Polakoff, "Reluctance Elasticity, Least Cost and Member Bank Borrowing—A Suggested Integration," *op. cit.* In such an event, the rate spread, which appears to be reflection of an accumulated indebtedness, would operate in the restrictive manner envisioned by current monetary policy. However, this point is still moot and a subject of current controversy in the literature. Goldfeld and Kane, *op. cit.*, pp. 512-14; Polakoff and Silber, *op. cit.*

[11] Lynn, *op. cit.*

[12] See Parker Willis, "A Study of the Market for Federal Funds" (Discount Study).

[13] This note appears on opposite page.

should also be noted that adjustments by large banks through financial markets cannot always be managed without substantial impacts on financial conditions generally, and without raising serious problems for the banking system and for monetary policy.[14]

In periods of financial difficulties, open market operations constitute an effective technique for relieving market pressures. But since reserve drains fall on individual banks, and because smaller and more remote banks are not the immediate or certain recipients of funds provided, the discount facility constitutes a more selective device.

The 1955 revision of Regulation A indicated that Reserve Bank credit would be available to facilitate bank adjustment. But it also indicated that only minimal amounts would be available in the absence of exigent circumstances. This orientation was based on the belief that the nonemergency adjustment problems could be substantially ameliorated in the then-existing financial environment, through timely open market purchases and the market-determined distribution of reserves thus supplied.

A principal issue raised in the course of the discount study has been whether this orientation is reasonable and equitable, particularly with respect to small unit banks. (Beyond this, of course, is the question of whether it is practicable to do anything other than what was done in 1955.)

It is possible to break out some economic sub-issues that bear on the general question raised; and a number of research papers have developed information on these.

1. The nature of structural disadvantage. Relatively large fluctuations in deposits and/or loans experienced by small, rural, unit banks apparently derive from their lack of diversification. It is a well-known proposition that variability of a bank's deposits depends, among other things, upon the extent of geographic and functional diversification of depositors. Variability, then, would be related to bank size and also to the geographic extent of branching organization.[15]

Unusually large seasonal variations may also exist because of an inverse relationship between loan and deposit changes traceable to bank borrowers and depositors who are influenced by common or related factors.[16] It can be shown that changes in locally generated demands for bank loans and deposits will be in opposite directions to the extent that both changes derive from fluctuations in the expected yield on nonfinancial investment.[17] Since the expected yields on

[13] See Robert V. Roosa, "Credit Policy at the Discount Window: Comment," *Quarterly Journal of Economics,* May 1959, p. 335; Edward C. Simmons, *op. cit.,* p. 416; Simmons, "Federal Reserve Discount-Rate Policy and Member-Bank Borrowing, 1944–50," *The Journal of Business,* January 1952, pp. 20 and 21.

[14] The use of the discount mechanism as a "safety valve" during periods of monetary restraint is discussed in Section VI. For a description of the way in which large New York City banks adjusted during the period of financial restraint in 1966, see Lynn, *op. cit.*

[15] For evidence on the relationship between size and variability see for example, Lyle E. Gramley, "Deposit Instability at Individual Banks," *Essays on Commercial Banking,* Federal Reserve Bank of Kansas City, 1962, pp. 43–53; and C. Rangarajan, "Deposit Variability in Individual Banks," *The National Banking Review,* September 1966, pp. 61–71.

Data on intrayear fluctuations in loans and deposits for all insured banks are presented below. Further study of seasonal fund flows, using daily deposit and semimonthly loan data for a selected group of member banks, has more recently been undertaken.

[16] Robert J. Lawrence, "The Regional Distribution of Bank Loans" (Discount Study).

[17] Lawrence postulates that $D = D(r_s, r_g, Y)$ and $L = L(r_l, E, Y)$, where D is the demand for bank deposits in real terms, r_s is the interest rate on Government securities, r_g is the expected yield on real property, Y is real income, L is the demand for bank loans in real terms, r_l is the interest rate on loans, and E is the set of expected returns from the use of loan proceeds. The interest rate on deposits may be assumed to be zero or constant throughout. The demand for both loans and deposits is directly related to income. The demand for loans is inversely related to r_l and directly related to E; the demand for deposits is inversely related to r_s and r_g. The expected yield on real property and the expected

nonfinancial investment will vary seasonally in many agricultural areas (as well as secularly among regions experiencing differential economic change), the regional distributions of loan demand and bank deposits, at any point in time, may be quite different.[18] So, for example, a bank located in an area with a highly seasonal economy that is growing very rapidly may well find a dearth of locally generated deposits, particularly at its seasonal peak in loan demand.

Banks requiring additional reserves may obtain them by selling assets or by borrowing. If all banks have liquid assets such as Government securities to sell, then each can obtain additional reserves at approximately the same market cost, that is, the yield foregone on the securities.[19] If banks do not have Governments to sell, however, they must sell other assets or borrow. In selling other assets, such as municipals, mortgages, farm loans, etc., secondary market structures assume particular importance. These markets range in quality from excellent to primitive.[20] It would appear, however, that differences in the quality of such markets do not necessarily constitute a unique problem for small, unit, rural banks.[21]

In borrowing, on the other hand, the disadvantages of a unit banking structure could become more readily apparent. Smaller banks generally appear to have fewer alternative creditors and also to suffer from the high cost of reliable information about them. The small size of these banks may preclude systematic participation in some markets (for example, Federal funds). Ties to specific correspondents for a variety of services may discourage, if not preclude, effective searching for and use of alternative sources of credit. Lack of information or lack of ability on the part of managers of these banks would tend to reduce the number of alternative credit sources also. Finally, systematic reliance on time deposits may prove impossible due to maximum rates permitted under Regulation Q. (If large, well-known banks are paying the maximum, smaller and lesser-known banks cannot hope to rely on the time deposit market.) In addition, lack of readily available information about smaller banks would, in general, tend to make them higher-risk investments to potential lenders. In particular, their lack of diversification would increase the likelihood of problems as seen by lenders, without any offset that might be warranted by more detailed but costly investigation. Both a lesser number of alternative credit sources and the higher risks involved in lending would, in themselves, tend to result in a relatively high cost and lower volume of borrowed reserves.[22]

The structural disadvantage of smaller banks was not disregarded by the System Committee in 1955, but no special provi-

returns on loan proceeds vary directly; however, the demand for loans is directly related to the expected return on loan proceeds, whereas the demand for deposits is inversely related to the expected yield on property.

[18] Lawrence, *op. cit.*

[19] *Ibid.*

[20] Staff study of secondary markets in municipals, mortgages, and farm loans was undertaken, respectively, by William Staats, Federal Reserve Bank of Philadelphia, and J. A. Cacy and Raymond Doll, Federal Reserve Bank of Kansas City. See Raymond J. Doll, "An Investigation of the Credit Requirements and Availability of Credit in Agricultural Areas" (Discount Study), and William F. Staats, "The Secondary Market for State and Local Government Bonds" (Discount Study).

[21] Improvements in secondary markets for assets held by large numbers of commercial banks could improve the availability and reduce the cost of obtaining reserves in the absence of Government security holdings. Better secondary markets might have desirable effects, as well, on the ease with which financial markets adjust to monetary restraint. See Hyman Minsky, "Financial Instability Revisited: The Economics of Disaster" (Discount Study).

[22] In effect, the demand for funds confronting a potential lender would appear less elastic, and the volume of funds such a lender would make available at various rates would be lower.

sions at the discount window were believed to be necessary because the vast majority of banks held large amounts of Government securities.[23] The implicit assumption was that reserves, whether newly injected or already existing, would be available, and at a reasonable cost, to banks for any short-run purpose.[24] In effect, it was argued that "sound" banking requires the holding of Government securities, and that the holdings of Government securities give all banks access to reserves, whenever the banks demand them, *at a market price more or less determined by the Federal Reserve.*

Regardless of the volume of Governments held by commercial banks, the disadvantage of structure to the customers of small, unit, rural banks would exist. There are costs associated with operating under these conditions, and these costs presumably are passed on to local customers. To the extent that disadvantaged banks compete directly with more favored banks, the latter would tend to grow larger and the former smaller. However, if local customers of smaller banks can only obtain credit elsewhere from higher rate financial institutions or at higher rates that include a risk premium associated with their distance and the high cost of information about them, they too would incur the disadvantage.

There are, consequently, several general implications that also warrant consideration. First, geographic extension of competition for bank customers will tend to injure smaller and more specialized banks. Secondly, while some customers would benefit from such competition, others—particularly small and locally limited customers—would probably not and could suffer as a result. Whether or not extra-local competition develops, the problems associated with small size would tend to result in an undesirable allocation of bank credit.

Finally, the responsibility assumed by the System in providing reserves through open market operations in response to seasonal and other fluctuations to facilitate bank adjustment is made more difficult in a banking system that relies on credit markets. The difficulties faced by small banks, among other things, create conditions such that the reserves provided through open market purchases will not necessarily be distributed among banks in proportion to losses in reserves they are intended to replace.[25]

2. Magnitude of the problem. An evaluation of current discount policy with respect to the provison of credit for bank adjustment purposes was approached by considering the magnitudes of intrayear fluctuations faced by banks in different size groups and economic situations, and by examining the ways in which adjustments currently may be handled. In considering alternative methods of adjustment, recent developments in bank holdings of Government securities were reviewed, as was evidence on credit flows through the correspondent system and the markets for Federal funds and certificates of deposit.

a. *Intrayear Fluctuations.* As noted above, deposit variability at the individual bank level is related to the economic diversification of bank customers. Loan demand variability would seem to be directly related to the economic diversification of borrowers.

[23] It should be added that unit banks in rural areas have also had an advantage in obtaining funds in their local areas. Limited numbers of competitors and high regulatory barriers to entry have permitted these banks, at least until very recently, to obtain deposits at rates well below those paid in major metropolitan areas.

[24] The emphasis on short- or possibly intermediate-term adjustment stems from the restriction on continuous borrowing reviewed above.

[25] On the reserve distribution problem, see Goldfeld, *op. cit.*, p. 153.

Such variability in deposits and loan demand may tend to be reinforcing rather than offsetting in producing variability in the demand for reserves, at least over some periods of time.

A rough attempt was made to determine the magnitudes of intrayear fluctuations at individual banks by looking at their quarterly and semiannual outflows (or inflows) defined as the change in the deposits of individuals, partnerships, and corporations (IPC) minus the change in nonfinancial loans, after both were "adjusted for trend."[26] The only comprehensive data available for banks of all sizes were from condition reports. Semiannual and quarterly changes were computed for the period July 1962–June 1963, and semiannual changes for the period July 1965–June 1966, these being the only periods for which data were available. The analysis was based on data for all insured commercial banks.

The inflows and outflows of funds, as calculated, include both random and seasonal movements. In addition, there is little likelihood that the maximum variation in either type of movement (or the net of the two) has been accurately calculated, since the dates upon which the calculations are based are not necessarily analytically meaningful. (However, the half-year periods July–December may approximate the period of maximum fund outflow in many agricultural areas.) It should also be noted that the calculation makes no distinction between loans and deposits as claims on bank resources. Thus in the case of pressure on a bank's reserve position, where loans are liquidated to meet deposit losses, the calculated outflow of funds would be reduced; and the outflow figure would not be comparable with the case in which pressure on reserves is met by sales of liquid assets.

Results of the analysis based on these data are generally consistent, however, with expectations and may be viewed as providing some notion of the quantitative significance of the fluctuations experienced. Data for all member and all insured banks suggest that the likelihood of a bank experiencing a "large" intrayear outflow (defined as 10 per cent or more of deposits) is inversely related to size (Table 4). Thus, in the first half of 1966, for example, 27 per cent of member banks with deposits of under $2.5 million had "large" fund outflows, compared with 6 per cent of banks with deposits of $25 million to $100 million. Substantially identical results were obtained for the first half of 1963. Quarterly data for 1962–63 and data for all insured banks also are consistent with the conclusion.[27]

For a number of banks, fund outflows resulted from a combination of deposit declines and loan increases during the same period. For example, during the second quarter of 1963, 42 per cent of member banks had simultaneous increases in loans and declines in deposits. These combined to cause an outflow of $2.75 billion at these banks.[28] During the first half of 1966, 46 per cent had increases in loans and declines in deposits, with a resulting outflow of $5.5 billion (Table 5).

The dollar amounts involved in intrayear fund outflows of banks with "large" outflows were, as might be expected, a relatively small portion of total outflows. For example, in the first quarter of 1963, the aggregate outflow for all member banks experiencing outflows was $5.7 billion. Of this amount, the aggregate outflow for banks with an outflow

[26] An exact definition of the fund flow calculated may be found in Emanuel Melichar, "Intra-year Fund Flows at Commercial Banks" (Discount Study).

[27] *Ibid.*

[28] *Ibid.*

TABLE 4

FREQUENCY OF LARGE RELATIVE OUTFLOWS

Percentage of Banks with Fund Outflows of 10 Per Cent or More of Net Deposits, by Size of Bank

Period	Total	Net deposits (millions of dollars)							Total	Net deposits (millions of dollars)						
		Under 2.5	2.5 to 4.9	5.0 to 9.9	10.0 to 14.9	15.0 to 24.9	25.0 to 99.9	100.0 and over		Under 2.5	2.5 to 4.9	5.0 to 9.9	10.0 to 14.9	15.0 to 24.9	25.0 to 99.9	100.0 and over
	Member banks								Member and insured nonmember banks							
July–Dec. 1965	2	3	3	2	1	1	1	.....	3	2	2	2	1	2	1	.....
July–Dec. 1962	1	3	1	2	1	(1)	1	.....	2	3	2	2	1	1	1	.....
Jan.–June 1966	14	27	18	15	9	7	6	5	18	31	19	16	10	8	6	5
Jan.–June 1963	16	27	20	15	9	8	7	6	20	30	21	14	9	7	7	6
July–Sept. 1962	1	2	1	1	(1)	1	1	.....	2	2	1	2	1	2	1	.....
Oct.–Dec. 1962	4	10	5	3	1	1	1	.....	5	10	5	3	1	1	1	.....
Jan.–Mar. 1963	8	14	10	8	3	4	2	3	10	16	10	6	4	4	3	3
Apr.–June 1963	7	15	8	6	3	2	2	(1)	9	15	10	6	4	2	2	(1)

[1] Less than one-half of 1 per cent.

SOURCE.—Emanuel Melichar, "Intra-Year Flows of Funds" (Discount Study).

TABLE 5

ORIGIN OF FUND FLOWS

Distribution of Member Banks and Their Net Fund Flows, by Change in IPC Deposits and in Loans [1]

Period	Total	Deposits down		Deposits up		Total	Deposits down		Deposits up	
		Loans down	Loans up	Loans down	Loans up		Loans down	Loans up	Loans down	Loans up
	Percentage distribution of banks					Net fund outflow, (−); or inflow, (+) (in millions of dollars)				
July–Dec. 1965	100	11	8	46	35	+8,237	−143	−324	+5,525	+3,180
July–Dec. 1962	100	13	8	50	29	+7,108	−38	−285	+4,844	+2,583
Jan.–June 1966	100	35	46	8	11	−8,237	−3,180	−5,525	+324	+143
Jan.–June 1963	100	29	50	8	13	−7,108	−2,583	−4,844	+285	+38
July–Sept. 1962	100	23	13	42	22	+520	−488	−1,293	+1,811	+490
Oct.–Dec. 1962	100	15	16	35	35	+6,588	−106	−444	+4,370	+2,769
Jan.–Mar. 1963	100	47	27	15	10	−4,648	−3,295	−2,100	+690	+58
Apr.–June 1963	100	18	42	9	31	−2,461	−561	−2,747	+742	+103

[1] IPC deposits are those of individuals, partnerships, and corporations. Loans exclude those to financial institutions and those for purchasing or carrying securities.

SOURCE.—Emanuel Melichar, "Intra-Year Flows of Funds." (Discount Study).

of over 5 per cent of deposits was $2.9 billion; for banks with an outflow of over 10 per cent, it was only $700 million. Similar results were obtained for the 1965-66 period [29] (Table 6).

Finally, as expected, changes in holdings of U.S. Government securities and in balances held with other domestic banks appeared to be related to the magnitude of the outflow. And as also expected, the adjustment in these assets made by nonmember banks in response to a given magnitude of outflow was larger than for member banks.[30]

b. *Bank Adjustment in Agricultural Areas.* Because of State branching laws and regional economic conditions, small, unit,

[29] *Ibid.*

[30] *Ibid.*

TABLE 6

TOTAL GROSS FUND OUTFLOW, BY RELATIVE OUTFLOW AT BANK

(In billions of dollars)

Period	Total	Fund outflow as percentage of net deposits						Total	Fund outflow as percentage of net deposits					
		Under 5.0	5.0 to 9.9	10.0 to 14.9	15.0 to 19.9	20.0 to 24.9	25.0 and over		Under 5.0	5.0 to 9.9	10.0 to 14.9	15.0 to 19.9	20.0 to 24.9	25.0 and over
	Member banks							Member and insured nonmember banks						
July–Dec. 1965	.9	.6	.2	.1	(1)	(1)	(1)	1.3	.7	.3	.1	(1)	(1)	.1
July–Dec. 1962	.6	.4	.1	(1)	(1)	(1)	(1)	.9	.5	.2	.1	.1	(1)	(1)
Jan.–June 1966	9.1	3.8	3.9	.9	.2	.1	.2	11.6	4.4	4.8	1.4	.5	.2	.3
Jan.–June 1963	7.7	2.6	3.6	1.1	.2	.2	.1	9.7	3.0	4.2	1.4	.4	.3	.3
July–Sept. 1962	2.1	1.5	.5	.1	(1)	.....	(1)	2.5	1.7	.6	.1	(1)	(1)	(1)
Oct.–Dec. 1962	.9	.5	.2	.1	(1)	(1)	(1)	1.4	.6	.4	.2	.1	(1)	(1)
Jan.–Mar. 1963	5.7	2.8	2.2	.6	.1	(1)	(1)	7.0	3.2	2.7	.7	.2	.1	.1
Apr.–June 1963	4.1	2.4	1.3	.3	.1	(1)	(1)	5.3	2.8	1.8	.4	.2	(1)	(1)

[1] Less than $50 million.

SOURCE.—Emanuel Melichar, "Intra-Year Flows of Funds." (Discount Study).

rural banks tend to be concentrated in the southern and middle western portions of the United States, that is, in the sixth, seventh, eighth, ninth, tenth, and eleventh Federal Reserve districts. Close to 4,000 member banks, about 65 per cent of all members, are located in these six districts. About 6,000 of the 7,300 nonmember banks are also in these districts.

Over the last 15–20 years there have been persistent increases in demands for credit in many such areas derived from an expansion of the optimum-size farm and a substitution of capital for labor in farming.[31] Total farm debt to banks and other credit institutions has increased substantially. The increase at banks was 213 per cent in the 1946–56 period and 126 per cent in the 1956–66 period.[32] In the tenth Federal Reserve district (Kansas City), for example, total loans at rural banks increased about 180 per cent between 1950 and 1965.

Income and deposits in rural areas have increased much more slowly. Deposits at country banks in 20 farm States increased about 29 per cent in the 1946–56 period and 66 per cent in the 1956–66 period.[33]

The secular growth of credit demands and the slower growth of income and deposits in rural areas would presumably tend to aggravate the traditional short-term adjustment problems for rural banks. Other things being equal, intrayear outflows of funds would become larger in both dollar and relative terms. Historical data, however, are not available to investigate this hypothesis, and it should be noted that this tendency might well be offset by diversification among customers of rural banks. To the extent that farmers diversify and reduce their own seasonal movements in income and credit demands, rural banks would similarly obtain the benefits of diversification.

[31] Staff study of credit demands in agricultural areas was undertaken by a task force headed by Raymond J. Doll, Federal Reserve Bank of Kansas City. See Doll, *op. cit.*

[32] Emanuel Melichar, "Bank Financing of Agriculture," Federal Reserve *Bulletin*, June 1967, p. 928. Farm credit provided by other institutions, such as Farmers Home Administration, Federal intermediate credit banks, production credit associations, and Federal land banks, has also increased substantially.

[33] *Ibid.*

TABLE 7

RATIO OF BANK HOLDINGS OF U. S. GOVERNMENT SECURITIES TO NET DEPOSITS
Percentage Change, June 1961–June 1965

Class of bank, and deposit size (millions of dollars)	Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco
Member:												
Reserve city:												
25 and under	.....	.....	.....	.....	.....	−21.0	.....	−43.4	−60.2	−12.2	.....	−52.1
25–100	.....	.....	.....	.....	−29.6	−21.1	−41.5	−62.0	−31.3	−38.9	−63.2	−18.3
Over 100	−52.5	−54.7	−35.3	−49.0	−32.0	−33.9	−38.4	−47.2	−28.8	−35.3	−34.4	−44.9
Country:												
25 and under	−27.0	−17.3	−17.7	−16.1	−20.1	−21.0	−16.1	−17.8	−16.1	−18.5	−25.7	−18.5
25–100	−36.0	−31.6	−25.8	−23.9	−27.5	−29.0	−27.5	−31.1	−22.5	−35.2	−27.6	−35.2
Over 100	−47.7	−38.7	−26.7	−25.2	−42.7	−21.7	−30.8	.....	.....	−33.5	−31.5	−36.9
Nonmember insured:												
25 and under	−21.5	−21.1	−14.7	−11.9	−16.1	−15.6	−7.4	−14.7	−8.7	−13.1	−23.8	−23.3
25–100	−31.7	−22.3	−23.5	−32.3	−29.0	−10.3	−24.7	−31.8	.....	.....	−14.0	−30.1
Over 100	.....	−43.0	−17.3	−48.4	−31.7	.....	−31.0	+11.0	.....	.....	.....	−38.3

SOURCE.—Board of Governors of the Federal Reserve System.

c. *Holdings of Government Securities.* In the last two decades rapidly rising demands for credit in the private and non-Federal Government sectors have substantially raised the returns on bank assets such as loans, and thereby the cost of holding Government securities. In consequence, there have been substantial reductions in the proportion of assets and deposits held by banks in Government securities.

At the end of 1954, about 40 per cent of net deposits of member banks were held in U.S. Government securities. At reserve city banks the proportion was 39 per cent and at country banks about 42 per cent. By the end of 1967, the proportion held in Governments had declined for all members to about 16 per cent, with reserve city banks holding 13 per cent and country banks 20 per cent. Data for the period 1961–65 suggest that declines in holdings of U.S. Government securities have been consistent across different geographic areas. On the average, small, medium-sized, and large reserve city, country, and nonmember insured banks in each district have experienced substantial declines (Table 7).[34]

TABLE 8

MEMBER BANK BORROWING ON ELIGIBLE PAPER

Year	Number borrowing	Face value of paper presented and analyzed (millions of dollars)	
		All member banks	All member except reserve city banks in N.Y. district
1959	13	153	143
1960	21	673	673
1961	5	5	5
1962	7	71	71
1963	8	134	134
1964	20	249	120
1965	40	7,186	602
1966	82	20,085	3,691

In rural areas some banks' holdings of Government securities were still found to be quite high. For example, in the Kansas City District it was reported that a number of rural banks have more funds invested in

[34] At the discount window, in the last several years, this trend has been reflected in the substantial increase in borrowing collateralized by eligible paper in contrast to Government securities. The face amount of eligible paper presented and analyzed at Federal Reserve Banks increased from about $150 million in 1959 to over $20 billion in 1966 (Table 8). In some banks, the Government securities that are held are pledged largely as collateral for public deposits. It is estimated that around half of the more than $50 billion in U.S. Government securities held by banks are pledged. See Charles F. Haywood, *The Pledging of Bank Assets,* A Study Prepared for the Trustees of the Banking Research Fund, Association of Reserve City Bankers, p. 5.

Government securities than in loans. Staff study found that banks maintaining relatively high ratios of Government securities were not infrequently found in communities where other banks had reduced their holdings of Governments substantially. The finding suggests that profitable opportunities in acquiring alternative assets may well exist even where banks maintain large volumes of Government securities.[35]

d. *Credit Flows Through the Correspondent Banking System.* There is evidence that correspondent relationships result ". . . in a substantial net flow of funds *from* smaller localities, where credit availability is relatively low and interest rates are high, to larger localities where availability is high and rates are low." [36] However, many different kinds of services are obtained by small banks from large correspondents and are paid for principally with deposit balances. In consequence, the implications of this "perverse" deposit flow for credit availability from large correspondents are not completely clear.

The best data currently available on credit flows through the correspondent banking system were obtained in a 1963 survey for the Committee on Banking and Currency of the House of Representatives.[37] Analysis of these data suggests that the correspondent system does generate a substantial amount of credit.[38] In the fall of 1963, the estimated volume for all commercial banks aggregated roughly $5.5 billion. Of this total, a relatively small amount, about $500 million, was in the form of direct borrowing under credit lines or similar arrangements, or through asset sales. The preponderance was in the form of loan participations (Table 9).

TABLE 9

TYPES OF CREDIT AVAILABLE FROM CORRESPONDENT BANKS, 1963

(In millions of dollars)

Type of credit	All insured commercial banks	Banks with deposits less than $100 million
Participation loans—amount held by correspondent: [1]		
Commercial and industrial	2,845	878
Non-real-estate farm	218	150
Other	1,990	367
Total participation credit	5,054	1,395
Borrowing under lines of credit [2]	330	228
Sales of assets to correspondents [3]	136	48
Total	5,521	1,672

[1] Outstanding as of survey date.

[2] Largest amount reported to have been borrowed within 12 months previous to survey.

[3] Mortgages, State and local government securities, and consumer loans sold in 12 months previous to survey.

SOURCE.—Estimates based on data from 1963 survey of the Banking and Currency Committee of the U.S. House of Representatives.

However, much of the volume represented an exchange of credit among relatively large banks; $3.8 billion was obtained by banks with deposits over $100 million. Only some portion of the remainder can be thought of as credit that might conceivably be available to small banks for adjustment purposes.[39]

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[35] To some undetermined degree, the decline in holdings of Government securities by banks has probably been restrained by Federal Reserve System policies. For example, the Federal Reserve Bank of New York developed an examinations procedure designed to evaluate the operations of banks by the standards of current Regulation A. The procedure is directed particularly at finding out whether or not banks are maintaining sufficient liquidity to meet seasonal pressures. Benjamin Stackhouse, "Discount Policy and Bank Supervision" (Discount Study).

[36] Jack M. Guttentag and Edward S. Herman, *Banking Structure and Performance,* Institute of Finance, New York University, February 1967, pp. 132-33.

[37] See Ira Scott, Jr., *A Report on the Correspondent Banking System,* Subcommittee on Domestic Finance of the Committee on Banking and Currency of the U.S. House of Representatives, Washington, 1964.

[38] Staff study of correspondent banking was undertaken by a task force headed by Ernest Baughman and Dorothy Nichols, Federal Reserve Bank of Chicago.

[39] As can be seen in Table 9, of the $1.7 billion that can be identified as going to banks with less than $100 million in deposits, $1.4 billion was in the form

About two-thirds of all insured banks with deposits of less than $100 million reported some sort of credit arrangement with correspondents in 1963. However, the proportion of banks reporting actual credit transactions in that year was considerably less. This was particularly true for small banks—banks with deposits of less than $5 million (Table 10).

TABLE 10

USE OF CORRESPONDENT CREDIT BY INSURED COMMERCIAL BANKS, 1963

(Per cent of all insured banks)

Type of credit reported	Size of insured bank (total deposits, in millions of dollars)		
	Under 100, total	50–99	Under 5
Any credit arrangements with correspondents	63.1	86.5	62.3
Measurable credit on date of survey	40.7	69.2	35.3
Participation loans on date of survey	41.7	68.5	35.9
Borrowing under lines of credit	5.8	7.7	6.8
Sales of assets	1.7	3.8	1.0
Number of banks—total	12,782	260	7,000

NOTE.—In some cases the correspondent's share of a participation loan was retired prior to the survey date. In consequence, the proportion reporting measurable credit is slightly lower in some instances than the proportion reporting participation loans.

SOURCE.—Estimates based on data from 1963 survey of Banking and Currency Committee of the U.S. House of Representatives.

Among member unit banks with under $25 million in deposits, outstanding correspondent credit in late 1963 amounted to about $313 million, that is, about $204,000 per bank. The average was about $160,000 for banks with less than $5 million in deposits.[40] Relatively few commercial banks (about 6 per cent) with under $100 million in deposits used correspondent credit in excess of 10 per cent of their loans.

There is evidence that the amount of credit provided by correspondents to rural banks, though still modest in dollar totals, has increased substantially over the last decade. Data for 1956 and 1966 indicate that *farm* participation loans increased 618 per cent, or at an average annual rate of 22 per cent. A check on this "long-term" trend with data for 1963 indicated that roughly the same annual rate of increase had occurred in recent years.[41]

It would appear then that correspondent credit, at least in some moderate amounts, has been and is available to relatively small banks. This does not mean, however, that the credit generally available is suited to meeting the problems of bank adjustment. The preponderant type of accommodation is the participation loan, and a substantial proportion of the participations are apparently overlines, that is, loans that exceed the lending limit of the smaller bank. The overline participation loan, at least, represents a relatively inflexible type of credit.

Perhaps even more importantly, there is reason to believe that the cost of participation and overline credit is quite high, even though the maintenance of a balance by smaller banks and the package of services offered by the large correspondents in return effectively preclude accurate cost estimates. The availability of credit generally depends on the profitability of the long-run balance supplied by the borrowing bank. When credit is extended in the form of a participation, the borrowing bank is also frequently asked to increase its balance at least

of loan participations. It should be noted that these figures are not comparable with figures on credit made available at the discount window, since the latter are typically on a daily-average basis. The estimate of aggregate volume passing through the correspondent systems includes participations outstanding as of the survey date, the largest amount borrowed under lines of credit in the previous 12 months, and sales of mortgages, municipals, and consumer loans in the previous 12 months.

[40] Among nonmember unit banks, the per-bank average was $178,000 for banks with under $25 million in deposits and $87,000 for banks with less than $5 million.

[41] Emanuel Melichar, "Bank Financing of Agriculture," *op. cit.*, p. 937.

by as much as that which the customer would be expected to maintain if he had obtained the loan directly from the correspondent. Finally, the participating bank receives the interest paid by the customer on the share of the loan taken.

A relatively high cost for participation credit should not be unexpected. Funds are made available without a long-term relationship with the ultimate customer; consequently the loan would normally be viewed as a relatively undesirable use of funds by the lending bank. From the point of view of the borrowing bank, credit is solicited, particularly in case of overlines, in order to keep a long-term relationship with a customer who might otherwise be immediately and irrevocably lost, and often with some feeling that the solicitation of overline credit from a larger bank is dangerous because the customer may be ultimately lost in the process anyway. Both supply and demand factors would, therefore, tend to result in high "prices"; and the expansion of correspondent credit in recent years may simply reflect the still higher cost of alternative methods of adjustment.[42]

A comparison between fund flows in a unit-correspondent banking system and in a branch banking system is useful. There is considerable evidence to the effect that the potential and actual fund flows in a branch banking system are substantially greater.[43] This must reflect both the greater availability and the lower "cost" of additional reserves to an office that is part of a single banking organization with many branches. The branch office would benefit in obtaining "credit" not only from a less severe liquidity constraint but also from the financial market position of its larger organization, the geographic diversification of other offices in the system, and, most probably, a better informed management.

e. *Credit Flows Through the Federal Funds Market.* Since the early 1960's, there have been highly important changes in the nature of the Federal funds market. These include a rapid expansion in the number of small banks participating, either as sellers or buyers, or both. In 1961 about 400 country banks, generally larger than $75 million in deposits, traded in Federal funds; their participation was probably infrequent. The standard unit of trading at that time was $1 million; and this was a larger amount than would be efficient for banks of much less than $100 million in deposit size. In contrast, in 1966 it was estimated that over 2,000 country banks traded, at least occasionally. These included banks with less than $10 million in deposits; the standard unit of trading had declined to $200,000, with considerably smaller amounts being traded from time to time.[44] There has been a rapid development of participation by small and geographically dispersed banks. The proportion of banks with less than $10 million in deposits that traded Federal funds was about 22 per cent in 1966. In the Boston District, the proportion was 72 per cent but in all others was considerably lower (Table 11).

The growth of small bank participation in the Federal funds market is traceable in large part to the efforts of large, money market

[42] It should be noted that variability in interbank deposit balances is not a reasonable measure of the correspondent banking contribution to meeting adjustment problems, at least for small, unit banks. As in the case of Government securities, such balances have declined substantially in recent years as a percentage of deposits, from about 9 per cent to 5.5 per cent.

[43] Staff study of fund flows within branch banking systems was undertaken by Verle Johnson, Federal Reserve Bank of San Francisco; Harmon Haymes, Federal Reserve Bank of Richmond; and Margaret Beekel, Federal Reserve Bank of Cleveland.

[44] Parker Willis, "A Study of the Market for Federal Funds," *op. cit.*

TABLE 11

MEMBER BANK PARTICIPATION IN THE FEDERAL FUNDS MARKET, 1966

Banks with Less Than $10 Million in Deposits

District	Banks in district		Percentage trading
	Total number[1]	Number trading[2]	
Boston	139	100	72
New York	185	44	24
Philadelphia	237	50	21
Cleveland	285	63	22
Richmond	251	57	23
Atlanta	280	56	20
Chicago	600	150	25
St. Louis	346	69	20
Minneapolis	360	54	15
Kansas City	650	90	14
Dallas	491	98	20
San Francisco	117	39	33
Total	3,941	870	22

[1] Based on numbers of banks shown in annual member bank operating ratio reports or monthly reviews of the Federal Reserve Banks.

[2] Figures for traders in the Boston, Philadelphia, New York, Richmond, Chicago, Minneapolis, and Kansas City Districts were derived from surveys. Data for other districts are estimated.

SOURCE.—Parker Willis, "A Study of the Market for Federal Funds" (Discount Study).

banks, particularly in New York City. The objective has been to secure a dependable source of continuous credit to support larger portfolios than would otherwise be possible. The provision of an investment service by these large banks to small banks in outlying areas for short-term money has evidently put competitive pressure on large regional banks to provide a similar service. It is estimated that by 1966 there were 70 accommodating correspondent banks, that is, banks that trade for themselves and other banks, with mutually exclusive networks ranging from 5 or 6 to several hundred smaller banks.[45] On an average day, $3.5 billion to $4 billion has been traded in the market; and considerably more on some days. In contrast, borrowing at the discount window rarely exceeds $1.5 billion to $2 billion on any day, and normally is well below that.

The Federal funds market is probably still in flux. though there is doubt that large numbers of additional small banks will be incorporated into it in the near future.[46] The principal impact of the change has been to reduce the volume of excess reserves carried by smaller banks and to weaken reliance on the discount window by larger banks, if not smaller ones.

The initial objective of the correspondent-accommodating system was, as noted, to facilitate reserve adjustment for larger banks, not smaller ones. Nevertheless, the system has developed competitively to serve additional purposes. Indeed, "(m)any smaller country banks indicate that trading in Federal funds has reduced their reliance on purchases or sales of Treasury and other money market instruments as a means of reserve adjustment." [47]

Most of the smaller banks involved are, however, typically sellers, not purchasers. In 1966, the smaller banks supplied from $800 million to $1 billion net on average each day. Their average daily purchases probably did not exceed $300 million.[48] Moreover, there is considerable doubt as to whether heavy buying by smaller banks is feasible. It was found that at least some smaller banks fear that turning to the correspondent will lead to a demand for additional balances.[49] But the extent to which smaller banks can "buy" probably varies from group to group,[50] and as noted above, about three-quarters of the banks with less than $10 million in deposits still do not participate. Finally, the credit involved is still, essentially, "1-day" money, though some

[45] *Ibid.*

[46] *Ibid.*

[47] *Ibid.*

[48] *Ibid.* This includes the purchases of all banks in the country bank classification.

[49] *Ibid.*

[50] *Ibid.*

longer-term arrangements are made from time to time.[51]

In sum, smaller, unit banks probably cannot view the Federal funds market, even in its current high state of development, as a *dependable* substitute for holdings of Government securities or excess reserves for adjustment purposes. They may well view it as an outlet for excess reserves and an occasional source of credit to meet unexpected and very short-run reserve losses. The larger banks that have initiated its development, on the other hand, evidently do view it as a source of reserves for both intermediate- and longer-term adjustment.

One additional implication of these changes in the Federal funds market should be noted. The behavior of neither the large banks nor the small banks is consistent with the rationale of Regulation A as originally conceived. Continued reliance on borrowed funds by the larger banks indicates an insufficiently reluctant behavior that requires some degree of "administrative discipline" when and if they borrow at the discount window. The frequent sale of Federal funds by smaller banks would seem also to reflect an "undue" sensitivity to market rates of interest under current discount standards. Such sales to large money market banks can become particularly important during periods of monetary restraint when the objective of Federal Reserve policy is to force asset adjustments.

f. *The Markets for Certificates of Deposit.* The extent to which small banks in rural areas are at a disadvantage in purchasing reserves outside their local market areas is only indirectly suggested by differential rates on prime and off-prime CD's of commercial banks. While the differential varies with economic conditions, it was noted that off-prime CD's when issued and traded require a higher rate than CD's of prime name banks in New York.[52] "In this sense," it was reported, "buyers discriminate against certificates of smaller, less well-known banks." [53] The prime (and "lesser-prime") banks currently constitute less than 100 in number, however, and include only very large institutions, with deposits of $500 million or more.[54] The "off-prime" banks whose certificates trade in the secondary market still include only large institutions by comparison with the vast majority of banks. While smaller banks can frequently sell certificates at favorable rates in local or regional markets, these do not normally trade at all.[55]

The designations of "prime" and "off-prime" reflect relative marketability. Marketability depends on the degree to which a bank is "known." [56] An inability on the part of smaller banks to sell CD's outside local market areas or to have their CD's traded cannot moreover be completely attributed to differences in the actual risk involved in lending to them or, for that matter, even to the cost of gathering information about them. Many small banks are no doubt extremely safe institutions. And while information on their operations is typically collected by supervisory authorities, it is not normally disclosed to potential lenders. Policies associated with releasing information, not the cost of gathering it, have established a level of risk that is not necessarily an accurate reflection of what exists.

3. Conclusions. The available information supports the view that small rural banks, concentrated in the sixth through the elev-

[51] *Ibid.*

[52] Parker Willis, "The Secondary Market for Negotiable Certificates of Deposit" (Discount Study).
[53] *Ibid.*
[54] *Ibid.*
[55] *Ibid.*
[56] *Ibid.*

enth Federal Reserve districts, have serious disadvantages relating to their organizational structure. In many cases the prohibition of branching precludes growth to large size. This restriction on growth and geographic expansion frequently results in a high degree of deposit and asset specialization that promotes variability in deposits and loans. Such variability may be accommodated by holding relatively large volumes of liquid assets or by borrowing. If liquid assets are relied on, substantial portions of bank assets may be unavailable for local loans and the cost of lending will be correspondingly higher.

In recent years, the opportunity costs of holding liquid assets have risen considerably and many banks have increasingly relied on credit for adjustment purposes. When attempting to obtain credit, smaller banks are apparently at a disadvantage and probably pay relatively high rates when such credit is available.

The volume of credit available to small banks via the correspondent banking system is still relatively small. However, the amount of credit passing through the correspondent banking system in recent years, in participations and Federal funds, has apparently been growing. Competition among large correspondents shows some signs of providing increased benefits to small banks. Nevertheless, the "correspondent market" in which small banks attempt to obtain credit is still highly imperfect. It is characterized by large bank-small bank bargaining relationships, traditional and multiservice arrangements that probably tie small banks rather firmly to particular large banks, and a dearth of information on the real costs of the individual services being provided.

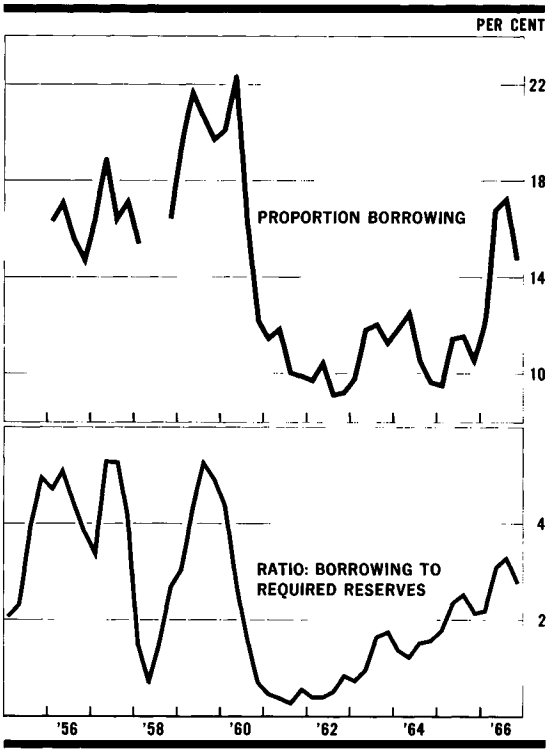
V. ACTIVITY AT THE DISCOUNT WINDOW SINCE 1955

As noted above, the implicit change in the formulation of the discount mechanism in 1955 was a more restrictive interpretation of "appropriate" borrowing than in the 1920's. In large measure the broad aim of restricting the provision of Reserve Bank credit through the discount window has been met over the last 13 years. As can be seen in Chart 1, in comparison with the 1920's a very small proportion of Federal Reserve credit has been provided at the discount window since 1955. On a quarterly basis, the ratio of borrowing to required reserves has ranged from less than 1 per cent to a little over 5 per cent; the proportion of member banks borrowing from the Federal Reserve has ranged between 9 and 22 per cent. (Chart 4).[1]

As would be expected under the current discount mechanism, there have been cyclical changes in borrowing activity. There appears also to have been a downward trend which, while widely appreciated within the Federal Reserve System, is not obvious from aggregate borrowing figures alone. In Table 12, the results of a multiple regression analysis are presented, relating a trend variable, among others, to ratios of borrowing to required reserves. Holding constant the bill rate, discount rate, required-to-total reserves, offices-to-banks, and indicated administrative standards among groups of districts, a linear trend variable was significant and explained a considerable proportion of

[1] It should be noted that the proportions of member banks borrowing from the Federal Reserve on a quarterly and on an annual basis are not comparable. To the extent different banks borrow in each quarter, the proportion borrowing on an annual basis would be higher.

4 | Member Bank Borrowing at the Discount Window



Quarterly data.

the variation in borrowing over time.[2] This was true of reserve city and country banks.

These results suggest a decline of close to 1 percentage point per year in the ratio of borrowing to required reserves for reserve city banks; and a decline of ½ percentage point per year for country banks. Given borrowing ratios that range between 1 and 5 per cent, the importance of such a decline is evident. The equations suggest that the borrowing ratios have, in fact, been maintained because of increases in required-to-total reserves and, for city banks, by the rise in market rates relative to the discount rate.

[2] The variable, bank offices-to-banks in each district, is based on the hypothesis that branch banking affords greater stability of deposits and loans and, therefore, the extent of branching is, other things equal, inversely related to supply and demand for credit at the discount window.

The reduction in activity has been accompanied by an expansion in estimated borrowing from other sources and in no way should be taken as evidence of a strong reluctance to borrow as the term has been defined above. While the proportion of required reserves borrowed by member banks from the Federal Reserve declined by 30 per cent between 1959 and 1966, the estimated proportion of required reserves borrowed from all suppliers or sources of credit increased by 124 per cent (Table 13).[3]

Since 1959, the proportion of reserve city banks borrowing from Federal Reserve Banks has changed very little, but the proportion of reserves they have borrowed from the Reserve Banks has declined. In contrast, the proportion of reserves borrowed from all sources has increased substantially.

The borrowing behavior of country banks since 1959 is equally, if not more, indicative of the movement from borrowing at Reserve Banks to borrowing from other sources. Table 14 shows by Reserve District the percentage changes in country bank borrowing at the discount window and borrowing from all sources for the recent period (with alternative initial and terminal dates: 1959–66; 1959–65; 1960–66). In each comparison of the proportion of reserves borrowed from the Federal Reserve and from all sources, the contrasting directions of change are generally evident. For example, between 1959 and 1966 the proportion of banks borrowing from the Federal Reserve declined in 8 out of 12 districts; the proportion borrowing from all sources increased in 11 out of 12 districts.

[3] The 1959–66 period is one for which detailed borrowing data are available and, in comparing percentage changes, is advantageous in that both 1959 and 1966 were years of monetary restraint. Alteration in initial and terminal dates, so that the period runs from 1960 to 1966 or from 1959 to 1965, does not alter the conclusions.

TABLE 12

INFLUENCE OF TREND AND OTHER FACTORS ON RATIO OF BORROWING TO REQUIRED RESERVES

Regression Coefficients for 1955–65

Class of bank	Independent variable							Coefficient of multiple determination $\bar{R}^2$	F
	Bill rate	Discount rate	Percentage of required to total reserves	Ratio of offices to banks	Trend	District classification[1]			
						Upper	Middle		
Reserve city:									
Including "central reserve city"..	3.1* (.9)	−.08 (1.12)	1.46* (.49)	−.33* (.12)	−.91* (.10)	4.30* (.68)	.08 (.50)	.61	30.5
Excluding "central reserve city"..	3.1* (.9)	−.12 (1.13)	1.67* (.52)	−.35* (.01)	−.94* (.10)	4.29* (.69)	.11 (.52)	.60	29.4
Country.....	.24 (.40)	1.36* (.50)	.17* (.05)	−.22* (.06)	−.50* (.05)	.37 (.25)	−.26 (.21)	.53	22.5

* Significant at the 5 per cent level.

[1] For discussion of classification, see p. 15.

NOTE.—Ratios for borrowing to required reserves are based on annual aggregates for each district. The statistical procedures involved a pooled cross section (by district), time-series analysis for yearly data. Standard errors in parentheses.

The actual changes themselves, even when in the same direction, generally suggest a differential influence at work. So, for example, the proportion of country banks borrowing from the Federal Reserve in the Philadelphia District declined 41 per cent between 1959 and 1965; in the Richmond District, the decline was about 40 per cent; in St. Louis about 65 per cent; and in Atlanta about 22 per cent. Declines in the proportions borrowing from all sources were, respectively, — .2 per cent, — .9 per cent, — 4.8 per cent, and — 6.8 per cent. Similar examples can be found by examining the table.

TABLE 13

RATIO OF MEMBER BANK BORROWING TO REQUIRED RESERVES

Federal Reserve Banks Compared with All Sources

Year	Federal Reserve Banks			All sources		
	All member banks	Reserve city banks	Country banks	All member banks	Reserve city banks	Country banks
1959.....	4.0	4.6	3.8	12.0	17.8	6.5
1960.....	2.2	2.4	2.5	13.4	19.7	6.1
1961.....	.4	.3	.5	6.6	8.8	2.2
1962.....	.5	.5	.5	10.8	14.8	2.9
1963.....	1.2	1.5	.9	15.6	21.4	4.5
1964.....	1.3	1.6	1.0	17.4	23.2	6.6
1965.....	2.2	2.7	1.4	21.6	29.3	7.6
1966.....	2.8	2.8	2.8	26.9	36.8	9.5
Percentage change, 1959–66....	−30.0	−39.1	−26.3	+124.2	+106.7	+46.2

NOTE.—Figures for "all sources" are estimates of borrowing from all suppliers of credit obtained by capitalizing the interest paid on borrowed funds, shown in earnings and dividends reports, at the discount rate through 1965, and at the average effective Federal funds rate in 1966.

There are, no doubt, a number of related reasons for a downward trend in borrowing at the discount window. These would include the general prohibition of credit for normal operating purposes, the gradual implementation of the revision of Regulation A after 1955, and development of other markets for credit.

In the kind of financial environment that has been developing, a related reason may also be considered. To potential borrowers who do not conform to the rough regulatory image of a "sufficiently reluctant" borrower, described in the General Principles of Regulation A, the discount mechanism represents an uncertain source of funds. There would be, for such borrowers, substantial nonmonetary costs associated with

TABLE 14

PERCENTAGE CHANGE IN PROPORTION OF COUNTRY BANK BORROWING FROM THE FEDERAL RESERVE AND FROM ALL SOURCES, SELECTED PERIODS

Source	District											
	Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco
	Change from 1959 to 1966											
Proportion borrowing from:												
Federal Reserve	−6.5	−8.0	−22.4	−45.7	−20.2	+21.7	+15.2	−15.3	−1.9	+3.0	+7.6	−23.9
All sources	+10.1	+1.7	+22.1	−7.3	+10.8	+9.2	+44.4	+30.6	+36.3	+18.4	+78.8	+75.0
Proportion of required reserves borrowed from:												
Federal Reserve	−33.3	+11.9	−48.6	−66.7	−55.8	+281.8	.....	−46.2	−56.1	−48.4	−26.1	−53.8
All sources	−8.9	+90.2	+64.7	+71.4	+19.4	+10.2	+88.4	+31.6	+42.9	+8.6	+136.4	+184.6
	Change from 1959 to 1965											
Proportion borrowing from:												
Federal Reserve	−30.7	−32.6	−40.7	−69.8	−39.6	−22.4	−30.9	−65.3	−30.7	−27.9	−53.3	−72.5
All sources	+10.6	−11.8	−.2	−19.6	−.9	−6.8	+6.2	−4.8	+8.0	−5.1	+38.0	+65.8
Proportion of required reserves borrowed from:												
Federal Reserve	−73.7	−47.6	−68.6	−87.5	−78.8	+27.3	−65.5	−73.1	−65.9	−59.4	−60.9	−53.8
All sources	−19.6	+47.6	+29.4	+34.3	−24.2	−1.0	+16.3	+2.6	+16.3	+14.3	+69.7	+171.8
	Change from 1960 to 1965											
Proportion borrowing from:												
Federal Reserve	−36.9	−29.6	−37.6	−65.3	−63.9	−47.7	−40.5	−66.9	−28.4	−24.5	−62.3	−73.6
All sources	+2.3	−6.7	−.8	−14.9	+2.2	−11.0	−7.4	−14.9	+4.5	−2.8	+16.7	+21.7
Proportion of required reserves borrowed from:												
Federal Reserve	−50.0	+29.4	−66.7	−78.6	−69.4	+75.0	−50.0	−61.1	−51.7	−43.5	−69.0	−60.0
All sources	−28.0	+95.2	+20.0	+38.2	−21.7	+9.0	+11.1	−9.3	+11.8	+33.3	+24.4	+68.3

uncertainty and administrative inconvenience. If the estimates of interest elasticity developed in recent econometric studies and the developments in the Federal funds market described above provide an even close-to-accurate indication of the state of mind of increasingly large numbers of member banks, then it seems likely that growing numbers would not normally conform to the acceptable regulatory image. In consequence, growing numbers of banks would either approach the discount window in full awareness of the restrictive surveillance to which they would be subjecting themselves, or not approach the window at all. In either case, the amount of credit extended at the discount window would tend to decline—by administrative control over supply or by the behavior of banks who feel that the cost is likely to be too high.

At an extreme (for example in 1966), abstention from borrowing at the discount window because of high or rising nonmonetary costs is not a completely convincing explanation. During 1966 the rate differential was highly favorable to such borrowing, and it is reasonable to believe that it would have been clear to potential borrowers that nonmonetary costs for at least some borrowing would not be prohibitive. Nevertheless, borrowing from Reserve Banks remained at very

low levels. In this case, noneconomic explanations should probably be considered. One possible explanation is that the discount window was rejected by potential borrowers as a "legitimate" source of credit.[4] Why this would occur warrants careful consideration but will not be discussed in detail here.[5]

[4] On the concept of "legitimacy," see Kenneth Boulding, "The Legitimacy of Central Banks" (Discount Study).

[5] Legitimacy may be viewed as functionally related to a number of qualitative nonlinear "variables" that exhibit discontinuities. Boulding, *op. cit.* While a "legitimacy cliff" may have developed in 1966, movement toward the cliff may be traceable to much earlier developments. This possibility is supported by the Reserve Bank reports on dissatisfaction and/or resentment on the part of borrowers.

VI. RELATED SYSTEM POLICIES AND ALTERNATIVE FORMULATIONS OF THE DISCOUNT MECHANISM

The existing discount mechanism reflects, in large measure, constraints derived from other Federal Reserve System responsibilities, particularly those of over-all monetary control and bank supervision. Its operations were intended to be integrated with policies designed to meet these other responsibilities.

In recognition of these relationships, the current study has focused on the extent to which other policies provide "elbow room" for changes in discount operations designed to overcome shortcomings in rationale, objectives, administration, and borrowing behavior that have come to light. It has become reasonably clear that there is some range of practicable alternatives to the existing formulation within the current framework of monetary policy and bank supervision.[1]

It has also been noted that the problems uncovered in the course of the study have importance not only for the effective operations of the discount mechanism, per se, but also for related policies. Implications of the findings for bank supervision and within the current framework of monetary control are reviewed below.

Problems of monetary control have been widely discussed, and there are certain well-known proposals for fundamental change that involve alteration in the discount mechanism. Those proposals are principally aimed at changes in the techniques and/or targets of monetary policy. Such proposals have, for the most part, been viewed as beyond the scope of the present study. However, their relationship to the focus of the present study is also reviewed briefly below.

[1] On monetary policy, see Paul Meek, "Discount Policy and Open Market Operations" (Discount Study). On bank supervision, see Examinations Department, Federal Reserve Bank of New York, *op.cit.*

A. The discount mechanism and bank supervision

With respect to bank supervision, the current rationale of the discount mechanism and its implementation is, in the existing financial environment, clearly an oversimplification. With the advent of deposit insurance, the vast majority of depositors are no longer concerned with the quality of paper banks hypothecate in borrowing. The relationship between borrowing and the likelihood of failure is by no means simple and, to the extent that the "reluctance convention" implies opposition to borrowing in the normal course of business, it may impede banks from making a full contribution to their communities, and thereby simply encourage the establishment of competitive financial institutions. Current discount standards, therefore, would not appear to be an accurate reflection of modern objectives in bank supervision.

B. Discount mechanism problems and monetary control

Within the current framework of monetary

policy, the discount mechanism provides one of a number of operational guides to the degree of monetary restraint in financial markets, that guide being the aggregate level of member bank borrowing. Reserve Bank credit is also intended to provide a "safety valve" against the build-up of undesirable levels of pressure at individual institutions and in financial markets. Finally, changes in the cost of Reserve Bank credit, that is, the discount rate, are, from time to time, intended to signal changes in central bank policy. These monetary policy aspects of the discount mechanism are, of course, complemented by operational aspects of open market policies, whereby reserves are provided or withdrawn to meet secular, seasonal, and shorter-term variations in demand.

As noted, the view that the aggregate level of member bank borrowing (or the free reserve variant) is a reliable, though provisional, measure of monetary restraint is based in part on the belief that banks are reluctant to borrow. If banks are reluctant, and open market operations force them into debt, they would presumably make asset adjustments (in order to repay borrowing) of the sort desired. However, as also noted above, the largest banks do not appear reluctant to borrow; smaller banks appear to be growing less reluctant to borrow. While pressure toward asset adjustment may still be imposed by administration at the discount window, the availablity of credit from other sources, particularly for large banks, permits relief from such pressure. Total bank reserves may thus be controlled within the desired range, but interest rates in short-term credit markets can, as a result, fluctuate sharply.

One consequence of recent developments in credit markets and bank behavior is that the aggregate level of borrowing from the Federal Reserve tends not to be a comparable measure of monetary pressure over time. It was clear in 1966, for example, that the relatively low level of borrowing from the Federal Reserve did not adequately reflect the high level of pressure in financial markets, and it was not comparable in this respect to relatively low levels of borrowing in previous periods.

Variability in administrative pressure at Reserve Banks also makes interpretation of borrowing figures difficult. It has long been recognized that the impact of any level of aggregate borrowing would depend on its distribution among banks, at least partly because "reluctance" among different groups of banks might differ and partly because the impact on financial markets would depend on the extent to which such borrowing were concentrated in banks in differing conditions. Findings on nonuniformity of administration suggest an additional reason why the impact of any given level of aggregate borrowing would depend on how such borrowing were distributed.

The decline in reluctance (and, in the current financial environment, little likelihood that it could be revived), the development of new markets for short-term credit, and changes in attitudes toward borrowing at the discount window, for whatever reason, all make the monetary policy interpretation of borrowings data difficult. These same developments likewise lead to a conclusion that the discount mechanism has not functioned as intended as a "safety valve." [2] During pe-

[2] Whether the growth of aggregate borrowing during a period of restraint is viewed as an "escape hatch" or a "safety valve" seems to some degree a matter of semantics. If the money supply is the only target of significance to the monetary authority, then an increase in borrowing may be viewed as an "escape hatch." However, if one or more additional targets are considered, including interest rate targets, it is not

riods of monetary restraint, the growth of borrowing generally permits values and rates in financial markets to change more slowly than they otherwise would. Tobin has stated:

> . . . suppose there is a boom which increases demands for bank loans. Under the present system the availability of loans at a fixed discount rate at the Fed permits the banks to meet some of these demands, and limits the rise in interest rates. . . . (T)he safety valve of discounting is probably good. It gives the Fed time to react to events, whether the events are its own policies or external shocks.[3]

And Samuelson has said:

> Now in particular, when you are squeezing the market tight there is an adversary procedure going on between you and the . . . banks. This is where the discretionary versus nondiscretionary use of the mechanism comes in. I suppose you are actually making a discretionary use of it and exercising a certain degree of rationing. Then, if you have overdone it just a bit, they come in with blood in their eyes and very self-righteously protesting, causing you to ease up and change the degree of rationing. But then gradually you do later pull in on the rope and bring them to heel.[4]

When there is little borrowing from the Federal Reserve, adjustments during a period of restraint, such as in 1966, are more precipitous and involve more rapidly rising interest rates than otherwise would be the case. If, to paraphrase Samuelson, bankers do not come in with blood in their eyes, but stay away with blood in their eyes, the discount window will not, of course, function as a safety valve. Borrowing from non-Federal Reserve sources cannot, of course, provide a substitute, in this respect, for credit extended at the discount window.

The effects of a change in the discount rate on market expectations as to future interest rates, and therefore on the level and structure of current rates, has been discussed in detail both within and outside the Federal Reserve System. It has long been recognized that changes in the discount rate may have a significance that is independent of the measureable change in the cost of borrowing at the Federal Reserve.[5] It has also been generally recognized that such effects, to the extent they exist, are not easily predicted or controlled.

In the 1954 Report on the Discount Mechanism it was indicated that periodic revisions in the discount rate would have to be made in order to adjust the cost of borrowing to changes in market rates.[6] It was also recognized that changes in the discount rate could "serve as an objective indication to the business and financial community of System credit policy."[7]

Nevertheless, it has proved difficult in practice to separate "announcement effect" changes in the discount rate from "technical adjustments." The result has been to support the tendency for a widening discount rate–market rate differential during periods of restraint, such as in 1966. As a result, a serious burden is placed on nonprice rationing at the discount window. As discussed above, there is clearly no danger that reserve creation might become excessive. But the standards of the Regulation are not well suited to extensive nonprice rationing.

C. Discount study research and well-known proposals for change in the discount mechanism

There have been numerous proposals for

necessary to interpret the growth of borrowing during a period of restraint as such.

[3] See replies from economists [Tobin] to letter from Lester V. Chandler, *op. cit.*

[4] Statement of Paul Samuelson at Academic Seminar on Changes in the Discount Window, May 11, 1966.

[5] The idea of an "announcement effect" was considered in *Annual Report, Federal Reserve Board, 1923,* p. 11. See also Jones, *op. cit.,* for a summary of recent literature on the subject.

[6] "Report on the Discount Mechanism, 1954," *op. cit.,* p. 43.

[7] *Ibid.*

change in the discount mechanism. Many are not fully motivated, or may not necessarily be motivated at all, by the considerations reviewed in this report. Some have emanated from the Federal Reserve System and some from non-System sources.[8]

The research effort of the discount study has not had as one of its principal objectives the full evaluation of each responsible proposal on its own merits. Rather, an attempt has been made to consider proposals likely to meet the problems uncovered. Nevertheless, it is useful to relate certain well-known proposals to this frame of reference.

Neither the proposal to pay interest on excess reserves at the discount rate, and to reinstitute explicit interest on demand deposits[9] nor the proposal to abolish the discount mechanism[10] were given the attention they might warrant in a fuller reappraisal of the entire monetary mechanism. However, proposals to tie the discount rate to some market rate and permit banks free access at the discount window received more consideration. Such proposals were suggested and viewed as a technique that might eliminate the problems associated with nonprice rationing at the discount window, the differential costs of reserve acquisition attributable to structural conditions, and the announcement-effect barrier to raising the discount rate during the periods of monetary restraint.[11] It was also recognized that a tied rate could, at the same time, tighten the linkages among open market operations, the money supply, and interest rates, by stabilizing aggregate borrowing from the Federal Reserve over the cycle.

Even if success in accomplishing these ends were unquestioned, the desirability of the result would not be completely clear. The stabilization of borrowing, either at zero by abolishing the discount window, or at some positive figure, would change the current monetary mechanism which incorporates a safety valve independent of open market operations. Experience in 1966 has suggested that market rates of interest for short-term funds can rise very rapidly and to very high levels during periods of economic expansion if borrowings are not permitted to increase. Tying the discount rate to a market rate might not establish tighter linkages without causing unacceptable swings in interest rates.[12] Moreover, tying the discount rate and opening the window would break the one existing direct link for communications between the Federal Reserve, in its monetary policy function, and individual member banks. While current relationships through this channel may be less than satisfactory, there is no inherent reason why they have to be. Finally, it also seems reasonable to be cautious about giving up instruments that are at least potentially useful, such as the discretionary setting of the discount rate.

The proposal to tie the discount rate to a market rate also raised questions about what market rate should be used, the premium to be maintained, and the possibility of having a schedule of rates related to the amount borrowed by each bank, or possibly the volume of borrowing in aggregate. While at first these seemed merely practical issues, as matters turned out they raised important

[8] See replies from economists to letter from Lester V. Chandler, *op. cit.;* Jones, *op. cit.;* and Doll, *op. cit.*

[9] James Tobin, "Toward Improving the Efficiency of the Monetary Mechanism," *Review of Economics and Statistics,* August 1960, pp. 276-79.

[10] Milton Friedman, *A Program for Monetary Stability,* Fordham University Press, 1960, p. 38.

[11] However, it should be noted that the withdrawal of Canada from a tied-rate system removes the example that evidently initially suggested this kind of proposal. See Garvy, *op. cit.,* Part II, Canada.

[12] See replies from economists [Tobin] to letter from Lester V. Chandler, *op. cit.*

technical and conceptual considerations.[13]

The importance of the unanswered questions about proposals to tie the discount rate to a market rate by no means implies that the discount rate cannot be used more effectively to ration credit than is currently the case. But such questions as have been raised clearly suggest the need for further study.[14]

VII. CONCLUDING REMARKS

This paper has attempted to provide a review and evaluation of a major portion of the research undertaken in connection with the Federal Reserve's reappraisal of the discount mechanism. As noted in the Introduction, materials have been covered with particular reference to specific issues raised by the Steering Committee and the Secretariat. (The principal recommendations for change in the discount mechanism have also been under study, but this aspect of the research has not been systematically reviewed here.) A number of findings have been made on the issues discussed. These may be summarized briefly:

It seems doubtful that the Federal Reserve's support of the "tradition against borrowing," through the discount mechanism, has much influence currently on the aggregate demand for credit by banks. Commercial bank behavior in credit markets appears increasingly to reflect only moderate if not minimal degrees of reluctance toward borrowing.

As a result of recent developments in interbank borrowing and in other credit markets, along with relatively permissive bank attitudes toward borrowing, the "General Principles" of Regulation A have, of necessity, assumed substantial importance as a standard for rationing credit at the discount window. This circumstance, well over a decade after the 1955 revision of Regulation A, must be considered contrary to the intent of the revision and to the expectations expressed at the time it was implemented.

The "General Principles" of Regulation A are not well suited as a standard for rationing credit. The credit-restrictive terms are not easily understood or unambiguously applied. Problems in interpretation and administration appear to have contributed substantially to an undue degree of difference in administration among districts and to a high degree of friction between member bank borrowers and Reserve Banks. Looking at the matter another way, nonprice rationing at the discount window may be viewed as imposing both objective and subjective nonmonetary costs on the banks that borrow; but the "costs" imposed cannot be readily controlled by the lender nor clearly communicated to the borrower.

Lower levels of borrowing were a clearly intended result of the 1955 revision of Regulation A, but it appears that there has been an even more restrictive effect than intended. It is likely that the use of the "General Principles" as a standard for rationing credit has contributed to this downward trend in borrowing activity at the window. This is possible because, as mentioned, the nonmonetary costs imposed at the discount window are not subject to sufficiently precise control.

Since 1955 there have been substantial declines in the relative importance of Government securities in bank portfolios. Reduced holdings by large money market banks, coupled with greater activity in pri-

[13] For a review of discussion on these matters at the academic seminar on discounting in 1966, see Ormsby, *op. cit.*

[14] In this connection see the recent paper by Franco Modigliani, "Some Proposals for Reform of the Discount Mechanism" (Discount Study).

vate credit markets, resulted in asset and liability adjustments during the period of restraint in 1966 that involved rapidly rising rates of interest and a tendency toward disruption in some financial markets. The discount mechanism, at least recently, has not functioned in the way contemplated as a safety valve.

Many small rural banks have traditionally difficult adjustment problems. In some rural areas there have been rapid increases in demand for credit associated with the changing nature of agricultural production; holdings of Government securities by smaller banks have also declined. To some degree credit is available through correspondent relationships and in the Federal funds market for many banks. However, small banks are at a disadvantage relative to larger urban banks in obtaining credit; such credit as is available is probably at a relatively high price. Under these circumstances, the geographic distribution of bank reserves and bank credit, as envisioned in the 1955 revision of Regulation A, seems unlikely.

These findings suggest that the current discount mechanism has been defective in achieving the objectives for which it was intended. In large measure and in perspective, these findings may simply reflect the fact that the underlying rationale of the current mechanism developed out of an era far different from that which exists today—a period of relatively free entry in banking, of large numbers of very small banks, of distress in agricultural areas, of widespread bank failure, particularly in agricultural areas, and prior to Federal deposit insurance and modern economic policy. Given the far-reaching economic and financial changes since the 1920's, and even since 1955, such problems as have been discussed should not be considered extraordinary.

APPENDIX A

FEDERAL RESERVE SYSTEM MANUSCRIPTS AND DOCUMENTS CITED

Documents Prepared for the Discount Study, 1965-68

Anderson, Clay J., "Evolution of the Role and the Functioning of the Discount Mechanism."

Bank Examinations Department, Federal Reserve Bank of New York, "Discount Policy and Bank Supervision."

Boulding, Kenneth, "The Legitimacy of Central Banks."

Chandler, Lester V., "Selective Credit Control."

Doll, Raymond J., "An Investigation of the Credit Requirements and Availability of Credit in Agricultural Areas."

Garvy, George, "The Discount Mechanism in Leading Industrial Countries Since World War II."

Jones, David M., "A Review of Recent Academic Literature on the Discount Mechanism."

Lawrence, Robert, "The Regional Distribution of Bank Loans."

Lynn, Dolores P., "Reserve Adjustments of the Eight Major New York City Banks During 1966."

Melichar, Emanuel, "Intra-Year Fund Flows at Commercial Banks."

Meek, Paul, "Discount Policy and Open Market Operations."

Minsky, Hyman, "Financial Instability Revisited: The Economics of Disaster."

Modigliani, Franco, "Some Proposals for a Reform of the Discount Mechanism."

Ormsby, Priscilla, "Summary of Issues Raised at the Academic Seminar on Discounting."

Questionnaire to Federal Reserve Banks Regarding Discount Operations (mailed under letter from Governor George W. Mitchell to Presidents of Federal Reserve Banks, dated October 1, 1965).

Replies from economists to letter from Lester V. Chandler "The Federal Reserve Discount Mechanism and Discount Policies," Spring 1966.

Staats, William F., "The Secondary Market for State and Local Government Bonds."

Shull, Bernard, "The Rationale and Objectives of the 1955 Revision of Regulation A."

Willis, Parker, "The Secondary Market for Negotiable Certificates of Deposit."

Willis, Parker, "A Study of the Market for Federal Funds."

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Hackley, Howard H., "A History of the Lending Functions of the Federal Reserve Banks."

Letter from Walter L. Eddy to all Federal Reserve Agents, September 15, 1925.

Letter from John Perrin to the Federal Reserve Board, "Destructive Effects of Over-Lending to Member Banks," February 26, 1926.

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Riefler, Winfield, "Volume of Borrowing vs. Profitability of Borrowing," memorandum to Discount Rate Committee, August 19, 1954.

"Statements on the Discount and Discount Rate Mechanism of Associate Economists of the Federal Open Market Committee before the Conference of Presidents," June 21, 1954.

System Committee on the Discount and Discount Rate Mechanism, "Report on the Discount Mechanism," March 12, 1954.

Telegrams from John Perrin to the Federal Reserve Board, April 18 and April 21, 1925.

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TRANSMITTAL MEMORANDA

To assist the Steering Committee in its Fundamental Reappraisal of the Discount Mechanism, a number of research papers were commissioned. Transmittal memoranda, which are reproduced on the following pages, were prepared by the Secretariat to accompany the papers as they were submitted to the Steering Committee. In most cases the memoranda contain a very brief summary of the paper, but their major function was to point out the significance of the paper for the redesign of the discount mechanism and, in some instances, suggest conflicting Secretariat views on issues.

The memoranda were written as Committee documents and reflect the collective judgment of the individuals of the Secretariat. However, they do not necessarily reflect the views of any single member of the group, of the higher-level Steering Committee, or of the staffs of the Board of Governors of the Federal Reserve System or of the Federal Reserve Banks.

The papers for which memoranda were written do not coincide with the papers published in the series on the discount mechanism. Some memoranda are included for papers that, for a variety of reasons, were not carried through to the publication stage. On the other hand, some papers were written later in the course of the study and sent to the Steering Committee without transmittal memoranda. Even when both the paper and its memorandum are being published, the paper has undergone editorial, and perhaps substantive, revisions since it served as the basis for the memorandum; as a result there may be inconsistencies in content.

The memoranda are presented in the chronological order in which they were sent to the Steering Committee. Thus the reader has some sense of the development of a proposed redesign of the discount mechanism in the collective mind of the Secretariat. While the memoranda do not report directly on that development, they contain almost without exception comments on the stage of development that prevailed on the indicated date. Therefore, the memoranda reflect to a limited extent the development of the proposed redesign.

MARCH 1, 1967

EVOLUTION OF THE ROLE AND THE FUNCTIONING OF THE DISCOUNT MECHANISM

Clay J. Anderson
Federal Reserve Bank of Philadelphia

The paper, "Evolution of the Role and the Functioning of the Discount Mechanism," attempts to describe the continuous fusion of ideas and conditions that resulted in the original formulation of the discount mechanism and its subsequent evolution as shaped by experience, discovery, and adjustment to changing economic and financial conditions. The judgments expressed in the paper focus on the decade of the 1920's and do not generally reflect the important and different post-1955 experiences. These earlier experiences can and should offer guidance for the current reformulation of the discount mechanism, but it is worthwhile noting that care must be exercised in generalizing from the results of actions taken in circumstances that were in many ways very different from those existing today. In the remainder of this memorandum, the nine main points that the Secretariat believes to be important are briefly summarized, and the current judgment of the Secretariat as to the key implications for the design of the future discount mechanism is expressed.

1. Narrow purpose and eligibility constraints

Mr. Anderson's paper gives further support to the idea that the type of narrow "dollar tracing" purpose control of discounting associated with the real bills doctrine has not proved to be practical. It also strengthens the view that eligibility requirements not only are impractical, but are illogical and in fact constitute a positive handicap in the operation of the discount window. This idea was of course actually accepted with the rejection of the real bills doctrine, but the eligibility requirements have persisted, and Mr. Anderson's findings add support to the eligible paper bill presently before Congress.

2. Direct pressure

The paper also makes clear that direct pressure, as practiced in the 1920's, was not a feasible method of control. Even then a moderate proportion of all banks were borrowing from the Federal Reserve at any one time, and even among those that were borrowing it was difficult to tell if a bank were lending too much in one area until it had built up a fairly substantial portfolio. Direct pressure can, of course, have some initial impact on all banks, though only through moral suasion on nonborrowers. However, this impact usually is progressively eroded as nonbank institutions move into the relevant loans and moral suasion loses its bite. For direct pressure to retain some effectiveness over time, the area subject to it must constantly be broadened.

Direct pressure can be applied either for its monetary effects or for its sound banking effects. However, in the thinking of the 1920's, these two objectives were tied: if through direct pressure the Federal Reserve could limit reserve credit to productive uses, the proper quantity of reserves could then be supplied with little effort.

The issue of direct pressure is one to which the above warning about generalization is especially pertinent. During the 1920's the discount window was the primary source of reserves. Thus the Federal Reserve could not demand that the banking system repay all or even a large part of its discount credit, regardless of the use it might be making of this credit. To do so would have left the banks with patently inadequate reserve balances. In addition, the classification of loans was not well specified in the 1920's, making it difficult to single out proper and improper uses of reserve credit. For instance, it was almost impossible to differentiate between a loan for speculative dealings in securities and a perfectly legitimate loan for the purchase of securities to support industry. Last, one of the most frequent problems, at least in the middle and late 1920's, was stock market credit. However, to treat such loans too harshly would probably have hastened the collapse of the market. There was also the consideration here that stock market loans were not bad per se; it was rather the inflated condition of the market that was bad. Thus the Federal Reserve was faced with a number of circumstances in the 1920's that are not currently pertinent, and the use of direct pressure as applied in the 1920's must be evaluated with an awareness of these circumstances.

3. Progressive discount rate

The well-documented failure of progressive discount rates as a control mechanism in the early 1920's must also be examined with close attention to the environment in which it occurred. There were at least three obvious weaknesses in the arrangements used. First, in the case of three of the four Reserve Banks employing the arrangements, the rate schedule was hinged to a member bank's reserve balance plus capital in the Reserve Bank. The fourth Bank tied it to the member bank's capital plus surplus. This supposedly gave each bank its "fair share," as its rate schedule was related to its contribution to the earning capacity of the Reserve Bank. This was illogical in view of the Reserve Bank's function as a creator of reserves and bore little or no relation to a member bank's reserve need. In fact, when a bank suffered a deposit outflow and presumably needed more help than usual from the discount window, its reserve balance, and thus its basic line, declined. The second and a related weakness was that no ceiling was established beyond which rates would not be allowed to rise. Such a ceiling would have prevented cases such as the one when a bank paid 87.5 per cent for its marginal borrowing.

The third weakness was that only four Reserve Banks instituted the progressive rate system. Thus member banks could circumvent the higher rates by borrowing from correspondents outside the affected districts. This weakness might have been avoided if all districts adopted the progressive rate schedules, although the possibility would still exist of borrowing from a correspondent that had not used up its basic line. These weaknesses provide lessons in themselves, and the experience of the 1920's should be examined in light of them. It might be noted that progressive rate systems employed by several foreign central banks have avoided these weaknesses and have achieved a more rational and successful operation, although of course almost all of them have their own weaknesses of varying degrees of seriousness that should be recognized.

4. Effect on customer rates

Mr. Anderson's work indicates that, at least in the 1920's, changes in the discount rate were generally not carried forward directly

into customer rates. Rather, a change in the discount rate signaled a change in the availability of credit and thus influenced over-all monetary conditions. This is probably equally true today (except possibly on some loans and credits to borrowers with easy access to the money market) and might always be true in the absence of the tied arrangements in effect in some foreign systems.

5. Rates related to collateral

The paper also indicates that preferential discount rates of the type used, based on collateral, were shown during the conditions prevailing in the 1920's to be impractical as a control device. So long as it was available, banks would naturally offer the collateral with the lower rate, and the preferential rate would thus become the effective rate.

6. Reluctance to borrow

Mr. Anderson's paper provides support for the idea that there are at least two kinds of reluctance to borrow that should be distinguished. One is a basic reluctance of a bank to pile up debt to anyone; if carried too far its solvency might be endangered. The second is a reluctance to be in debt to the central bank in view of its limiting rules and the kind of administrative discipline to which a borrowing bank might be subject. This is at least partly an artificial reluctance stemming from the rules, statements, and actions of the Federal Reserve.

The Secretariat believes that there is perhaps a subcategory of the first type of reluctance worth citing as a third category. This is a reluctance to show borrowings because of presumed customer and investor attitudes. Such reluctance is, as indicated, akin to the first type, but it has a somewhat different rationale and accounts for situations such as often occur around statement dates, when banks borrow very heavily at the discount window on the day previous so that they can show an average or lower level of borrowing on their statement.

The paper suggests that, while all three types of reluctance to borrow might be becoming progressively less viable as an automatic and self-enforcing control of borrowing, the first and third types—reluctance to borrow from any source and to show borrowing—would be very difficult to eradicate quickly or fully. In fact, to eradicate this reluctance as it applies to substantial borrowing, in contrast to incidental, would not be desirable because of the adverse effects this might have on bank liquidity positions. Convincing banks to use the discount window more freely (that is, to increase the share of their borrowing done at the Federal Reserve) is quite possible, but that would take time. However, so long as either the first or the second form of reluctance to borrow—from any source or specifically from the central bank—persists to an important degree, it will be impracticable to achieve large contracyclical changes in the volume of borrowed reserves, and thereby in the total quantity of reserves. However, the Federal Reserve has other tools, notably open market operations, which can exercise this contracyclical influence on reserve totals, and it seems likely it will have to continue to rely on them in the foreseeable future.

7. Value of administrative discretion

The paper also points up the real value of a certain amount of administrative discretion. Many of the problems of the past could have been dealt with more successfully if the Federal Reserve had had some ability to vary mechanical rules quickly and flexibly. This is particularly true when these rules prove to be inappropriate to meet the varying circumstances within the banking system.

8. Attempts to influence uses of credit

The history related in the paper demonstrates that, in the past, the specification of a qualitative use of credit to be encouraged or discouraged by the discount window has always given way to direct action in which the window became a threat. This history should at least be recognized in designing any future use of the window.

9. Changing objectives of discount policy

Last, the paper indicates that over the years the objectives of discount policy have evolved and been adapted or modified as the implementing rules have proved unworkable in changing circumstances. In the past, experience with the discount policy has been to a large extent a learning process.

MARCH 27, 1967

A REVIEW OF RECENT ACADEMIC LITERATURE ON THE DISCOUNT MECHANISM

David M. Jones
Federal Reserve Bank of New York

and

SUMMARY OF ISSUES RAISED AT THE ACADEMIC SEMINAR ON DISCOUNTING

Priscilla Ormsby
Board of Governors, Federal Reserve System

The paper, "A Review of Recent Academic Literature on the Discount Mechanism," examines academic literature of the decade following the 1951 Treasury–Federal Reserve accord and presents the major arguments that pertain to discounting in that literature. It concentrates on literature that bears directly on the implications of discounting for monetary control.

The literature examined was all published prior to the experiences of 1966, and therefore some of the arguments presented may be at least partially overcome by events. However, it is the opinion of the Secretariat that few academics will undergo any substantial changes in attitude as they look at 1966. Rightly or wrongly, they will probably view those events as strengthening the opinions they have held in the past. In any event, it will probably be some time before academic reaction to 1966 is reflected to any great extent in published literature. This being the case, this paper is valuable in reflecting most of the relevant and fairly recent academic thinking available.

The paper, "Summary of Issues Raised at the Academic Seminar on Discounting," was prepared in connection with the seminar held at the Board on May 11, 1966. It reflects the expression of the more recent thinking of a number of influential academic economists and may therefore be thought of as modifying to a certain extent some of the ideas presented in Mr. Jones' paper. However, even this paper was based on discussion held prior to many of the important developments of 1966 and therefore suffers from the same handicap.

The paper, "Financial Instability Revisited: The Economics of Disaster," prepared

for the discount study by Professor Hyman P. Minsky and submitted to the Steering Committee separately, does represent one academic economist's reaction to the events of 1966. However, it seems most unlikely that many academics will emerge from an examination of these events with Minsky's conclusions.

In the remainder of this memorandum, the five main points in the Jones and Ormsby papers that the Secretariat believes to be important are briefly summarized, and the current judgment of the Secretariat as to the key implications for the design of the future discount mechanism is expressed.

1. General dissatisfaction with the discount mechanism

Most of the academic economists consulted seem to regard the discount mechanism, as currently constructed, as being antagonistic to the Federal Reserve's primary task of monetary management. They point out that the initiative for borrowing rests with the member banks, that borrowing *adds* to total reserves, and that the level of borrowing varies procyclically.

These contentions are answered by some academics and by others with the now-familiar arguments outlined below. The Secretariat generally supports the following arguments, with the caveats noted in the discussion.

While the borrowing of an individual member bank is at its own initiative, the aggregate level of borrowing can be controlled by the Federal Reserve. One of a variety of operational targets employed in open market operations is the level of free reserves, and since excess reserves generally remain fairly stable *in toto* (although there may be wide fluctuations in the distribution of those excess reserves) the effective target is often aggregate borrowings. This control is obtainable in principle, but it is less than perfect in practice. The fall of 1966 offered striking evidence that borrowing can be extremely inelastic vis-à-vis interest rates and at times the efforts of the Trading Desk to achieve a given level of borrowing can be largely frustrated by the nonmonetary costs that banks attach to borrowing.

However, the Federal Reserve retains at least a general control over aggregate borrowing levels, and, what is perhaps more important, has the ability to make fairly accurate predictions of those levels, even when it might not choose them. The Secretariat in its deliberations has given and continues to give close attention to the probable effects of various changes on the predictability of borrowing. It has also recognized that the likely response of the banking system to a given level of borrowing is not invariant, but may depend on such things as where in their borrowing spans the indebted banks may be (that is, how close they are to the threshold of administrative discipline). Thus, the Secretariat considers the predictability of this response even more meaningful than the predictability of borrowing levels.

The arguments that borrowing adds to total reserves and that the level of borrowing varies procyclically cannot be refuted in and of themselves. However, the significance of these arguments can be questioned. Borrowed reserves have long been argued as having less expansive implications than unborrowed reserves because of the bank adjustment efforts they make necessary. It is also true that the existence of the discount window to serve as a safety valve makes possible more vigorous open market operations than could otherwise take place.

2. Determinants of borrowing

Mr. Jones's paper sketches the still partially unresolved debate over whether banks borrow out of need or to obtain a profit. It

notes that empirical evidence on this question remains small and inconclusive. However, it suggests at least one reconciliation of the profit motive and the reluctance to borrow. This is that banks are, on the whole, reluctant to borrow, but that, given a reserve deficiency—and therefore a *need* to borrow, whether they come to the discount window or turn to some other short-term source of funds will depend on relative cost considerations.

The academic literature still does not seem to have produced a satisfactory reconciliation between reluctance to borrow and the administrative discipline exercised by discount officers. The Secretariat notes, however, that this question was dealt with in its memorandum of March 1, 1967, accompanying the paper, "Evolution of the Role and the Functioning of the Discount Mechanism." At that time it suggested that there are two basic sorts of reluctance to borrow—one an innate reluctance to be in debt based largely on a concern for the liquidity and solvency of the institution, and the other an acquired reluctance to be in debt to the central bank growing out of the actions, regulations, and statements of that central bank. The Secretariat also notes the widespread and in some respects impressive breakdown in recent years of at least the first type of reluctance to borrow. The increased willingness of banks to issue short-term, liquid liabilities is apparent in the Federal funds market, the CD market, and the Euro-dollar market.

3. Nondiscretionary control

Most of the academic economists consulted are strongly opposed to the use of administrative discipline by discount officials, which has been the major factor in creating the second type of reluctance to borrow discussed above. They would propose complete reliance upon nondiscretionary control of the window, which they almost unanimously equate with interest rate control.

The most frequent proposal is for a tied rate system, where the discount rate would be set above and would vary with some market rate. This proposal generally leaves unspecified the questions of the appropriate market rate to be used as the peg—a difficult one for a diverse and fragmented banking system employing a variety of reserve adjustment procedures—and of the rate spread.

Largely ignored by the academic literature is the interest rate instability that a tied discount rate might introduce into the financial structure. This problem was probably an important factor in Canada's abandoning the system in 1962.

It also might be noted that, even with a tied discount rate, the Federal Reserve would probably find it necessary to administer the rate spread at times, as well as to influence the level of market rates, to bring about desired responses. A completely automatic control over discounting at all times does not seem to be compatible with discretionary monetary policy.

A system of control based on rate alone, with an administratively determined rate, would also pose serious problems. It would result in a loss of control over reserve creation in the short run, and would make the setting of the discount rate probably the most important decision made by the central bank. A mistake in that decision could have very serious implications for monetary conditions. Therefore, the Secretariat sees a need, in the future as in the past, for some kind of other, nonprice constraints on discount window use.

4. Announcement effects

Academic economists are almost unanimous in considering the announcement effects of changes in the discount rate to be

unclear, unnecessary, and often perverse. The Secretariat also has reservations, but is not convinced that the announcement effects cannot serve a constructive purpose both domestically and internationally. Several academics recognize the value of announcement effects, given the attention accorded discount rate changes in international financial markets.

Academic economists suggest eliminating the announcement effects through a tied rate system or minimizing it by instituting a frequent and regular schedule of smaller discount rate changes. Possibly the second alternative merits further consideration.

It seems possible that much of the discussion by academics and by others gives undue importance to the announcement effects. These rate changes are only one of a variety of factors influencing the decisions of borrowers and lenders. While they do have some real significance and perhaps exercise more influence than this real significance should justify, those closest to the issues may be attributing to them more power than they actually possess.

5. Reserve redistribution

An important, although probably secondary, topic in the academic literature is that of reserve redistribution. On this issue, the academics seem rather satisfied with the *status quo*. They prefer to see this reallocation done by other agencies with the Federal Reserve role limited to that of lender of last resort.

Conclusion

In sum, the Secretariat often finds itself considerably at variance with academic attitudes on discounting. Nonetheless, it feels that indexing these attitudes is worthwhile and has noted a number of areas in the foregoing discussion where academic economists offer constructive criticism and suggestions.

MARCH 27, 1967

FINANCIAL INSTABILITY REVISITED: THE ECONOMICS OF DISASTER

Hyman P. Minsky
Washington University

The paper, "Financial Instability Revisited: The Economics of Disaster," is unusual and out of the main stream of academic thought in that it deals basically with the role of the Federal Reserve as a lender of last resort and less with its function on monetary management. It also deals with the dynamics of domestic financial flows, in contrast to the static approach adopted by most academic economists.

The paper draws much of its evidence from the experiences of 1966 and might be regarded as a lesson in economic brinkmanship.

In the remainder of this memorandum, the 14 main points that the Secretariat believes to be important are briefly summarized.

1. The "banking theory" for all units

Firms and households can be thought of as balancing their expected cash inflows and outflows, holding portfolio assets to bridge any prospective cash shortfalls with sufficient provision of liquidity to guard against uncertainty.

2. Initial effects of euphoria

When continuing economic prosperity generates euphoric attitudes, expectations as to

future income and asset values are escalated, and expected cash needs to guard against shortfalls and uncertainty are scaled down; as a result, firms and households are led to become more illiquid—and the greater the euphoria, the greater this shift toward illiquidity.

3. The discounting of protection

This change in attitudes can lead to liquidation pressures and higher interest rates on the safest and most liquid assets, as increasing confidence causes holders to shift toward higher-yielding even though riskier assets.

4. The impact on financial institutions

Such holder adjustments affect particularly banks and other financial intermediaries that had earlier benefited from the public's cautious attitudes by issuing liquid liabilities and holding less liquid assets—and, of course, the greater this disparity and the more that adjustments are constrained by regulatory limitations for a particular group of institutions, the tighter the pinch.

5. Public policy to counteract euphoria

Counterinflationary public policy—whatever the mix between monetary and fiscal policy—has to endeavor to moderate the euphoric expectations that cumulative expansion generates, but in so doing it risks the kind of financial squeeze outlined above, which can assume crisis proportions if the deflation of euphoria is abrupt, as it can easily be if the preceding euphoria had been strong and widely held.

6. Failures to meet euphoric expectations

This pinch on financial intermediaries and on markets for safe assets can be compounded by a second kind of liquidity pressure, as firms and households experience shortfalls in cash flows from their euphoric expectations, and are led (a) to try to borrow or otherwise raise cash to cover their shortfalls, and (b) to adopt a more conservative portfolio and cash flow posture.

7. Role of the central bank

Consequently, the central bank, as the only ultimate source of liquidity, needs to be prepared to perform as a liberal lender of last resort to ameliorate the deflationary swing back toward a greater desire for liquidity.

8. Scope of central bank actions

Central bank provision of liquidity at such times should extend to all financial institutions and secondary markets for major types of liquid and/or safe assets on which pressures are likely to concentrate. This raises the broad policy issue as to whether such central bank action would not be more effective if the central bank had regular contact with and participation in the markets in question, particularly in the form of financing assistance for dealers in these markets. However, the Secretariat feels that this should not go so far as to involve the Federal Reserve in a commitment to these markets.

9. Early public policy actions

Because the risk of financial crisis seems higher the greater and more prolonged the preceding euphoria, the paper implicitly places some premium on early public policy actions to curtail the development of euphoric attitudes. This points up the need for coordination among the various supervisory authorities.

10. Limits on monetary restraint

A premium is also placed on a careful and knowledgeable weighing by the central

bank of how far it can go with counterinflationary monetary restraint before needing to step in with lender-of-last-resort-type ameliorative actions.

11. Cash flow analysis

Both for this purpose and for more effective bank supervision for other purposes, examinations should introduce cash flow analysis of the position of each financing institution, based upon empirically validated (or simulated) probable consequences of various alternative economic environments that could conceivably develop.

12. Regional pressures

The authorities will also need to stay aware of potential regional concentration of financial crisis pressures (for example, California, or other areas of heavy capital imports).

13. Discretion on the part of the Federal Reserve

To respond effectively to the changing financial conditions, the central bank must maintain a substantial amount of discretion and flexibility in choosing the policy tools to be used and in the application of these tools. The adequacy of tools now available should be re-examined from the point of view of the above analysis.

14. Direct relevance for the discount study

The Secretariat regards these views as interesting and worthy of further consideration. They seem to argue for more liberal and flexible use of the discount window at all times, both to forestall crises and to facilitate handling of those crises that may develop.

JULY 5, 1967

THE SECONDARY MORTGAGE MARKET

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The main points in the paper, "The Secondary Mortgage Market," that the Secretariat believes to be important are briefly summarized as follows:

1. A secondary market for mortgages is all but nonexistent.

The Federal National Mortgage Association buys and sells only Government-underwritten home mortgages. Moreover, its operations on the buy side are best characterized as primary market transactions. Most of its purchases are from originator-servicers, who, in effect, are mortgage underwriters.

No private organizations exist that make a market for *seasoned* mortgages by acting continuously as brokers and/or dealers; nor are "open market" price quotations available on a continuous basis.

2. A number of serious obstacles have impeded the development of secondary market facilities.

First, the cost of providing the kind of information necessary to secondary market operations is prohibitive. Mortgage loans are small in size and heterogeneous in nature, and under present arrangements it is necessary to have detailed knowledge of the property and borrower characteristics of each loan.

Second, the mortgage market tends to be fragmented into a number of submarkets, a fact which discourages market making. The

tendency for principal lenders to specialize in particular sectors of the market is encouraged by the heterogeneous nature of mortgage loans and by various legal arrangements such as geographic lending restrictions, restrictions on asset composition, and policies affecting competition for savings.

Finally, for various reasons, including the existence of customer relationships and the absence of secondary markets, mortgage lenders have adopted the attitude that mortgages, once acquired, are not to be sold. Hence there is no attempt, when originating mortgages, to tailor them to the requirements of a larger market.

3. The development of a secondary market would be desirable.

For one thing, such a market would enhance the shiftability of assets and introduce greater flexibility into the financial structure. This greater flexibility, in turn, would tend to encourage flows of funds into areas and sectors of greatest need, thereby contributing to improved allocation of resources.

Also, a secondary market should increase the sensitivity of mortgage rates to general monetary conditions. To the extent that flows of funds into the mortgages are influenced by differential rates of return between mortgages and bonds, this should encourage stability in the housing industry and should reduce the differential impact of monetary policy on residential construction.

In the Secretariat's view the Cacy paper has the following implications for the redesign of the discount mechanism:

1. It would not be wise or feasible to attempt to divert flows of funds into the mortgage market via the discount mechanism.

2. The discount mechanism should not be redesigned so as to paper over institutional inadequacies in the mortgage market. Rather the System should encourage desirable changes in both the primary and the secondary markets.

The Secretariat believes a number of the recommendations contained in the Cacy paper for improvements in the secondary market to be worthy of further consideration. These include: (1) removing barriers that limit the speed or extent to which mortgage rates are able to fluctuate with market rates; (2) restructuring FNMA to perform a full-fledged dealer operation in Government-underwritten mortgages, maintaining its portfolio within narrow limits by adjusting its buying and selling prices; (3) taking steps to reduce the heterogeneity of conventional loans by encouraging uniformity in origination procedures, lending practices, and State mortgage laws; and (4) removing legal or other obstacles that prevent responsible financial institutions from competing on an equal footing with other institutions for conventional mortgage loans on a nationwide basis.

The proposal in the Cacy paper that the System perform a stabilizing role in the secondary mortgage market in time of stress by undertaking open market operations in completely insured mortgages is not looked upon with favor by the Secretariat.

The Secretariat recognizes that promotion of a secondary mortgage market and encouragement of appropriate changes in the institutional structure of the primary market are not direct System responsibilities. Nevertheless, the Secretariat believes that a useful purpose might be served if the System were to cooperate and work closely with the various agencies associated with the mortgage markets, perhaps through a mortgage subcommittee of a System task force charged with the general responsibility of looking into market-perfecting devices.

3. An effective secondary mortgage market would provide banks with another alternative to the discount window in making reserve adjustments. What the interrelationships would be would obviously depend on the kind of window that is ultimately adopted and on the nature of the new secondary market. This points up the need for continuing adaptation of the discount mechanism as the financial system changes. It would be unrealistic to hope that the window can be redesigned once and for all.

4. It might be necessary for the Federal Reserve to exercise a lender-of-last-resort function in connection with an improved secondary market for mortgages. Conceivably, there could be widespread unloading during periods of monetary restraint, in which case it might be necessary for the System to provide credit in some fashion to central lenders in order to prevent disorderly conditions. On the other hand, freer and better secondary markets, while not dealing with the fundamental problems encountered in 1966, might moderate some of the adjustment difficulties faced then. More sensitive mortgage rates and improved competitive relationships among financial institutions would tend to prevent sudden shifting of funds out of the mortgage market.

JULY 5, 1967

THE DISCOUNT MECHANISM IN LEADING INDUSTRIAL COUNTRIES SINCE WORLD WAR II

George Garvy
Federal Reserve Bank of New York

The paper, "The Discount Mechanism in Leading Industrial Countries since World War II," represents a general survey of discount policies in these countries and does not attempt to evaluate the policies or apply them to the specific proposal for a redesigned discount window being developed by the Secretariat. This study was initiated with the thought that central bank experience in the advanced industrial countries would: (a) offer significant insights into the relationship of the discount mechanism to other tools of monetary policy; (b) show the way in which various policy tools interact; and (c) suggest problems and advantages associated with specific techniques that might be considered in redesigning the discount window in the United States.

In order to bring out the various possibilities and limitations that should be considered in relating foreign experience to our problems and strikingly different conditions, this paper focuses on the policy environment and institutional factors that have shaped the discount mechanism in the individual countries studied.

The paper clearly shows that there is no uniform "foreign experience" that can be compared with ours, but, rather, there is a variety of examples of adapting the oldest tool of monetary policy to specific but changing conditions in each given country. Indeed, the paper did not aim at a comprehensive comparative study of the discount mechanism of the countries covered, or at assessing its effectiveness in each individual country.

In the remainder of this memorandum, the main points in the research report that the Secretariat believes to be important are briefly summarized.

1. Discounting remains a principal tool

of monetary management in most of the advanced industrial countries. One reason for the continuing importance of the discount mechanism has been the survival of commercial bills as a main instrument of bank lending in most of these countries. Another factor is the lack of alternative means for controlling bank liquidity in the short run. In several countries this reflects the undeveloped state of the money market and, in particular, of the market for Government securities.

2. In contrast to the United States, in most foreign countries foreign exchange surpluses have provided the banking system with adequate (or more than adequate) liquidity, and as a result the need for using the discount window has diminished considerably in recent years. In these countries, the main problem of monetary management has been to adjust discount policies to effects on reserves of fluctuations in the balance of payments (and in some cases, of Treasury operations) over which the central bank has no direct control—in particular, in the short run.

3. Foreign experience shows that for a variety of reasons exclusive reliance on rate for controlling domestic credit conditions as well as for maintaining international equilibrium is impractical. As a result, operations of the discount window have been supplemented by other means of monetary management:

a. In several countries, open market operations and various techniques to control the effect of fluctuations of exchange holdings on bank reserves have been developed to supplement the discount mechanism. Reserve requirements have been introduced in several countries.

b. By and large, however, quantitative controls to limit permissible expansion of bank credit or to regulate access to the discount window have been introduced to cope with excess liquidity, mostly generated by balance of payments surpluses and/or Government deficits. Controls at the window may be direct or indirect, by immobilizing (through liquidity ratios) specified quantities of discountable assets in bank portfolios.

c. *Moral suasion* has been introduced to reinforce general monetary controls in a number of countries. The form of moral suasion varies: it may consist of formal expression of the central bank's wishes (as in the case of Governor's Letters in the United Kingdom), gentlemen's agreements with regard to the rate of bank credit expansion (as in the Netherlands), or detailed tutelage (as under the "window guidance" system in Japan).

Quantitative regulation imposes on the monetary authorities responsibility for determining the appropriate rate of increase in bank credit (or related monetary magnitudes)—a responsibility that, in fact, we have recognized ourselves in recent years.

4. The discount rate has gradually evolved into a structure of rates. This occurred in part to ration central bank credit by imposing a higher cost for successive tranches of borrowing, or for borrowing exceeding stipulated periods, and in small part because the discount mechanism has been used as a means of selective credit control. Also, the link between the principal official rate and subsidiary rates has gradually become more flexible.

5. In several of the countries surveyed, discounting provides at least a part of the permanent additions to the reserve base. While for a generation the Federal Reserve System has been using open market operations in U.S. Government securities for this purpose, foreign experience suggests the possibility that in the future some part of the growth in the reserve base could possi-

bly be supported through the discount mechanism.

6. Operations at the discount window have been simplified and made more flexible in several countries by shifting the emphasis to advances and to repurchase agreements. Depending on the country, advances are either a normal substitute for discounts (substantially identical rate and terms applying to both operations) or a means of obtaining additional central bank accommodation under more stringent conditions, for short periods but at a higher cost.

7. Foreign experience offers numerous examples of window use for (a) encouraging specific activities (or by designated sectors) through preferential rates, special credit lines, access to the window outside of quotas, and other means; and (b) for restricting extension of credit for purposes, or to areas, of low priority. It offers, however, only scant guidance for possible aggressive use of the discount window in deflationary situations.

Some of the techniques discussed in the paper were tried in the United States in the 1920's; others are novel to American experience. In many cases, such techniques were shaped by the particular characteristics of each national financial system.

8. While the underlying conditions in the United States are considerably different in several respects from those existing in the countries covered by this paper, a few of the techniques developed abroad recommend themselves for further study.

JULY 5, 1967

CAPITAL AND CREDIT REQUIREMENTS OF AGRICULTURE, AND PROPOSALS TO INCREASE AVAILABILITY OF BANK CREDIT

Emanuel Melichar and Raymond J. Doll
Board of Governors and Federal Reserve Bank of Kansas City

The paper, "Capital and Credit Requirements of Agriculture, and Proposals to Increase Availability of Bank Credit," investigates: (1) potential credit requirements of the agricultural industry; (2) availability of credit in rural areas; (3) mobility of credit flows between rural and other sectors of the economy; (4) unique problems confronting rural banks; and (5) proposals for altering prevailing mechanisms or for providing supplementary mechanisms that will help alleviate difficulties that may occur.

The main points in this paper that the Secretariat believes to be important are briefly summarized, and the current judgment of the Secretariat as to the key implications for the design of the future discount mechanism is expressed.

1. Credit needs of agricultural areas and the role of commercial banks

The paper concludes that, up to the present time, agriculture has been able to meet its rapidly growing credit needs; the bulk of production credit has come from commercial banks, but other institutions such as the Federal intermediate credit banks have assumed increasing importance. The credit needs of agriculture are expected to continue to increase at a rapid pace, however, and it is questionable whether commercial

banks will be able to maintain their competitive position in this area. Since deposit growth in these banks is closely related to income growth and credit needs grow largely out of a changing capitalization ratio rather than an expanding industry, the local banks will probably find it more and more difficult to mobilize sufficient funds to make these loans. The trend is aggravated by declines in country bank holdings of liquid assets and by their very limited access to the central money market.

The Secretariat would not suggest that a deliberate attempt be made to perpetuate the banks in their current share of the market. But it would support the principle that the Federal Reserve should attempt to insure that banks have an equal opportunity to compete for agricultural business and are not handicapped by imperfections in the flows of funds.

2. Role of the discount window

The Secretariat is opposed to the provision of long-term credit through the discount window, including that to banks in agricultural areas. It feels that such credit would probably enmesh the System in socioeconomic and political problems beyond its scope and competence, and that it could result in a pyramiding of debt on the part of individual banks that could become dangerous from the supervisory point of view.

However, a contribution to the credit needs of agricultural areas can be made through more liberal provision of seasonal credit. In addition to meeting certain agricultural credit needs directly, this and any other liberalization of the discount window should result in the freeing of a limited amount of funds, currently held in highly liquid forms as secondary reserves, for longer-term lending. This liberalization might even go further than its direct effects and act as a catalyst, spurring local growth and an increasing supply of locally generated funds.

3. Ultimate solution—market perfection

Despite the limited contributions that the redesign of the discount window may make to the filling of agricultural needs, the Secretariat feels that the only long-run solution lies in the perfection of secondary markets for bank assets and liabilities. What might appear to be a preferred position presently occupied by the large banks results essentially from their ready ability to sell their instruments—both earning assets and liabilities—in the market place. Small rural banks will be able to compete for funds on an equal footing only to the extent that they have a similar ability to market their instruments.

4. *Ad hoc* System committee

The issue of market perfection lies largely outside the scope of the discount study, and the Secretariat therefore recommends establishment of an *ad hoc* System committee to investigate and develop suitable means of perfecting market performance and improving credit flows. Since this study would be independent of the discount study and would probably continue for some time past its conclusion, the Secretariat will not try to outline specifically the areas of concern or actions of this group. It does suggest, however, that such a committee study encompass the whole broad panoply of secondary markets, and that it establish special subcommittees to concentrate in those markets that seem to have the greatest difficulties and/or hold out the greatest hope for improvement (for example, the mortgage market and the market for agricultural paper). The newly created committee should also determine the extent of its involvement with other interested Federal agencies.

JULY 5, 1967

A STUDY OF THE MARKET FOR FEDERAL FUNDS

Parker Willis
Federal Reserve Bank of Boston

The paper, "A Study of the Market for Federal Funds," describes and analyzes the growth and development of the Federal funds market, emphasizing those changes that have occurred in the postwar period. The paper notes that the market has become broader, deeper, and more efficient in recent years. As a result, the linkages have been strengthened within the various divisions of the money market and also between the money market and longer-term credit markets.

Improved brokerage facilities and increased services provided by accommodating banks have given the market an increasingly national character. While a handful of banks account for most of the dollar volume of trading, the market has expanded to include a relatively large number of smaller banks. Many of these indicate that trading in funds has reduced their reliance on transactions in Treasury bills and other money market instruments as a means of reserve adjustment. Most small participating banks, however, use the market primarily as a means of disposing of excess reserves.

The Secretariat believes that the following points should be kept in mind in redesigning the discount mechanism.

1. The Federal funds market is working quite efficiently for large and medium-sized banks. For small banks, however, the market is not now, nor does it seem likely to become, a dependable source of funds, in part because many large institutions are apparently reluctant to sell funds, at least on a relatively sizable or extended basis, to their smaller correspondents. This seems to be particularly true in periods of tight money, when the large banks are keenly interested in retaining funds to finance their own lending activities.

2. The adoption of the lagged reserves and reserve carry-forward proposals will probably tend to reduce the need of smaller banks for 1-day money and may also tend to reduce small-bank participation on the selling side of the funds market. This follows from the likelihood that banks under the new plan will be able to carry over small misses into the next reserve period.

3. It is questionable whether or not small banks should be encouraged to use the Federal funds market to support additions to portfolios, since considerable skill is required in the use of this day-to-day market as a dependable source of reserves. There is also some question as to the desirability of larger banks using the market for this purpose to the extent they have. This is an additional reason for believing that the development of new and improved liquidity standards for banks should be given high priority.

4. On the whole, the Federal funds market has worked very well in recent years and has demonstrated its ability to respond quickly and appropriately to changing needs and conditions. The adaptability of this market, the implementation of the lagged-reserve proposal, and the possibility of a discount window redesigned in such a way as to permit more ready access by smaller banks argue against adoption of such drastic proposals as a Federal funds auction or even the milder proposal that the Federal Reserve act as a clearinghouse for

funds transactions of smaller banks. The Secretariat has a strong preference for avoiding any action that would tend to discourage the development or improvement of private market facilities that have a reasonable chance of developing adequately on their own.

The Federal Reserve might, however, consider changing its rules so as to permit wire transfers in uneven amounts without penalty. This should provide a minor stimulus to further broadening of the market since it would permit interest on Federal funds to be included in the return wire.

JULY 19, 1967

THE SECONDARY MARKET FOR STATE AND LOCAL GOVERNMENT BONDS

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Federal Reserve Bank of Philadelphia

The paper, "The Secondary Market for State and Local Government Bonds," evaluates the municipal bond market on the basis of its performance during 1966 against three widely recognized criteria of a good securities market.

It concludes that the market passes the first test—that there should be free interplay between the largest possible number of buyers and sellers who have available to them a maximum amount of information pertinent to the market—moderately well but there remains room for improvement. The breadth of the market is reduced to some extent by the tax-exempt feature, which tends to limit the market to those institutions and individuals able to benefit from the special tax advantage. Also, bonds that carry exemption of State and local taxes tend to be restricted in their market to fairly small geographic areas. Perhaps the most critical shortcoming is the existence of a huge number of heterogeneous bonds, making it difficult and costly for market participants to secure sufficient information to make an optimal decision.

The second test, that buyers and sellers be brought together at minimum cost through an efficient institutional structure, is passed with a high score by those dealers located in major financial centers who make a market in the issues of large, well-known governmental units. There is some evidence that investors trading with smaller dealers in the local or regional sectors of the market may pay higher costs than necessary, but additional research would be needed to prove this point.

Under normal conditions the market passes the third test of being able to adjust readily to temporary disturbances in supply/demand relationships, thereby maintaining price continuity. During the peak of the cyclical pressures in 1966, however, the performance of the market deteriorated sharply, largely because of the abrupt shift of commercial banks from the buy side to the sell side of the market. Only a handful of dealers continued to make markets in municipals and some of these bid very low so as to minimize the likelihood of taking on additional bonds. Under these circumstances, wide differences occurred in the prices of two consecutive trades in the same bond on the same day.

The Secretariat recognizes the following implications of the paper for the redesign of the window:

1. Considering the extreme nature of the pressure placed on the municipals market in

1966, this paper can be accepted as documentary evidence that the secondary market performs very well under normal circumstances and can survive even the most trying circumstances. This does not rule out the possibility of improvement, and the Secretariat recommends that the performance of this market be reviewed from time to time by System study groups in order to stay abreast of its developing characteristics and to be able to recommend changes that would moderate the disproportionate impact of monetary restraint on small, relatively unknown governmental units and would enable the market to operate better during periods of unusual stress.

2. The growing importance of municipal securities in the portfolios of commercial banks and the increased willingness, especially of large banks, to sell these securities in the market have added a new dimension to the reserve adjustment mechanism. The secondary market for municipal securities could become an increasingly important alternative to discount accommodation.

3. The Secretariat has a strong preference for giving private market facilities free rein to develop and adapt to changing conditions, if they seem to have the capacity.

The rapid development and the generally good performance of the secondary market in municipals make unnecessary the adoption at this time of any of the more drastic possibilities listed in the paper. No need is seen at present to use open market operations to stabilize prices of muncipals or to have a Government agency act as broker. It could be necessary, however, for the Federal Reserve to exercise a lender-of-last-resort function in connection with the municipals market in periods of unusual stress. The Secretariat looks forward to municipal securities being made eligible for discount on passage of proposed legislation.

JULY 19, 1967

DISCOUNT POLICY AND BANK SUPERVISION

Benjamin Stackhouse
Federal Reserve Bank of New York

The paper, "Discount Policy and Bank Supervision," sets forth the various examination approaches to liquidity under the present framework for borrowing specified in Regulation A. It recognizes that recent banking changes have altered the traditional concept of bank liquidity and that a substantive change in the rules governing discounting could alter that concept still further and necessitate a revised approach to liquidity measurement. While the paper does not attempt to spell out any such new approach, it is nonetheless valuable as a summary of approaches in use under the present rules of the game.

The remainder of this memorandum summarizes the main points of the paper and sets forth its implications for the redesign of the discount window, as the Secretariat sees them.

1. Postwar changes in liquidity and in the meaning of liquidity standards

Bank liquidity, defined as the ability of a bank to meet known and foreseeable demands for money that may be made upon it, has become a subject of increasing concern in recent years. Not only has liquidity declined to quite low levels according to the traditional liquidity measures, but the use-

fulness of these measures has been impaired to some extent by the growing tendency for banks to adjust positions by manipulating their liabilities. Borrowing from various sources—in the Federal funds market, through sales of securities under repurchase agreements, and more recently through the Euro-dollar market—and what might be termed "quasi-borrowing" through issuing negotiable certificates of deposit have all provided funds to meet other deposit withdrawals and credit demands. Borrowed funds, however, cannot be regarded as unconditional sources of liquidity, since short-term borrowing itself establishes a need for liquid funds in the very near future for purposes of refinancing or repayment. The foregoing changes that have occurred in banking practices in recent years make necessary the formulation of new and improved liquidity standards. Contemplated changes in the discount mechanism add a new note of urgency to this endeavor.

2. Liquidity standards under the new window

Bank liquidity standards will not be less important if the discount window is opened wider and made a more certain source of funds. They will, however, need to be somewhat different. Assurance of being able to meet a larger portion of seasonal and random needs through discount accommodation, for example, would reduce the need for banks to hold as large a volume of short-term, highly liquid assets as secondary reserves. Precise liquidity standards cannot be developed before the details of the new window are known, but assuming a somewhat more liberal window, examiners would probably tend to regard a relatively lower level of bank liquidity (as currently defined) as adequate, while placing correspondingly greater emphasis on the quality and soundness of longer-term assets, on the adequacy of capital, on the adequacy of earnings to cover the costs of borrowing, and on flow of funds analysis.

3. Cooperation between bank examination and discount administration

The redesign of the discount window will require some readjustment in the approach to liquidity employed by bank examiners. Within reasonable limits, this can be accomplished without affecting the quality of their supervision.

The window redesign will probably also result in increased attention to a bank's over-all liquidity position on the part of discounting authorities. This will make it all the more desirable for administrators of the window and bank examiners to utilize the same methods for analyzing that liquidity position. While bank examination should continue to have primary responsibility for enforcing liquidity standards, the Secretariat recognizes the need for complementary discipline in connection with discount administration. The precise nature of the role assigned to each function will depend, of course, on the kind of discount mechanism that is ultimately adopted. But in any case, there should be a free and regular flow of information and a close coordination of actions between the two functions. Presumably, the examination department would conduct an intensive analysis of a bank's liquidity position at the time of each examination, while the discount department would make repeated but less detailed reviews of current positions in connection with occasional discount accommodation during the course of the year. Both functions may also need to be supported by a more regular and frequent flow of pertinent data from each member bank than is reported under existing arrangements.

AUGUST 1, 1967

THE SECONDARY MARKET FOR NEGOTIABLE CERTIFICATES OF DEPOSIT

Parker Willis
Federal Reserve Bank of Boston

The paper, "The Secondary Market for Negotiable Certificates of Deposit," describes and analyzes the growth and development of the secondary CD market, emphasizing those changes that occurred in the period from 1961 through 1966. Because secondary market trading takes place almost exclusively in large-denomination CD's of fairly well-known banks, which are issued primarily to nationally known concerns, the paper, of necessity, focuses on the kind of CD that has implications for large banking institutions.

The secondary market during this 1961–66 period experienced ups and downs in activity, primarily in response to differing relationships between money market rates and Regulation Q ceilings. Secondary market activity tended to expand as long as banks were forbidden to pay more than 1 per cent for 30- to 89-day money. This forced a downward-sloping yield curve on the market and permitted both dealers and investors to profit from riding the curve. Under such circumstances dealers were willing to hold fairly large inventories. During the period from 1961 through 1964, the market grew steadily, dealer inventories rose, and the volume of trading expanded significantly. The increased liquidity of the CD instrument provided further incentive for growth in the volume of CD's outstanding.

Activity in the secondary market declined following a change in Regulation Q in November 1964 that permitted issuers to pay as much as 4 per cent on maturities of less than 3 months. Activity declined further with the establishment of uniform rates on all maturities of CD's in December 1965 and the rapid escalation of market rates in 1966. With the flattening of the yield curve, an important source of profit was eliminated. Furthermore, dealer positions became exposed to undercutting from primary issuers who extended the maximum rates to shorter and shorter maturities. As a result dealers reduced their inventories sharply and trading activity declined to very low levels.

Despite the gyrations of the secondary CD market during the period under review, participants seemed pleased with the market's performance. In rating the various short-term markets, they described the market for Treasury bills as excellent and accorded a "good" rating to the market for bankers' acceptances and CD's. This is a quite remarkable tribute to the speedy evolution of the CD market in view of the fact that the acceptance market is an old established market in which the Federal Reserve has participated as a buyer and seller for many years. While the secondary CD market still has limited "depth, breadth, and resiliency," in view of its rapid development and its performance during trying times, continued improvement can be expected with the passage of time.

The paper catalogues a number of proposals designed to improve the marketability of certificates. Implementation of some of the proposals could presumably be left entirely to the market and would require no action on the part of any governmental unit. These proposals include: (1) the issu-

ance of certificates on a discount basis, (2) dealer endorsement of certificates for a fee as in the case of acceptances, and (3) the marketing of certificates of smaller banks through a firm that would be recognized by a consortium of banks as the leading dealer in their certificates in the secondary market. None of these apparently show much promise. The practice of issuing certificates on a yield-to-maturity basis is now firmly established, dealers do not want to assume the obligation of certifying the credits of issuing banks, and an attempt by a large commercial paper house in early 1966 to market CD's for a consortium of regional banks met with an unenthusiastic reception.

Several other proposals for improving marketability of certificates would require action on the part of one or more Federal agencies. These suggestions include: (1) enhancing the homogeneity of the CD instrument by granting complete FDIC insurance coverage; (2) permitting the Federal Reserve to purchase certificates for the System Open Market Account and/or enter into repurchase agreements with certificate dealers; (3) allowing Federal Reserve Banks to act as brokers in smaller-bank CD's, arranging contacts between banks needing funds and wishing to issue CD's and other banks with surplus funds that might be interested in buying CD's; and (4) permitting greater market freedom with respect to CD rates. The author seems to have very little enthusiasm for any of these proposals except the last.

The Secretariat sees the following implications of the secondary negotiable CD market for the redesign of the discount window.

1. To some extent the secondary market provides an alternative means of reserve adjustment. Banks hold some CD's issued by other banks that can be sold in the market. Also, dealers have been known to acquire CD's directly from issuing banks. More importantly, the existence of the secondary market imparts a fairly high degree of liquidity to the CD instrument, thereby encouraging the growth of the primary market. This, in turn, makes it possible for banks, under normal circumstances, to attract funds by creating new instruments, a fact that has implications for a discount window designed to accommodate seasonal needs. For a significant number of banks, issuance of CD's may be a reasonable alternative to reliance on a seasonal discount window.

2. There does not seem to be a pressing need for the Federal Reserve to encourage further development of the market for large-bank CD's. This market arose in the first instance in response to particular needs of an important group of large banks, and in the main, the market can be relied upon to adapt itself to the changing needs of these banks. Because it believes that the CD market as presently constituted is primarily suited to the needs of big banks, the Secretariat is unwilling to endorse any specific recommendations designed to expand the market to include a larger number of smaller institutions. The Secretariat holds this view because of the hazards to which relatively small and undiversified institutions with managements unskilled in money market matters could expose themselves by aggressive CD sales to other than their regular customers.

AUGUST 23, 1967

OVERSEAS BRANCH BALANCES IN THE RESERVE MANAGEMENT PRACTICES OF LARGE MONEY MARKET BANKS

Fred H. Klopstock
Federal Reserve Bank of New York

The Secretariat recognizes the following implications of the paper, "Overseas Branch Balances in the Reserve Management Practices of Large Money Market Banks," for the redesign of the discount window:

1. Borrowings from foreign branches can, under certain circumstances, be an important alternative to borrowings in the U.S. market or from the discount window for the small group of large banks that have branches abroad. Although only a dozen banks are presently involved, they account for as much as 47 per cent of the business loans made by weekly reporting member banks, and their share in deposits and total assets of the same group of banks is about one-third.

2. Money market banks as a group do not obtain corresponding additions to their reserve balances as a result of borrowing of Euro-dollars through foreign branches, as—for example—they do whenever they borrow Federal funds net from nonmoney market banks. This is because borrowings by U.S. banks of foreign-owned funds through foreign branches reduce the supplies of these funds invested directly by foreigners in the U.S. money market, either through deposits in U.S. banks or through purchases of money market instruments.[1] Shifts out of these latter assets would typically have a considerably adverse impact on the money market banks. Therefore, the existence of a growing volume of Euro-dollar borrowing through the foreign branches does not mean that the money market banks as a group might not need to use the discount window as an important adjunct to money market borrowing when making reserve adjustments.

3. But the ability to borrow through their foreign branches does give those money market banks with branches abroad a competitive edge over the other money market banks. Banks with foreign branches may have a better opportunity to develop customer relationships with foreign businesses and investors than do banks that operate only in the United States or through correspondent banks abroad. Moreover, banks with branches are able to bid for deposits without the actual or potential constraints imposed by the existence of Regulation Q ceilings.

The advantages of borrowing through branches are probably least where the U.S. head office is seeking funds for day-to-day adjustments; this is because time-zone differences, incomplete information, and variations in market practice make it difficult for U.S. banks to make last-minute adjustments by having their branches bid for funds abroad.

The added measure of flexibility that the banks with foreign branches obtain appears, in the first instance, to be only at the expense of other money market banks. But how the effects of an increase in borrowing from branches are ultimately distributed

[1] This is the case even when a foreign investor moves from a foreign-currency investment to a dollar investment, since the foreign central bank that loses reserves in the process will have to reduce its investments in U.S. money market assets.

will depend on the extent to which the banks that lose foreign deposits turn to other market sources of funds or to the discount window.

4. In any event, the wide variety of ways in which large banks have proved able to supplement their liquidity positions—including, in those cases where foreign branches exist, not only increased liabilities to those branches, but also the sale of assets to the branches (usually, but not necessarily always with repurchase agreements)—argues against reliance on any narrow or pat definition of liabilities for purposes of either bank supervision or discount window administration. The extensive range of alternative sources of funds available to such banks requires a close analysis and evaluation in any appraisal of the liquidity of these institutions.

SEPTEMBER 6, 1967

AN EVALUATION OF SOME DETERMINANTS OF MEMBER BANK BORROWING

Leslie M. Alperstein
Board of Governors, Federal Reserve System

The paper, "An Evaluation of Some Determinants of Member Bank Borrowing," is a statistical study of factors affecting the likelihood, volume, and frequency of member bank borrowing from the Federal Reserve and from other sources. Most previous studies of this nature have used aggregative information, a fact that has limited their usefulness. One important contribution made by this paper is the basing of analysis on data relating to 143 individual banks in six Federal Reserve districts.

The paper relates borrowing, defined in various ways, to five independent variables—a liquidity ratio, bank size, Federal Reserve district, reserve classification, and the differential between the discount rate and the 3-month Treasury bill rate.

The paper provides confirming evidence of some of the relationships which one would have expected a priori and which are fairly obvious. It concludes, for example, that borrowing is inversely related to bank liquidity; that banks, if they have to borrow, tend to borrow from the least expensive source; and that borrowing, especially from sources other than the Federal Reserve, is a positive function of the size of the bank.

Because of limitations of data and technique, however, the conclusions of the paper should be regarded as highly tentative. Individual bank borrowing data were not available for the most recent period of restraint and the analysis is therefore limited to 1959–61. This time span is an edifying one, but it should be noted that, in contrast to the 1966 period, the Federal funds rate remained below the discount rate. It is difficult to predict how much this change in rate structures might have influenced the results.

The meaningfulness of the results is also limited by the choice of districts used. Five of the six districts included fall in the middle group when all districts are classified into three groups by the degree of restrictiveness of their discount administration. On the basis of such a sample, it is not surprising that the study failed to uncover any evidence of significant interdistrict differences.

Within the bounds imposed by these limitations, the finding most relevant to the redesign of the discount window is the evidence that interest rate differentials are important determinants of sources of member bank borrowing. This suggests that careful attention should be accorded the possibilities for more active use of the discount rate as a device for controlling the volume of member bank borrowing.

FEBRUARY 23, 1968

DISCOUNT POLICY AND OPEN MARKET OPERATIONS

Paul Meek
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The paper, "Discount Policy and Open Market Operations," undertakes to review the current operating relationships between discounting and open market operations, as seen from the vantage point of the Trading Desk, and to outline the considerations that should be taken into account in making any changes in the discount mechanism in order to maintain the effective functioning of open market operations.

On the basis of its study and discussion of this document, the Secretariat regards the following points as the main implications of open market policy considerations for the redesign of the discount mechanism.

1. Open market operations and the discount window need to function together harmoniously to achieve a climate of reserve availability that serves the current objectives of monetary policy.

2. For a variety of reasons, open market operations have become, and should, for the foreseeable future, continue to be, the predominant means of affecting the supply of reserves to the banking system. Reserves required for seasonal purposes may, over time, come to be furnished increasingly through the discount window, however.

3. Under current procedures, the aggregate level of member bank borrowing serves as one of the practical operational targets for open market operations. Its value for this purpose stems from its two key functions: (a) it is where otherwise unprovided-for changes in the economy's reserve demands show up for accommodation; and (b) in due course it imposes certain pressures upon borrowing banks to readjust their assets and liabilities, thereby exercising an influence over the growth and relative availability of bank credit and the behavior of interest rates.

4. Thus, a move toward more restrictive open market operations—or an expansion of credit demands—generally results in greater bank borrowing at the discount window. This is followed by some tightening of credit market conditions and moderation of bank credit availability as borrowing banks endeavor to liquidate assets or borrow funds elsewhere in order to retire their indebtedness to Reserve Banks in accord with current discounting practices. Conversely, a move toward more liberal open market operations—or a slackening of credit demands—generally produces a reduction in bank borrowing at the discount window, followed by some easing of credit market conditions and enhancement of bank credit availability as erstwhile borrowing banks are freed of the pressure to contract their earning assets or borrow funds elsewhere in order to conform to the current rules with respect to the use of the discount window.

5. The present discount mechanism endeavors to limit the volume and timing of reserves provided through the window by confining appropriate borrowing essentially to marginal and temporary purposes; this is accomplished by both fostering bank reluctance to borrow and applying active administrative discipline.

6. The present discount mechanism endeavors to achieve a reasonable degree of predictability in the response of a borrowing bank to its discipline (in terms of the balance sheet and interest rate changes induced) by holding the conditions of discount accommodation—apart from the discount rate, which is varied contracyclically—as uniform as practicable (a) over time and (b) as among banks in similar circumstances.

7. However, no form of discount mechanism that is designed to provide funds at the initiative of member banks can comply ideally with the objectives cited in paragraphs 5 and 6. The present mechanism falls short by the extent to which variations in credit demands or reserve flows produce sharp and uneven concentrations of member bank borrowings. It also falls short in the degree to which differing bank adjustments result from any given aggregate level or change in borrowing, depending upon differences among borrowing banks in (a) their reluctance to borrow, whether inherent or induced; (b) their closeness to the thresholds of administrative disciplinary actions; (c) the kinds of administrative pressure received from their Reserve Banks; and (d) their sensitivity to administrative discipline when encountered; and also depending upon the variations in all these factors over time, because of changes in bank management, administrative rules, and the surrounding economic and financial environment.

8. There is scope for liberalization in the amount of member bank borrowing to be permitted without serious detriment (and perhaps even with some benefit) to the efficacy of open market operations, provided that the volume of reserves borrowed under any new rules is not so large, and does not change with such rapidity and unpredictability, as to exceed the capacity of the Trading Desk to offset it with open market operations whenever and to whatever extent they result in over-all reserve availability incompatible with current monetary policy.

9. The ability of the Federal Open Market Committee and the Trading Desk to perceive and make use of borrowing changes and consequent bank responses should be enhanced to the extent that bank borrowing practices can be made more uniform and bank responses to borrowing can be regularized. Changes that would make bank borrowing and its consequences more predictable should enable open market operations to generate desired money and credit market conditions with a higher order of reliability.

10. Any changes made in the discount mechanism to achieve these purposes should be reasonably long-lived. Frequent changes in the "rules of the game" could keep the patterns of borrowing and their effects in continuous flux, and thereby make it difficult for open market operations to be conducted with any assurance of the need for or effects of such actions.

11. From an operational point of view, the most convenient time to introduce any major changes in the discount mechanism would be in a period of monetary ease, when borrowing would be minimal and both banks and System authorities could grow gradually accustomed to the new framework within which reserves would be supplied. It is possible, however, that the

shortcomings in the current system could become so troublesome under the stresses of a period of monetary restraint as to warrant a prompt introduction of some remedial changes in discounting rules, even at the cost of transitional operating difficulties.

FEBRUARY 27, 1968

THE LEGITIMACY OF CENTRAL BANKS

Kenneth E. Boulding
University of Colorado

The paper, "The Legitimacy of Central Banks," looks at the Federal Reserve from a lofty vantage point. In a highly abstract, multidisciplinary view, the details of day-to-day operations and tactics are obscured, and the System is revealed as one of many interrelated nodes of activity in a large and complex social system. Boulding is interested in the factors which give "legitimacy" to the central bank and its role. He has not commented specifically—and was not asked to comment—on the discount mechanism. Any lessons for the window in his paper must be inferred.

By "legitimacy" Boulding means to imply a degree of acceptance and approval sufficient to induce other social role-occupants to serve the institution with "inputs." He sees legitimacy as a part of the social cement that holds the elements of society together and makes possible a continuity of operations. Without "legitimacy," Boulding has said elsewhere, relations among individuals and institutions would become "one-shot jobs, single acts of violence or even of exchange, without any continuing pattern." For a particular institution, a loss of legitimacy will lead to an erosion of its viability and to its ultimate demise. The letter of the law and the police power of the State may not be sufficient to counter such a loss.

Six sources of legitimacy are delineated by Boulding. The first is familiar and, in a sense, obvious. It is the ability of an institution, in its exchanges with other elements of society, to yield "payoffs" that are greater than the social costs of its operation—as though it had a heavy positive balance in a comprehensive cost-benefit analysis.

Good "payoffs" are often not sufficient, however. They are best accompanied by some combination of the five other legitimacy factors, which he labels "Sacrifice," "Age," "Mystery," "Ritual," and "Alliances." In describing these, Boulding seems at first glance to be dealing, half-seriously, with trivialities. The terminology is strange in this context, but Boulding is using it quite seriously; and, as one becomes accustomed to his mode of expression, it is apparent that he is attempting to take into consideration some very powerful social forces that the mechanics of formal economic or political analysis often overlook.

"Sacrifice" he defines as a one-way transfer from one decision unit to another, by contrast with exchange, which is a two-way transfer. His second social force is "Age," the simple act of surviving over time. Third, he refers to "Mystery," something that is not understood but is dimly perceived by the public as something grand or deeply significant. "Ritual," the fourth social force, he describes as artificial order, stemming from regularly repeated rituals, liturgies, and human law. Last, Boulding discusses "Alliances," the identification of a new and nonlegitimate institution with

other institutions that already possess a great deal of legitimacy. These are the five classifications into which Boulding fits real events and processes in order to describe their impact on institutions and to evaluate their contribution to a social equilibrium that is constantly upset and re-established as intentions and consequences collide.

This interpretation attributes a functionalist view of society to Boulding, which may be unjustified. His paper, after all, is not intended to state more than a fragment of a theory, and one should not extrapolate from it. It provides sufficient grounds, however, for Boulding to find the Federal Reserve System "for its time, an optimum solution for the maximization of legitimacy," which faces no major threats. His reasons are somewhat different from those found in the standard texts. They include elements of Sacrifice (on the part of member banks), Age, Mystery, and Ritual (including movements of the discount rate). At the moment, the System's necessary alliance with Government enhances the former's legitimacy, although he believes that at some future time that relationship could be reversed.

What this paper contributes to a study of the discount mechanism is highly inferential. It emphasizes that the most dependable basis for an institution's viability is its real payoffs to society. This places a high premium on recognition of social priorities and a lower value on doctrine. It suggests that it is better to keep the financial mechanism running smoothly and effectively than it is to keep its traditional principles inviolate. The consequent pain of inflation may qualify as Sacrifice. It is better to look at the real consequences of a particular configuration of the discount mechanism than to be preoccupied with the logic of its construction. Boulding would admit, however, that in the performance of central banking functions, a little Mystery is a good thing. And the Ritual of the discount rate change in itself has a value.

Boulding does not imply that the Federal Reserve System should be run by a public opinion poll. He is a pragmatist, not a conformist. In his view of human endeavor, the System should lead as well as follow, but preferably in directions that subsequent public evaluation will regard as socially beneficial.

MAY 13, 1968

INTRAYEAR FUND FLOWS AT COMMERCIAL BANKS

Emanuel Melichar
Board of Governors, Federal Reserve System

The study, "Intrayear Fund Flows at Commercial Banks," was undertaken to help explore the feasibility of permitting individual member banks to meet a larger portion of their seasonal needs through discounting. A basic need for such a study was to obtain data on seasonal flows of funds at individual banks, as opposed to the generally available data on aggregate net flows at large groups of banks. The magnitude and duration of individual flows, as well as their distribution among different types and sizes of banks, could affect the advisability of liberalizing borrowing for seasonal purposes. A primary objective of the study was to provide appropriate data of that kind.

The data in the study were obtained from the periodic reports of condition re-

quired from all insured banks. Two 12-month time frames—June 1962–June 1963 and June 1965–June 1966—were examined; detailed call report data were available approximately quarterly for the first of these, but only semiannual data were available in computer language for the second. Fund flows were defined as the net changes in deposits and nonfinancial loans of individuals, partnerships, and corporations. Because of the short duration of the periods being examined, the normal statistical method of extracting changes due to secular and cyclical influences could not be applied. However, allowance for "trend" in each item was achieved by calculating the June-to-June change and then subtracting one-fourth of this value from each observed quarterly change and one-half of the value from each observed semiannual change. The calculation of fund flows in each period was performed separately for each insured bank; aggregate fund flows for groups of banks were then computed by summing the flows at the individual banks. Gross outflows or gross inflows were computed by summing individual flows only at banks with outflow or with inflow, respectively. The aggregate net fund flow for a group of banks was obtained by summing their individual fund flows irrespective of direction.

The use of call report data is recognized as having obvious drawbacks. It is unlikely that these specific dates coincide precisely with the peaks and troughs of seasonal credit swings, and so results are probably biased downward somewhat. In addition, the data contain a random element which results in a bias of indeterminate direction. Last, using call report data makes it likely that the balance sheets on which the data were based had undergone some window dressing; the specific data used are not, however, normally subject to significant window dressing. It should also be kept in mind that any empirical measures of current seasonal movements of loans and deposits cannot take into account those cases where banks have curtailed loans because of deposit outflows and lack of ready sources of seasonal credit assistance. Thus true seasonal pressures, which it is expected would be the appropriate measure of the need for increased discount window assistance, are undoubtedly somewhat larger than indicated by these data.

The net effect of these considerations is almost certainly a downward bias of the data. In recognition of the statistical shortcomings of call report data, the Secretariat undertook several projects to develop some independent indication of seasonal credit needs in individual districts. These projects encountered even greater difficulties in defining and measuring these needs and in no case did they produce clear and unambiguous or even usable results. However, the over-all impression gained from the pilot studies is a confirmation of the expected downward bias in the call report data.

Despite these drawbacks in data, the study carried out by Mr. Melichar represents the only comprehensive treatment of the probable demands that would be made on a liberalized discount window for seasonal credit and makes a useful contribution to the examination of this possibility. The remainder of this memorandum summarizes and comments on some of the paper's more important findings for the redesign of the discount window.

1. Fund flows at large and small banks compared

According to Mr. Melichar's results, the fund flow at a large and primarily urban bank arises mainly through seasonal changes in deposits, with less trend-adjusted change in loan volume on a half-year basis. At some small rural banks, on the other

hand, loan volume undergoes a substantial intrayear change because of the very high dependence of the bank and the community on a single industry with a marked seasonal movement in its funds needs. For the same reason, such smaller banks also exhibit greater relative intrayear change in deposits.

Relative to its deposits, the large bank generally finds small changes in U.S. Government securities and in balances with other banks to be sufficient to cope with its fund flow. In contrast, some smaller banks often have to make relatively large changes in these items to meet their loan and deposit flows. On a relative basis, their portfolio adjustment problems loom much larger than those of the larger bank. During part of the year, relatively large amounts of funds have to be kept idle or invested in securities that can be readily liquidated to meet the coming seasonal fund outflow.

These results support the view that a substantial need exists among some small banks, although not necessarily among large banks, for increased assistance in meeting the seasonal demands upon them if they are to serve effectively the over-all credit needs of their communities.

2. Aggregate fund outflows

On the basis of semiannual call report data, 22 per cent of member banks had outflows of funds during the second half of 1965, totaling $0.9 billion or 1.7 per cent of net deposits at these banks. In the first half of 1966, 78 per cent of member banks had outflows, which totaled $9.1 billion and amounted to 4.7 per cent of net deposits at such banks. Both semiannual and quarterly data for 1962–63 exhibited approximately the same relationships.

3. Fund outflows at individual banks

Only a minority of banks had large outflows during any period studied; even in the period of greatest outflow, the first half of the year, one-half of all member banks either experienced fund inflow or had outflow of less than $250,000. In each period, however, large individual outflows accounted for the bulk of the total outflow. The 18 per cent of member banks with outflows of $1 million or more in the first half, for instance, had 86 per cent of the total gross outflow of that period.

As a general rule for the period examined, the proportion of banks with outflows did not vary greatly by size of bank, and the direction of total net fund flow in a given period was the same for different size groups. As expected, large banks accounted for much of the total outflows in most periods.

In each period studied, outflows at most banks were limited to less than 10 per cent of deposits. In fact, during each semiannual period, about one-half of the banks with outflows experienced outflows amounting to less than 5 per cent of their net deposits, and during each quarter over three-fifths of the banks with outflow were within this figure. The bulk of the total outflow occurred at these banks with small or moderate individual outflows. But in each period some banks had relatively large outflows, and the percentage of banks in this situation differed considerably among the periods examined.

4. Potential seasonal borrowing by banks with large relative outflow

Only a minor part of total fund outflow in most periods occurred at small banks, a minor part of each period's outflow occurred at banks with large relative outflows, and, as these facts would imply, large relative outflows occurred much more frequently among smaller banks than among larger institutions.

These findings have several implications for design of a program that permits more seasonal borrowing by member banks. They are as follows:

a. "If the program were limited to banks with the larger relative outflows, which now have to make large portfolio adjustments, the total amount of funds likely to be supplied under such discounting would constitute a very small proportion of total reserves in the banking system, which would be consistent with the System's general desire to continue to supply the bulk of member bank reserves through open market operations."

b. "The small banks that constitute the majority of banks eligible for the program are likely to be operating at a disadvantage in present financial markets commonly employed for portfolio adjustment purposes. The discount route for seasonal funds should therefore be a relatively attractive one for such banks."

c. "Many of the small banks with large relative seasonal flows are probably heavily involved in financing agriculture, a sector that in recent decades has been generating credit demands in excess of its contribution to the growth of country banking resources. The seasonal discount program would provide a net addition to the lending resources of such banks that currently find it difficult to meet total local farm credit demands."

While again emphasizing its serious reservations about basing any decisions on these data alone, the Secretariat would generally endorse these implications.

5. Outflows exceeding specified relative levels

In each period studied, the proportion of banks with the large relative outflows was greater among the smaller banks. During periods in which some large banks did have large relative outflow, however, such banks accounted for a substantial share of the total outflow. Also, because of the size of these banks, the total outflow was much larger during these periods than at other times.

The amount of outflow exceeding a specified percentage of deposits at each bank can be regarded as an estimate of potential borrowing from the Federal Reserve under a regulation permitting banks to borrow to meet only those fund outflows that exceed the specified relative level. Under a 5 per cent "deductible" provision, potential first-half borrowings are estimated at $2 billion, with just over one-half of the sum going to banks with deposits of $100 million and over. Potential first-half borrowings under the 10 per cent deductible plan are estimated at $400 million, with perhaps two-fifths of the total being borrowed by the large banks.

These figures emphasize the substantial differences in potential borrowing under different percentage deductible levels. Mr. Melichar suggests that, on the basis of these data, the 10 per cent level appears to be rather restrictive unless it should prove that many banks have in fact been forced to limit seasonal lending significantly in recent years. On the other hand, he suggests that the 5 per cent deductible, under which two-fifths of member banks were estimated to be eligible for first-half borrowing, might be considered to violate the goal of limiting the program to banks with relative outflows significantly above average. He therefore has undertaken the same calculations for intervening percentages and determined that approximately half the credit exposure is eliminated in the move from 5 to 7 per cent with progressively smaller decreases as one approaches 10 per cent.

This study provides the most useful available data on fund flows, which have been helpful to the Secretariat and should continue to exert an influence on the ultimate design and specification of the seasonal borrowing privilege. However, the Secretariat does not feel justified in making a definitive recommendation for the percentage deductible plan to be adopted on this basis.

NOVEMBER 13, 1968

SOME PROPOSALS FOR A REFORM OF THE DISCOUNT WINDOW

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The paper, "Some Proposals for a Reform of the Discount Window," represents an experimental effort by a leading academic scholar to design a system whereby the volume of member bank borrowing can be controlled by the discount rate alone, an innovation long recommended, although usually in more general terms, by many academics.

Professor Modigliani identifies as one of the major goals of his proposals a reduction of the slippage between nonborrowed reserves and the supply of demand deposits and a consequent improvement in the control that the Federal Reserve exercises over the money supply. He cites free reserves as the main source of the slippage and seeks to minimize variations in the level of free reserves by minimizing fluctuations in the volume of borrowing at the discount window.

Other major goals set include the following: to eliminate or reduce the discretion and, at times, caprice that the author presently sees in discount window operation; to give smaller banks more equitable access to funds vis-à-vis large banks; and to improve the spatial allocation of funds. In addition, Professor Modigliani foresees two desirable side effects that would result from his proposal. These are the elimination of announcement effects of discount rate changes and increased attractiveness of membership in the Federal Reserve System, further improving the System's monetary control.

Under the proposal put forth in the paper, all banks meeting prescribed standards of creditworthiness would have unquestioned access to the discount window up to a predetermined and stated amount. The rate charged on this credit would be tied to, and significantly in excess of, a short-term market rate. Professor Modigliani recognizes the problems inherent in the choice of such a rate, but after this recognition largely sets them aside and uses the Treasury bill rate as a peg for the purposes of exposition. Borrowing at this "regular" discount window would be on a 1-day basis, but would be automatically renewable at the option of the borrower.

By setting the discount rate significantly higher than the base market rate, Professor Modigliani proposes to minimize the level of borrowing at the window while still maintaining the Federal Reserve's function as a lender of last resort. Based on this design and certain other assumptions as to linkages in financial markets,[1] the paper proceeds to show analytically that, following any disturbance in financial equilibrium, free reserves would, in his model, tend to return to their initial levels unless the Federal Reserve took specific action to counteract this tendency.

Professor Modigliani also explains why, in his model, the choice of the differential between the discount rate and the base rate would be of major consequence only in determining the character of the short-run, semi-autonomous response of the banking system to a persistent disturbance while the Federal Reserve made a decision as to

[1] Professor Modigliani cites the various articles on the Federal Reserve–MIT econometric model for further elaboration of these assumptions.

whether and in what way it should act in response to that disturbance. The greater the differential the more heavily the initial response will be concentrated in variations in short-term interest rates as opposed to variations in the money supply. While not advocating any specific appropriate size of the differential, Professor Modigliani suggests the possibility of a variable differential between the discount rate and the base market rate that would increase with the volume of aggregate borrowing above a specified amount. Such a system would preserve the usefulness of the window as a cushion for day-to-day bank needs, but would avoid an excessive injection of reserves in response to a major disturbance before the Federal Reserve could make a determination as to its appropriate counteraction, if any.

In addition to the "regular" discount window described above, Professor Modigliani proposes a "special" discount window aimed specifically at the smaller banks lacking adequate access to the Federal funds market. This window could be open only to banks of a given size or could be limited to loans up to a given absolute amount. The rate charged would be tied to but somewhat in excess of the Federal funds rate. The same general considerations regarding the interaction of the window with market forces would apply to this "special" window as were outlined for the "regular" window, although the equilibrium level of borrowing would be expected to be higher, relative to the aggregate size of eligible banks or loans, since the "special" window would serve as a day-to-day substitute for the Federal funds market for some banks.

Professor Modigliani makes a number of other suggestions to improve the stability of free reserves within his model. These include the payment of interest on excess reserves and additional reforms in reserve accounting procedures—chiefly the introduction of staggered settlement periods.

In a further proposal, which he sees as largely independent of the two described above, Modigliani suggests a third discount window, which he calls the "term" window. This would provide credit of intermediate but fixed maturity (for example, 3 months) to any bank willing to pay the price, again up to some limit determined by a creditworthiness standard. The rate charged would be reset at frequent intervals and would be tied to a short-term market rate with a flexible differential, again increasing with the aggregate volume of borrowing. The design of this window would not be such as to minimize borrowing, since it would be viewed as a substitute for an interbank loan market or, alternatively, as a device to extend to smaller banks facilities analogous to those provided by the market for certificates of deposit.

The Secretariat views exclusive reliance on the discount rate to control the volume of borrowing at the discount window as unworkable in the U.S. economy for a variety of reasons. It therefore does not endorse Professor Modigliani's proposal. However, one cannot help but be impressed by the striking similarities that appear between this proposal and that actually being recommended by the discount study, once allowance is made for the idealized and simplified world deliberately assumed in the Modigliani model in contrast to the practical constraints recognized in the Steering Committee report. There are, of course, also significant differences in basic approach and operational detail, but the fact remains that two proposals emanating from people with different backgrounds and experience have much in common.

BORROWINGS DATA

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BORROWINGS DATA

TABLE 1
MEMBER BANKS: NUMBER, AND NUMBER BORROWING, 1959–68, BY CLASS

Year	Number (at year-end)			Number borrowing (during year)					
				At least once from Federal Reserve			From all sources		
	All member	Reserve city	Country	All member	Reserve city	Country	All member	Reserve city	Country
1959	6,233	293	5,940	1,911	238	1,673	2,341	256	2,085
1960	6,171	240	5,931	1,903	207	1,696	2,360	223	2,137
1961	6,113	225	5,888	1,268	161	1,107	1,821	207	1,614
1962	6,049	220	5,829	1,102	150	952	1,759	198	1,561
1963	6,116	215	5,901	1,222	168	1,054	1,897	196	1,701
1964	6,221	208	6,013	1,232	158	1,074	2,226	189	2,037
1965	6,217	194	6,023	1,157	161	996	2,251	189	2,062
1966	6,145	192	5,953	1,651	172	1,479	2,626	183	2,443
1967	6,068	185	5,883	1,105	129	976	2,489	176	2,313
1968	5,977	182	5,795	1,296	147	1,149	2,586	178	2,408

TABLE 2
BORROWINGS AND REQUIRED RESERVES OF MEMBER BANKS, 1959–68, BY CLASS
Averages of daily figures, in millions of dollars

Year	Borrowing from—						Required reserves		
	Federal Reserve Banks			All sources			All member	Reserve city	Country
	All member	Reserve city	Country	All member	Reserve city	Country			
1959	731.4	543.4	187.9	2,187.6	1,851.8	335.8	18,201.2	12,745.1	5,456.2
1960	398.6	271.6	127.0	2,401.0	2,061.8	339.3	17,969.1	12,367.9	5,601.2
1961	75.3	44.6	30.6	1,227.7	1,091.7	136.0	18,696.9	12,525.0	6,171.9
1962	101.0	68.2	32.8	2,085.6	1,898.9	186.7	19,357.9	12,853.6	6,504.3
1963	239.8	185.3	54.5	2,996.3	2,701.5	294.8	19,254.2	12,640.7	6,613.4
1964	270.5	208.1	62.5	3,508.0	3,047.4	460.6	20,130.1	13,136.8	6,993.3
1965	467.2	366.9	100.3	4,604.5	4,027.7	576.8	21,346.5	13,771.2	7,575.3
1966	633.9	406.2	227.7	6,084.3	5,311.4	772.9	22,580.6	14,450.3	8,130.3
1967	171.5	116.5	55.0	5,561.5	4,961.9	599.6	23,667.3	15,357.4	8,309.9
1968	553.0	344.8	208.2	7,276.5	6,387.9	888.6	25,934.5	16,686.1	9,248.4

TABLE 3
COLLATERAL FOR MEMBER BANK BORROWING AT FEDERAL RESERVE BANKS
A. Under Sections 13 and 13a

Year	Number of banks borrowing			Collateral					
				Number of pieces			Face amount (in millions of dollars)		
	All member	Reserve city	Country	All member	Reserve city	Country	All member	Reserve city	Country
1959	13	8	5	527	355	172	153.0	82.3	70.7
1960	21	9	12	1,006	448	558	673.0	241.3	431.7
1961	5	1	4	123	5	118	5.4	4.2	1.2
1962	7	3	4	397	131	266	71.3	56.9	14.4
1963	8	5	3	277	223	54	133.7	133.4	.3
1964	20	8	12	833	271	570	248.6	239.3	9.2
1965	40	21	19	18,343	11,934	6,409	7,186.4	7,064.9	121.5
1966	87	46	41	23,255	15,617	7,708	19,683.2	19,238.1	445.1
1967	43	27	16	6,712	5,286	1,426	6,180.9	6,152.7	28.2
1968	61	41	20	10,409	10,062	347	10,256.5	10,055.6	200.9

TABLE 3 (Cont.)
COLLATERAL FOR MEMBER BANK BORROWING AT FEDERAL RESERVE BANKS
B. Under Section 10b

Year	Number of banks borrowing			Type of collateral (face amount, in millions of dollars)											
				Total			Mortgages			Municipal bonds			Other		
	All member	Reserve city	Country	All member	Reserve city	Country	All member	Reserve city	Country	All member	Reserve city	Country	All member	Reserve city	Country
1959	12	4	8	6.3	3.3	3.0	0	0	0	6.2	3.3	2.9	.1	0	.1
1960	16	4	12	22.8	14.3	8.5	2.2	0	2.2	17.3	14.3	3.0	3.3	0	3.3
1961	8	0	8	3.5	0	3.5	0	0	0	3.5	0	3.5	0	0	0
1962	4	0	4	2.8	0	2.8	0	0	0	2.8	0	2.8	0	0	0
1963	10	0	10	4.7	0	4.7	0	0	0	4.5	0	4.5	.2	0	.2
1964	24	3	21	32.9	3.7	30.3	0	0	0	6.7	.8	5.9	26.2	2.9	24.4
1965	31	1	30	4,211.0	.7	4,210.3	.9	0	.9	12.7	0	12.7	4,197.4	.7	4,196.7
1966	43	3	40	113.1	73.3	39.8	.4	0	.4	32.9	5.5	27.4	79.8	67.8	12.0
1967	12	0	12	4.7	0	4.7	0	0	0	3.3	0	3.3	1.4	0	1.4
1968	22	5	17	144.5	39.1	105.4	18.6	12.0	6.6	113.9	17.3	96.6	12.0	9.8	2.2

RATIONALE AND OBJECTIVES OF THE 1955 REVISION OF REGULATION A

Bernard Shull
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RATIONALE AND OBJECTIVES OF THE 1955 REVISION OF REGULATION A

I. INTRODUCTION

The 1955 revision of the Federal Reserve System's Regulation A governing discounts and advances developed out of a study by a System Committee in 1953 and 1954. The principal change recommended in the report issued by the Committee was adopted, that is, a set of General Principles to guide borrowing and lending at the discount window.[1] The report's recommendations were deeply rooted in the development of the discount mechanism during the 1920's, and also in the System decision to rely principally on open market operations in the conduct of monetary policy once flexibility was re-established after the Treasury–Federal Reserve accord in 1951.

This paper reviews and evaluates the rationale and objectives of the 1955 revision of Regulation A—in particular as they relate to the mechanisms for rationing credit established by the General Principles. The analysis is based principally on the 1954 System Committee report on the discount mechanism and is supplemented by responses to a questionnaire on discount operations sent to each Reserve Bank in 1965. The historical development of the discount mechanism in the 1920's and the principal changes represented by the 1955 revision are discussed elsewhere.[2]

[1] System Committee on the Discount and Discount Rate Mechanism, "Report on the Discount Mechanism," Mar. 12, 1954, unpublished document (hereinafter referred to as "Report on the Discount Mechanism," 1954).

[2] See Bernard Shull, "Report on Research Undertaken in Connection with a System Study," pp. 31–75.

II. THE CURRENT REGULATION: OBJECTIVES AND TECHNIQUES

The 1953–54 study of discounting was instituted as a result of concern about the possible "overextension" of Federal Reserve credit through the discount window. In mid–1952 discounts and advances had increased to over $1.6 billion; after that they had declined somewhat but throughout the first half of 1953, they still exceeded $1 billion.[3]

This upsurge in the volume of funds borrowed from the discount window developed after almost 20 years of low levels of activity. Between 1934 and 1943, discounts and advances averaged $11.8 million per year; between 1944 and 1951 they averaged $253 million. Only in the early post-World-War-I period (1918–21) and in the late 1920's (1928 and 1929) did discounts and advances approximate in dollar amount the levels in 1952 and early 1953.[4]

[3] This note appears on p. 120.

[4] This note appears on p. 120.

A. Objectives in revising Regulation A

In developing and recommending a reformulation of Regulation A, the System Committee emphasized several objectives. These may be summarized as follows:

(1) The discount mechanism should not serve to relieve for long or indefinite periods the pressure of monetary restraint upon the banking system and its customers.[5]

(2) Individual banks should not be permitted to depend on the discount window as a normal source of funds for investments and loans. Such dependence on borrowing unduly raises the risk of their insolvency and/or illiquidity.[6] Furthermore, increases in the risk of insolvency and illiquidity for individual banks, aside from being undesirable per se, endanger the stability of the financial system and militate against the effective operations of monetary policy.[7]

(3) That member banks are generally reluctant to borrow is, for the reasons stated above, in the public interest. In order to prevent a weakening of this attitude, it is necessary that Regulation A be formulated so as to give support to the extant "tradition against borrowing."[8]

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[3] According to the "Report on the Discount Mechanism," 1954, p. 22: "In part the rapid rise in borrowing during 1952 was a direct effect of restrictive credit influence exerted by the System. But it also represented borrowing by some member banks to avoid excess profit taxes, by others to profit from differentials between prevailing discount rates and market yields that developed under the tightening credit market conditions, and by still others to supplement operating resources in order to accommodate the active credit demands being generated by inflationary trends. These developments in particular brought under discussion within the System the whole question of the philosophy and effectiveness of its existing discount mechanism."

The circumstances leading to a revision in Regulation A were also described in the *Annual Report of the Board of Governors of the Federal Reserve System*, 1957, p. 9: "In 1952–53 as credit demands expanded and Federal Reserve policy limited the amount of reserves made available through open market operations, pressure on bank reserves increased, and member bank borrowing from the Reserve Banks rose rapidly. During this initial revival of the discount mechanism after a generation of disuse numerous problems arose, including uncertainty among many member banks about what was an appropriate use of the discount privilege. . . . As one result of these developments, the System re-examined historical experience, notably in the 1920's. . . . In the light of practices shown by experience to be appropriate and sound and also in the light of statutory provisions . . . , the Board of Governors revised its Regulation A."

[4] In the 1918–21 period discounts and advances averaged $1,840 million; in 1928 and 1929 they averaged $886 million. However, it should be noted that in the 1918–21 period discounts and advances averaged close to 70 per cent of total Federal Reserve credit outstanding. In 1928 and 1929 they represented about 60 per cent of such credit. At the peak of discount activity in December 1952, discount credit represented only 6 per cent of Federal Reserve credit outstanding. "Member Bank Reserves and Related Items," *Supplement to Banking and Monetary Statistics*, Section 10, 1962, pp. 14–19.

[5] "(T)he borrowing facility should not provide a channel through which member banks generally or an important segment of them may be able to avert the over-all credit and monetary policies of the System . . . (T)he discount facility [can] serve as a safety valve, easing temporarily the special reserve pressures on individual banks. At the same time, [the facility need not become] a gaping hole through which are released all the pressures on bank reserves built up within the banking system as a whole." "Report on the Discount Mechanism," 1954, pp. 9 and 12.

[6] "A major lesson brought out by the bank credit liquidation [in the early 1920's] . . . was that it was unsound for any member bank to use continuous indebtedness to its Reserve Bank as a resource for conducting regular banking operations. . . . In the severe banking crises and liquidation in the early thirties, adjustment problems of the aggressive, continuous borrowing banks made evident the hazards to safety of depositor funds and the dangers to bank solvency resulting from the injections between bank capital and deposits of borrowed funds having creditor status ahead of deposit liabilities." *Ibid.*, pp. 10, 11.

[7] "Chronically indebted banks risk depositor pressure in the event that economic conditions turn adverse and the fact of their difficulties in a closely interdependent banking community can make other banks, even those in a strong position, highly sensitive about their own liquidity needs. This kind of banking climate can set the stage for a period of irrational bank credit liquidation. As Federal Reserve experience in at least one important period illustrates, constructive credit and monetary policy to cushion economic recession and foster revival can be rendered substantially ineffectual by persistent dependence on the discount facility developed by some banks in a prior phase of economic boom." *Ibid.*, pp. 12 and 13.

[8] "Because of this costly lesson [during the 1930's], it was possible by the mid-thirties to speak of an established tradition against member bank reliance on the discount facility as a supplement to its resources. In a banking organization made up of thousands of member banks engaged in widely differing kinds of banking business, a well-entrenched tradition against commercial bank reliance on borrowed funds is an important aid to reserve banking . . . (S)uch a tradition permits the discount facility to serve as a safety valve. . . . From the standpoint of strong and responsive banking conditions, the tradition against

With the achievement of these objectives, the Committee believed the discount mechanism could and should serve to meet the "needs" of individual member banks for credit accommodation to facilitate short-run adjustments in response to changes in the degree of monetary restraint and to meet "unexpected" changes in deposit flows or loan demand and to ameliorate emergency situations.[9] In this role, discounting would complement open market purchases and sales in achieving the desired degree of monetary restraint.

The Committee also expressed the belief that formulation of Regulation A to meet the objectives cited would serve to eliminate "incompatible inter-district differences in discount methods" among the Reserve Banks.[10]

B. General Principles

To achieve these objectives, the "Report on the Discount Mechanism" recommended a set of General Principles to be incorporated into Regulation A.[11] These were designed ". . . to guide Reserve Banks in lending and member banks in Reserve Bank borrowing," and ". . . to give clear and full expression to the discount obligations of the Reserve Banks as they are stated in, or implied by, present law." [12]

The Committee indicated that "(a) key premise underlying the . . . suggested revision of Regulation A is that explicit standards for use of the discount facility would reinforce the member bank tradition against borrowing by providing a frame of reference for evaluating undue reliance on discounting by aggressive member banks. . . ."[13] The majority of banks who were viewed as "reluctant to borrow" would, presumably, receive support from the position taken by the Federal Reserve and the observed change in behavior on the part of the "aggressive" few.[14] The relatively few "aggressive" borrowers, it was expected, could be persuaded to shape their demands for credit to the standards of reluctance established by the regulation.

The Report noted that "(i)f the discount standards advanced should . . . be applied too inflexibly by Reserve Banks . . . then the regulation could tend increasingly to supplant tradition." [15] The principles ad-

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borrowing in long periods of economic prosperity helps to prevent the more aggressive member banks from building up undue dependence on discount credit. . . . The Committee believes that the tradition against continuous member bank dependence on the discount facility is sound in principle. . . . *Future discount policy, in its opinion, should build on the tradition as a keystone.* . . . [Italics added.] [However] (t)he tradition against large and continuous borrowing, being without adequate regulative support, is subject to the risk of weakening in periods of credit tightness. . . ." *Ibid.*, pp. 11–13, 22 and 23.

[9] "It is desirable . . . to keep open the privilege of individual member banks to borrow at the Reserve Banks to meet essential temporary or emergency needs." *Ibid.*, p. 9.

[10] The "lack of a modernized System discount philosophy . . . is a factor fostering undesirable regional differences in discount practices. . . . While some incompatible inter-district differences in discount methods may now exist, the Committee is persuaded that the differences not supported by variations in regional conditions and needs would be largely eliminated by a Regulation A re-oriented along the lines suggested." *Ibid.*, pp. 23 and 24.

[11] *Ibid.*, Appendix D.

[12] *Ibid.*, pp. 23 and 24.

[13] Since relatively few banks ever borrowed at all, it was inferred that the majority were "reluctant to borrow." The System Committee indicated that a possible objection to its suggested revision was that the System's discount mechanism problem was mainly one of relatively few insistent borrowers. *Ibid.*, pp. 36 and 37. The Committee stated that: "(t)he majority of member banks are now administering their affairs in line with the philosophy of the suggested revision." *Ibid.*, p. 40. A more recent expression of the view is contained in *The Federal Reserve and the Treasury Answers to Questions from the Commission on Money and Credit*, 1953, p. 139.

[14] "The majority of member banks . . . now administering their affairs in line with the philosophy of the suggested revision . . . might feel kindly rather than antagonistic to a revision of the regulation that would help bring less conservative banks into conformity." "Report on the Discount Mechanism," 1954.

[15] *Ibid.*, p. 36.

vanced, the Committee stated, were ". . . intended to be general guides and standards and not precise administrative instructions inflexibly applicable to all cases." [16] Nevertheless, the principles were not intended to vary with cyclical changes in monetary policy, though the amount of credit flowing through the discount window would vary.[17]

The General Principles as finally embodied in a new Foreword to Regulation A show minor alterations in emphasis and considerable editorial revision; but they show relatively little in the way of substantive change.[18] The General Principles of the current regulation may be viewed as the device designed to achieve the objectives developed in the System Committee Report.

The credit-restrictive portions of the General Principles can be divided into three types: (1) descriptive statements about the "type" of credit available at the discount window; (2) statements about the "purposes" for which the type of credit described may or may not be appropriately extended; and (3) statements reserving the right to restrict credit on the basis of bank supervisory considerations in general.

1. Type of credit available. Credit available at the discount window is normally short term, and maturities are generally limited to 15 days. This "short-term" credit is not to be extended on a "continuous" basis. (Longer-term credit is available, but only in exigent situations; that is, for certain "purposes.")

2. Appropriate and inappropriate purposes. The appropriateness of any given request for

[16] *Ibid.*, pp. 24 and 25.

[17] The Report indicated that "(w)hile the Committee contemplates a System discount activity varying in accordance with general credit policy, it wishes to stress particularly that it is not recommending a set of discount principles that would in themselves flex with such policy by administrative discretion," *Ibid.*, p. 32.

[18] The revision suggested by the System Committee Report incorporated the suggested General Principles in Section 1 of the regulation. An introduction indicated the basic objectives underlying Federal Reserve credit policy, the methods utilized to achieve these objectives, the effect of borrowing on the supply of reserves, and, consequently, the need for "guiding principles" in extending credit by discounting. It indicated also that "(a)ccess to the credit facilities of the Federal Reserve Banks is a privilege of membership . . . which must be considered in the light of these principles." Eight "Principles" were stated. These were, in abbreviated form, as follows: "(1) Due regard must be given to the effect of any extension of credit upon the maintenance of sound credit conditions. . . . (2) Federal Reserve credit should normally be extended for short periods to meet temporary credit needs of member banks. (For example . . . in order to enable a member bank to adjust its asset position because of such developments as a temporary loss of deposits or to assist a member bank in meeting requirements for seasonal credit which cannot reasonably be anticipated and met by use of the member bank's own resources). (3) In order to enable member banks to meet unusual and exigent situations, Federal Reserve credit should be extended for as long a period as may be deemed necessary. . . . (4) (U)nder ordinary conditions continuous use of Federal Reserve credit . . . would not be appropriate. . . . (5) In determining whether to grant or refuse credit . . . Federal Reserve Banks are required . . . to consider the general character and amount of the loans and investments of the member bank and whether the bank is extending an undue amount of credit for speculative purposes. . . . (6) Federal Reserve credit should not be extended where it appears that the member bank's principal purpose is to profit from rate differentials or to obtain a tax advantage. (7) The law permits only such extensions . . . as may be 'reasonably and safely made'; and the acceptance of paper offered for rediscount or as collateral . . . must be determined in the best judgment of the Federal Reserve Bank. . . . (8) The board of directors of each Federal Reserve Bank is required by law to administer the affairs of such Bank fairly and impartially and without discrimination."

Section 1 of the suggested revision closed with a statement that "(i)n passing upon requests for credit accommodation . . . the Federal Reserve Bank should give consideration to all of the principles . . . together with any other factors which may be pertinent." *Ibid.*, Appendix D, pp. 1–5.

With the exceptions of (7) and (8), the Principles suggested by the System Committee were incorporated in the Foreword to the Regulation, as revised in 1955, rather than in Section 1. The actual revision did not list the principles by number, and some minor changes in language were made. But there seemed to be little in the way of changes in substance. The Principles numbered (7) and (8) in the System Committee Report were not explicitly incorporated in the General Principles in their final form; but the portion of the Federal Reserve Act from which they derive (Section 4, paragraph 8) is referred to in a footnote. See Howard H. Hackley, "A History of the Lending Functions of the Federal Reserve Banks," p. 432.

short-term credit is dependent on the *purpose* for which the credit is requested. Short-term credit may be appropriately extended to meet a "sudden withdrawal of deposits or seasonal requirements beyond those which can reasonably be met by use of the bank's own resources."

A credit request is not appropriate if the funds are to be used to obtain "a tax advantage," to profit "from interest rate differentials," or for the "undue" extension of credit for speculative purposes. Long-term credit, as mentioned, is available for certain "purposes." [19]

3. General supervisory considerations. A Reserve Bank will, in extending credit, give "due regard . . . to its probable effects upon the maintenance of sound credit conditions, both as to the individual institution and the economy generally. It keeps informed of and takes into account the general character and amount of loans and investments of the member banks."

It is stated in the regulation that "access to the . . . discount facilities . . . is granted as a privilege of membership . . . in the light of the . . . general principles." This statement was interpreted at the time and in the ensuing years as meaning that "Reserve Banks do not discount eligible paper or make advances to member banks automatically," [20] as they presumably would if access to the discount window were granted as a "right."

C. Contemplated administration of Regulation A

The 1954 "Report on the Discount Mechanism" discussed how Regulation A, if revised as recommended, would be administered. It also suggested how the restrictions on credit (in the General Principles) would operate.

It was evidently expected that an "initial" request for credit by a member bank would normally be granted. The Report notes that ". . . promptness of discount action would require reliance in the first instance on a member bank's own statement of purpose"; [21] and the question of continuous borrowing ". . . would arise first at the time of the first renewal." [22] In determining the appropriateness of borrowing thereafter, the restrictions on continuity and purpose would, presumably, operate in a coordinated fashion, since all the "principles . . . are closely interrelated." [23]

The intended relationship between the "purpose" and "continuous borrowing" restrictions, however, is not obvious; nor for that matter are the relationships among the "purpose" restrictions themselves. The two major types of restrictions and the intended relationships require further consideration.

1. Restriction on "continuous" borrowing. It might seem, at first, that the restriction on "continuous" borrowing was intended to be sufficient, in and of itself, to limit the supply of credit. While it is possible to interpret the restriction in this fashion, there is good reason to believe that such was not intended. It seems more likely that the intent was to use duration—or more exactly, frequency of borrowing over some duration —to establish no more than a rebuttable presumption of "inappropriate purpose." The Report explicitly indicates that the continuation of borrowing, with some degree of frequency, is to be taken as progressively more persuasive prima-facie evidence that the credit extension is not for an appropriate purpose.

"With each successive period in which borrowing occurs . . . the probability that the borrowing

[19] "Federal Reserve credit is also available for longer periods when necessary in order to assist member banks in meeting unusual situations, such as may result from national, regional or local difficulties or from exceptional circumstances involving only particular member banks." Regulation A, 12 CFR 201.

[20] *The Federal Reserve System: Purposes and Functions,* Board of Governors, Washington, D.C., 1963, p. 42.

[21] "Report on the Discount Mechanism," 1954, p. 34.

[22] *Ibid.,* Appendix C, p. 7.

[23] *Ibid.,* p. 24.

stems from inadvertent causes obviously decreases. . . . Consequently, if a bank borrows at least once in each of a number of consecutive reserve periods, there exists a presumption that it is using this means deliberately to avoid more basic adjustments in its position and hence that the borrowing is continuous in the sense indicated here." [24]

Consistent with this view of the restriction, the "Report on the Discount Mechanism" refrains from a specific definition of "continuous" borrowing, though the Committee went into some detail on the issue.[25] It noted that it is ". . . necessary [to develop] some reasonable empirical standard for judging the number of reserve periods that a bank may borrow successively before it is to be considered a continuous borrower."[26] But the Report states, "(t)he specific guideposts for identifying such borrowing can be established only on the broad discount experience of individual Reserve Banks and discussion among the Reserve Banks." [27]

Given that the "continuous borrowing" restriction was intended to represent evidence that would help illuminate the "purpose" of borrowing, it follows that borrowing for an "appropriate purpose" (for example, "the result of chance factors," or to meet extraordinarily large deviations from usual seasonal developments, or for "emergency" reasons) would not, in principle, be limited in duration by the restriction on continuity. Rather, most "appropriate" purposes would be such as to involve only short-term borrowing.[28]

2. "Purpose" restrictions. The "purpose" restrictions may, then, be considered *the* basic restrictions on the supply of discount credit. Presumably it would be on the basis of "purpose," as perceived by the Reserve Banks, that a determination would be made as to whether or not an extension of credit was "appropriate." It was contemplated, under the revised Regulation A, that the Reserve Bank would give ". . . more attention to the purpose of member bank borrowing" and that certain ". . . objective procedures . . . would facilitate administration where findings indicated developments other than those stated [by the member bank] were responsible . . ." [29]

However, the Report does not provide specific definitions of the three "appropriate" purposes cited in the General Principles (borrowing to meet *sudden* withdrawals, seasonal requirements beyond those that can *reasonably* be met, and emergency needs resulting from *unusual situations* or *exceptional circumstances*); nor does it provide definitions of the three "inappropriate" purposes cited (borrowing *principally* to profit from rate differentials, to obtain a tax advantage, or to extend an

[24] *Ibid.*, p. 10. It is conceivable that some specific duration of indebtedness (in terms of number of periods or frequency over a period of time) might have been chosen as establishing a conclusive presumption that the borrowing is for an "inappropriate purpose." Continuous borrowing would then be sufficient to restrict credit, but still only as a proxy for "purpose." However, the author has been informed by one reviewer, intimately familiar with the deliberations during the period, that there was a System-wide consensus that the definition of continuous borrowing should not be pushed further.

[25] The Report does indicate that both extended–repetitive borrowing; that is, cases in which banks are in and out of debt "over nearly successive reserve periods," and extended–uninterrupted borrowing; that is, borrowing over successive periods, should be included under the definition of "continuous borrowing."

[26] *Ibid.*, Appendix C, p. 9.

[27] *Ibid.*, p. 11.

[28] So, for example, the provision of Regulation A permitting long-term credit in emergency situations could be thought of as establishing not a separate category of "emergency" loans but rather a separate "purpose" for which extended credit is "appropriate."

[29] "Report on the Discount Mechanism," 1954, p. 34. The Report also stated that a Reserve Bank would ". . . engage in analyses of changes in the balance sheet items of its member banks and of the seasonal changes in their loans and deposits so that it would be in a position to make an independent, objective judgment of the factors giving rise to borrowing. The methods applicable would not present too difficult technical problems."

undue amount of credit for speculative purposes). In consequence, the purposes cited did not, on their face, establish mutually exclusive categories of "appropriate" and "inappropriate" borrowing.

As will be discussed below it is not believed such mutually exclusive categories were indeed intended. Moreover, the "purpose" terms themselves are closely inter-related. So, for example, in defining a word such as "reasonably" in the phrase that limits the extension of credit for seasonal purposes, the definitions of the three "inappropriate" purposes cited in the regulation are, of necessity, qualified. The General Principles can be confusing because, taken literally, borrowing could seem to be simultaneously for both an "appropriate" and an "inappropriate" purpose.

Because they are so closely related, the credit-restrictive terms of the General Principles warrant further analysis. An attempt will be made below to explain this "relatedness." It will be helpful, however, to consider first some aspects of the way in which the regulation is administered.

III. ADMINISTRATION OF REGULATION A

Information on the manner in which the standards incorporated in the General Principles of Regulation A are being administered was obtained through a questionnaire sent to the Reserve Banks.[30] It would appear that "initial" requests for credit are invariably accommodated promptly, with little if any discussion and with little inconvenience to the borrower.[31] The information requested by the Reserve Banks on application for credit suggests that in most circumstances no substantial effort is made to ascertain the "purpose" of such an initial borrowing.

Beyond this initial accommodation, the administrative process can, for purposes of analysis, be broken down into at least three stages: (1) surveillance of the borrowing bank; (2) a decision on the appropriateness of the borrowing; and (3) in cases in which the borrowing is judged "inappropriate," the undertaking of "administrative counseling" or "discipline" aimed at securing repayment and "educating" the borrower in the appropriate use of the discount window. These stages may be viewed as elements in the process of nonprice rationing and moral suasion at the discount window.

The "counseling" and "discipline" procedures are quite similar at each Reserve Bank. They typically involve contact with the borrowing bank, generally first by telephone, and inquiries on the "purpose" of borrowing and about the presumed plans of the bank to "work out of" its debt. If a definitive judgment is reached that the borrowing is inappropriate, the Reserve Bank escalates its efforts. Such "escalation" involves contacts between officials of the Reserve Bank and those of the borrowing bank at increasingly higher levels, meetings with Bank officials to "explain" the standards established by Regulation A, requests for the presentation of a repayment program, and, as a final measure, an indication that the bank's continued request for credit will not be honored.

The procedure described appears to reflect an attempt to persuade borrowers that further borrowing is not in their own best

[30] "Questionnaire to Federal Reserve Banks Regarding Discount Operations," October 1965 (hereinafter referred to as "Reserve Bank Questionnaire, 1965").

[31] By "initial" is meant the first request of a bank that is not currently subject to surveillance at the discount window for reason of previous borrowing.

interest.[32] If a mutual understanding cannot be reached, the Reserve Banks are in a position to deny credit and to curtail the borrowing privilege in the future. Replies to the 1965 Questionnaire provided evidence, however, that there were important differences in understanding among Reserve districts as to the significance of the restrictive terms of the General Principles. In consequence, it appeared that the regulation could be and was administered in substantially different ways.[33]

[32] For further discussion of this point, with reference to experience in the 1920's, see pp. 33–38.

[33] For a statement as to the kinds of differences found, see pp. 44 and 45.

IV. RESTRICTIVE IMPACT OF REGULATION A

The principal intention of the 1955 revision of Regulation A was to limit the flow of credit through the discount window, particularly during the periods of monetary restraint, and to develop an acceptable rationale for doing so. However, the regulation itself does not, of course, spell out in detail under what economic conditions the credit limitations would be imposed. Conceivably, the restrictive effects could stem from constraints on the supply of credit, from persuasive efforts aimed at limiting the demand for credit, and/or from adjustments of the discount rate relative to market rates. An evaluation of the current discount mechanism requires consideration of the *kind* of restrictive impact intended and of that realized.

A. General Principles and demand for credit

It may be recalled that the System Committee Report in 1954 stressed the fact that the key to the revision it was suggesting was the intent to give regulatory support to the "tradition against borrowing." This explicit intention implies an effort to limit the flow of credit by influencing bank attitudes toward borrowing. There is much in the Report—particularly in the General Principles—and in the way the regulation operates to suggest that the principal restriction on credit was intended to operate through what might be called "moral suasion," on the *demand* for Reserve Bank credit.

When the purpose and continuous borrowing restrictions of the General Principles are considered as reflecting an effort to restrict the *demand* for Reserve Bank credit, and not as independent constraints on the *supply* of such credit, the lack of preciseness in the individual restrictions is somewhat clarified. The stated restrictions on borrowing—for purposes such as profiting from interest rate differentials, accommodating seasonal demands for commercial or agricultural credit, and compensating for expected withdrawals of deposits—may be thought of as reflecting a somewhat impressionistic regulatory image of the behavior that could be expected of a bank that, to some degree, was "reluctant to borrow." For such a bank, being in debt would entail some nonmonetary "cost." Consequently, the bank would not borrow simply because borrowing was profitable in money terms. At equal, and perhaps even at somewhat higher costs, it would prefer to obtain reserves in other ways. If the "reluctance to borrow" were very strong, the bank might borrow only small amounts "occasionally"

on a "short-term, noncontinuous" basis. In this way the duration of borrowing, in conjunction with other information, would represent evidence of the "purpose" of borrowing, or, more exactly, the degree of reluctance of the borrower.

In actual operation the restriction on "extended" borrowing provides the vehicle for discussion between the Reserve Bank and the member bank about the purpose of borrowing; that is, whether there really is a "reluctance" on the part of the borrower. "Surveillance" of borrowing banks and periodic conversations on the "purpose" of borrowing presumably provide the Federal Reserve with an opportunity to influence bank behavior and, by persuasion, bank attitudes. Such persuasion, of course, is backed by the mutual understanding that credit can be curtailed and that further borrowing capacity at the Federal Reserve can be impaired. Presumably these discussions would, at a minimum, provide an incentive for member banks to conduct their business as "reluctant borrowers" would.

It is not easy to draw an exact line between the influence of administration on bank attitudes, and therefore on the demand for credit, and nonprice rationing of the supply of credit. It seems clear, however, that a principal intent of the regulation was to provide a mechanism whereby member banks would be persuaded to limit —on their own—their *demands* for Reserve Bank credit. To summarize the evidence provided thus far: (1) The 1954 "Report on the Discount Mechanism" indicated that one of the principal purposes of revising Regulation A was to give regulatory support to the "tradition against borrowing." (2) The General Principles can be considered a reasonable attempt to influence bank attitudes by establishing a model of "appropriate" behavior. The restrictive terms of the General Principles could not and do not represent a very efficacious constraint on supply because they do not establish mutually exclusive categories of "appropriate" and "inappropriate" borrowing. And (3) the administrative procedure associated with the current regulation is consistent with this interpretation and is difficult to understand otherwise. A decision to retire an outstanding debt is generally intended to reflect agreement between the Reserve Bank and the borrowing bank—although the latter may be quite reluctant to terminate his borrowing. Such an agreement, reached after considerable persuasive discourse, strongly suggests a process designed to influence bank attitudes and future bank behavior.

B. General Principles and the discount rate

Flexible use of the discount rate, as a principal device to ration credit, was rejected by the System Committee in 1954. However, the Committee did consider briefly the role of the rate under its proposed revision. Its view tends to confirm the conclusion stated above that the intention was to restrict borrowing by building on the general "reluctance" of banks to borrow. The Committee noted:

> "If member banks generally felt free to borrow and remain in debt when borrowing was profitable, the discount rate would need to be adjusted frequently to keep it at a level equal to or not far below short-term market rates in order to function as a primary deterrent to discounting when the demand for credit is higher. If member banks limit their ordinary discounting to meeting temporary needs pending other adjustments, however, the sensitiveness of their borrowing to the spread between the discount rate and market rates would be less marked. The need for frequent change in the discount rate to keep borrowing from appearing profitable, therefore, would be diminished . . .[34]

[34] "Report on the Discount Mechanism," 1954, p. 43.

C. General Principles and the supply of credit

Consistent with the intention to restrict the demand for Federal Reserve credit by supporting the "tradition against borrowing," the General Principles of Regulation A also appear to represent an attempt to facilitate the distinction between borrowing that is in accordance with the "tradition" (sufficiently reluctant) and borrowing that is not (insufficiently reluctant). But, as indicated, the distinctions that the Reserve Banks have drawn in practice are not, and cannot be, clear cut. Typically, an "initial" borrowing request is assumed to be "appropriate," (that is, sufficiently reluctant) and is accommodated at the going discount rate.[35] Through "surveillance" that takes place over time, a judgment is reached as to whether the borrowing (or the pattern of borrowing that has developed) is, in fact, "appropriate." When a judgment is reached that the borrowing is "inappropriate," counseling or disciplinary action is undertaken. The ultimate step in this "disciplinary" procedure would be a Reserve Bank indication to the borrowing bank that the bank's note, if presented again, would not be honored. But some time would pass before such a step were taken; and in fact, it appears that final recourse to credit rationing in this strict sense seldom occurs.

Short of explicitly denying the continued extension of credit, the "disciplinary" procedure is perhaps best viewed as imposing an additional "cost" on the borrowing bank above the discount rate. The additional "cost" may be thought of as reflecting a threat to future borrowing capacity at the Federal Reserve and the "inconvenience" of having to negotiate with Federal Reserve officials. This "surcharge" is not easily translated into specific money terms.

Since the threat to future borrowing and the "inconvenience" imposed by negotiations increase progressively once a judgment is reached that the borrowing is for an "inappropriate purpose," the actual "cost" of credit to the bank would rise over time.[36] Since the Federal Reserve has almost complete discretion in making and renewing loans, the true "cost" could rise very rapidly, and at some point credit could be cut off completely.

Given the Reserve Bank's interpretation of the regulation, the duration over which a particular loan (or pattern of borrowing behavior) would be considered "appropriate" would depend on a variety of factors. These include some that are stated at the time credit is extended (such as the amount of the borrowing, the previous borrowing record of the bank and, if available, its statement of purpose); some that vary while the credit is outstanding (such as the borrowing bank's portfolio and liability management); and "time" itself, since the length of time the credit is outstanding is presumed to provide evidence of "purpose."[37] These factors may be con-

[35] No doubt there is some limit on the amount that a Reserve Bank would lend to an individual institution. However, there is no explicit limit (either in absolute or relative terms) in Regulation A or in the Federal Reserve Act.

[36] Since the amount of a loan (relative to bank size) is taken as one indication of "purpose," the cost of borrowing over an extended period of time would be positively related to its amount *ceteris paribus*. The System Committee Report stated: "The amount borrowed is one piece of evidence to be taken into account in judging whether the borrowing is intended or complacent. The larger the amount of borrowing in relation to required reserves and capital . . . the greater the presumption that borrowing is planned or complacent and not the result of a succession of chance developments." *Ibid.*, Appendix C, p. 11. The amount borrowed currently appears to be treated in this way by the Reserve Banks.

[37] Even a loan that was initially "appropriate" because it was to meet a sudden deposit withdrawal would not be "appropriate" indefinitely since the bank is expected to adjust its portfolio within a reasonably brief period of time if the funds do not return. Moreover, a succession of "sudden" deposit withdrawals would not be "sudden" under the terms of the regulation over any extended period of time.

ceived of as interacting in influencing the "appropriate–inappropriate" decision.[38]

From the member bank's point of view, a considerable degree of uncertainty must attach to the use of a discount mechanism operating in this way. There would be uncertainty about: (1) the duration over which an initial request for credit for a particular purpose is considered appropriate; (2) the rate at which the cost of credit rises once it is decided that the borrowing is for an "inappropriate purpose"; and (3) the effect of the past record of borrowing and disciplinary conflict, if any, on (1) and (2).

At the time the initial credit request (assumed "appropriate") is granted, the Reserve Bank is generally not in a position to indicate to the borrowing bank how often or how long borrowing will be considered appropriate. The rise in the "cost" of credit—once a decision as to inappropriateness is reached—is, by its nature, a matter of much uncertainty also. The effect of "inappropriate" borrowing behavior in the past on the availability and "cost" of credit currently cannot be indicated except in a very general manner. To take an extreme example: If, after an extended period of borrowing, credit to a bank is denied, how long should the discount privilege be withheld? [39] As previously mentioned, such extreme cases are rare. But the "threat" to future borrowing capacity is, of necessity, implicit at all stages in the disciplinary procedure, not simply the final stage of credit rationing.

Consequently, similar questions arise in all such cases. Specifically, these are: (1) how soon will a credit request be honored after the bank has been disciplined and it has repaid its loan; and (2) to what extent will the previous borrowing record shorten the period over which the loan is "assumed" and/or "judged" appropriate. There is no information available to suggest that credit will be denied for any lengthy period of time after repayment brought about by "disciplinary action." However, as is well understood, the appropriate duration for a new loan is influenced by the previous borrowing record of the bank.[40]

D. Demand and supply relationships

It has been suggested that the 1955 revision of Regulation A was intended to influence the demand for Federal Reserve credit by supporting the "tradition against borrowing." The intention was to keep demand for Federal Reserve credit relatively low and inelastic with respect to the differentials between market rates and the discount rate. The administrative procedures designed to facilitate this intention imply, however, a rising supply schedule for credit. This would, in and of itself, serve to limit the flow of discount credit.

A rising supply schedule is implicit in the limitations on future borrowing capacity incorporated in disciplinary procedures and, to some degree, in the physical inconvenience of negotiations instituted while credit is outstanding. Such conditions impose real

And extended borrowing to meet these withdrawals would presumably not be "appropriate."

[38] They may be thought of as independent variables in a joint functional relationship with the "appropriate–inappropriate" decision. The value of the independent variable "time," at the point at which the decision is reached that the loan is not for an appropriate purpose, would give the duration over which the "cost" of credit would equal the discount rate.

[39] One Reserve Bank indicated that after the ultimate step in disciplinary procedure is reached, the borrowing bank receives reassurance about the availability of credit for initial requests. "In no event would a banker be told that the borrowing privilege was being permanently curtailed but only for the relatively short run; it would be made plain that truly emergency needs of the member bank would always receive appropriate consideration."

[40] At some Reserve Banks, the previous borrowing record would include borrowing from other sources as well as the Federal Reserve. In either case, the previous record would suggest the degree to which the borrowing bank was "reluctant to borrow."

costs on the borrowing bank. However, uncertainty surrounding the threat to future borrowing capacity, together with the troublesomeness of negotiations, would also work, through bank preferences, to limit the demand for Reserve Bank credit.

It is quite conceivable that many banks would have a strong preference to avert the risk of incurring "disciplinary action." The administrative procedures under Regulation A would, for such banks, imply an even greater limitation on their demand for Federal Reserve credit than is suggested by a rising supply schedule, or by the intent to support or alter bank attitudes toward borrowing.

It might be argued that uncertainties concerning the duration of the time period over which no questions are asked, the vigor of "disciplinary action" once questions are raised, and the effects of "disciplinary action" on subsequent borrowing exist, for the most part, in those relatively rare cases of "extended borrowing" and that most banks, applying reasonable caution, would not normally encounter a situation in which their borrowing behavior became suspect. This argument begs an important issue in that it assumes that banks for the most part are sufficiently "reluctant to borrow" that they will generally conform to the rough regulatory image described in the purpose restrictions of Regulation A as administered.

If such is not the case—that is, to the extent that banks are less reluctant to borrow than deemed appropriate—there would be more certainty of action in the extreme than in the normal run of cases. For example, banks that borrow heavily so as to be able to sell Federal funds at rates above the discount rate would be fairly certain of quick and vigorous "disciplinary action." Banks that borrow to avoid or postpone the sale of investments (and also to earn a profit) would have to determine in each instance the duration of the time period over which the holding of such investments would be considered appropriate and the "costs" incurred in exceeding this duration.

V. SUMMARY AND CONCLUSIONS

The intention of the 1955 revision of Regulation A was to limit the amount of credit available at the discount window, particularly during periods of monetary restraint. Both demand and supply limitations were envisioned. The General Principles in the Foreword to the revised regulation appear to describe roughly the kind of borrowing behavior expected of a bank that was reluctant to borrow. They were principally intended to support the attitudes of the large majority of banks considered to be reluctant borrowers. In this sense, they represented a form of moral suasion designed to limit the demand for credit.

The General Principles also seem intended to facilitate a distinction that discount officers and committees would, from time to time, be required to make between borrowing behavior that was sufficiently reluctant ("appropriate") and borrowing behavior that was insufficiently reluctant ("inappropriate"). However, it was not thought that it would be necessary to make this distinction often. In those instances where such nonprice rationing proved necessary, it was believed such rationing would have a remedial effect.

The current mechanism clearly provides for adequate control over the volume of

credit available at the discount window. In fact, it appears to create a degree of uncertainty about the terms and conditions of credit that would tend to limit borrowing more than intended. This is particularly true in a financial environment in which large numbers of banks are not reluctant to borrow in accordance with the regulatory image implicit in the General Principles. Nonreluctant attitudes on the part of banks would tend to place a heavy burden on the administrative machinery of Regulation A, primarily because the General Principles were not designed and are not well suited for large-scale rationing of credit from the supply side. The distinction between sufficiently reluctant and insufficiently reluctant borrowing is not easily drawn in practice. The restrictions, both individually and collectively, are not easily understood or communicated. Differences in administration among Federal Reserve districts may be viewed as a reflection of difficulties in implementing the current regulation.

EVOLUTION OF THE ROLE AND THE FUNCTIONING OF THE DISCOUNT MECHANISM

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EVOLUTION OF THE ROLE AND THE FUNCTIONING OF THE DISCOUNT MECHANISM

INTRODUCTION

There are two major aspects of the discount function, both of which exercise some influence on the volume of reserves supplied via the discount window.

Discount policy (administration of the discount window) influences the total volume of borrowing. It also affects the allocation of Reserve Bank credit among member banks and indirectly it may influence the allocation of member bank credit among final uses. The discount rate affects the cost of member bank borrowing. But discount policy is not considered an effective means of influencing specific uses of credit.

A complete history of the evolution of the discount function—philosophy, principles, and policies embraced in administration of the discount window and in discount rate policy—as recorded in the literature within the System and by outside economists would be a weighty document. Much of the material, however, is of historical interest only. This paper is limited to information and experiments that might be helpful in determining what the role of the discount function should be.[1]

The principal sources of material used were:

1. Unpublished material available within the System, especially the Proceedings of the four policy-making groups prior to 1935 —conferences of the Governors of the Federal Reserve Banks; conferences of the Chairmen and Federal Reserve Agents of the Federal Reserve Banks; the joint conferences of these groups with the Federal Reserve Board; and minutes of the Open Market Investment Committee.

Other unpublished material of the System included special studies, such as the report of the *ad hoc* Committee on the Discount Mechanism in 1954, and the excellent "A History of the Lending Functions of the Federal Reserve Banks," by Howard H. Hackley, which includes all amendments to the Federal Reserve Act relating to the discount function and revisions of Regulation A.

2. Published material, including works of the better-known academic economists (prior to World War II); Annual Reports of the Federal Reserve Board (Board of Governors of the Federal Reserve System since 1934); and congressional hearings, particularly the "Agricultural Inquiry," Joint Commission of Agricultural Inquiry in 1921 and "Operations of the National and Federal Reserve Banking System" (U.S. Senate) in 1931.

It should be noted that the bulk of the material to be covered in this study appeared prior to the Great Depression. The discount function fell into disuse following

[1] It should be noted that academic literature since World War II is included in David M. Jones, "A Review of Recent Academic Literature on the Discount Mechanism," vol. 2 of this series.

the Great Depression and did not become a significant policy instrument again until after the Treasury–Federal Reserve accord in March 1951. Within the System, policy discussions since the accord, except for the study in 1953–54 and this one, have dealt largely with open market operations.

The paper is divided into two main parts. The first is a brief summary of the evolution of the discount function; the second deals in more detail with the principal concepts and philosophies embraced in discount and discount rate policies and some experiments that appear of relevance in determining the current role of the discount mechanism. Evaluation, other than that made in the literature covered, is often unnecessary.

No attempt has been made to cover each amendment affecting the discount function or each revision of Regulation A. Nor are the V-loan and Section 13b-loan programs included.

SUMMARY OF FINDINGS

Evolution of the discount function during the past half-century reflects the influence of economic thought and economic events. The underlying philosophy of the discount provisions of the Federal Reserve Act was the "real bills" doctrine that bank credit should be confined to short-term productive uses. This view strongly conditioned the evolution of the discount function in the first two decades of the System. It even led to efforts, at times, to use discount policy to curb the use of bank credit for certain purposes.

Economic events, however, soon created doubts as to the validity of this doctrine, both in principle and in practice. Confining credit to "productive uses" would not necessarily automatically result in the proper total quantity of bank credit. During an inflation boom, total bank credit expansion resulting from lending for so-called "productive uses" could be excessive; hence it was necessary to regulate the total quantity of bank credit in the interest of sustained over-all stability.

These two views had significant implications for the discount function. For selective regulation, such as confining bank credit to certain uses, discount policy was considered a more useful instrument; the discount rate was regarded as a more effective instrument for regulating the total quantity of bank credit.

Regulating use of bank credit

The philosophy embodied in the Federal Reserve Act contemplated that Reserve Bank credit should be extended for a short term only and that it should be confined to financing the production and the distribution of goods from producer to consumer. It should not be used to finance investments or speculative activity of any kind—securities, commodities, or real estate. Confining bank credit to productive purposes, it was believed, would result in an automatic response of supply to the expanding and contracting needs of commerce, industry, and agriculture.

The implications of this real bills doctrine for Federal Reserve policy were twofold: (1) use of Federal Reserve credit to finance unproductive activities should be prevented, and (2) System officials should pursue a passive policy allowing the supply of credit to respond to changing demands of "legitimate" business and agriculture.

At first, eligibility requirements were considered the principal method of confining Reserve Bank credit to productive uses;

however, experience soon demonstrated that the kind of paper offered for discount was no indication of the uses made of the bank credit extended on the basis of the proceeds.

Following World War I, emphasis shifted to "direct pressure" as a means of confining bank credit to appropriate uses. Even though Reserve Bank officials might not be able to identify the specific uses made of the proceeds of a discount, they could and should keep informed of the loan and investment policies of their member banks. Reserve Bank credit should be denied those banks using it for unproductive purposes.

Most System officials were sympathetic with the ultimate goals of direct pressure, but there was growing opposition to the policy in the 1920's. One of the major points of opposition was that it was impractical. It was impossible to confine credit to productive uses through administration of the discount window. A member bank discounts or borrows to replenish a reserve already deficient—a deficiency that usually results from a number of transactions. Moreover, reserves created by loans to banks making only "productive" loans might flow to banks extending credit for speculative and nonessential purposes. Secondly, a substantial number of banks do not borrow from the Federal Reserve Banks and hence are not subject to direct pressure. Finally, there was increasing doubt that confining credit to productive uses would result in the proper total quantity of credit. The total quantity of credit, even under a productive-use criterion, may expand more rapidly than ability to produce goods and services to match it. Discount policy by itself was not considered an effective means of regulating the total quantity of bank credit.

The controversy over direct pressure intensified in the latter part of the 1920's as an increasing flow of bank credit went into the stock market. With business operating below capacity and prices tending downward, the situation called for selective control to curtail credit for speculation without making credit scarcer or more expensive for business and agricultural purposes. Those favoring direct pressure instead of an increase in the discount rate thought the latter would have little effect on speculative use of bank credit but would work a hardship on business and agriculture. Others, however, thought the policy of direct pressure could not be implemented effectively. Some loans against securities might be for speculation but others were for productive purposes. They favored an increase in the discount rate.

The Great Depression brought to a close attempts to implement the real bills doctrine as a means of achieving business stability. The quantity of eligible short-term commercial paper dwindled, and eligibility requirements handicapped the Reserve Banks in providing adequate assistance to some member banks. Then, too, emphasis continued to shift from selective control to regulating the total quantity of bank credit and the money supply.

Allocation among banks

Preventing excessive borrowing by individual member banks has always been a problem, especially in the earlier years of the Federal Reserve System. System officials thought that too much borrowing was unsound banking policy because experience had shown that banks heavily indebted to the Reserve Banks were among the first to fail. Excessive borrowing was also considered inconsistent with the spirit of the Federal Reserve Act, which authorized Reserve Banks to administer the discount window so that each member bank would be able to get its fair share of Reserve Bank credit.

The problem here involved allocation of Reserve Bank credit among member banks instead of allocation of member bank credit among uses.

One of the early experiments in attempting to prevent excessive borrowing by some member banks was the establishment of progressive discount rates by four Reserve Banks. Progressive rates would penalize excessive borrowers without making borrowing more expensive for member banks not abusing the privilege.

The four Reserve Banks establishing progressive rates soon abandoned them. A fundamental weakness was that the penalty was based entirely on quantity of borrowing in excess of a basic line, which in turn was computed in an illogical manner. The device worked a hardship on banks suffering unusually large seasonal or other types of deposit drains, and exceptionally high rates paid by a few banks aroused widespread criticism and subjected the System to political attack. The consensus of Federal Reserve officials seemed to be that excessive borrowing could be better controlled by discretionary discount policy than by a rigid, mechanical formula such as progressive discount rates.

The burden of preventing excessive borrowing by individual banks fell mainly on administration of the discount window. Reserve Bank officials soon began to keep closer tab on member banks that were borrowing either unusually large amounts or continuously. In the case of problem banks the usual investigation was supplemented by conferences with officers or directors of the borrowing bank. Reserve Bank officials also used various contacts and methods to try to educate member banks on proper use of the discount window.

Appropriate borrowing

Another aspect of discount policy discussed in the 1920's was appropriate uses of the discount window. There seemed to be general agreement that borrowing from the Federal Reserve should be short term to meet temporary needs, that habitual borrowing was unsound and undesirable, and that banks should not borrow to profit from higher rates.

The discount window was not used much from about the mid-1930's until 1951 because of the large volume of excess reserves generated by gold imports and of the ready availability of reserves under the policy of supporting the prices of U.S. Government securities. With the return to a flexible monetary policy, System officials launched studies in order to reappraise use of both the discount window and open market operations in the new environment.

The studies and the revision of Regulation A in 1955 were concerned primarily with appropriate and inappropriate types of borrowing from the Reserve Banks. The principles adopted were largely a reaffirmation and refinement of principles that had evolved, mainly in the 1920's.

Appropriate uses of the discount window were principally twofold: (1) short-term advances to meet temporary reserve drains, such as from a deposit loss, and seasonal requirements that could not reasonably be anticipated; and (2) advances for longer periods if necessary to enable member banks to meet unusual and emergency situations.

Inappropriate uses included continuous borrowing to supplement a bank's own resources, borrowing for speculative purposes, and borrowing to profit from interest rate differentials or to obtain a tax advantage.

The philosophy embodied in the revision of Regulation A contemplated only a limited use of the discount window. Except in emergency situations, advances are to help meet temporary reserve drains that a well-managed bank ordinarily would not be in a position to meet out of its own resources.

Borrowing is to afford time for a more orderly adjustment of assets and/or lending policy.

The discount rate

The Federal Reserve Act contained little guidance for discount rate policy. Section 14 stated that rates should be established "with a view of accommodating commerce and business."

Initially, there was little crystallized thinking among System officials either as to the role of the discount rate or as to criteria that would be useful in determining the timing of rate changes. The penalty-rate concept was widely accepted in principle but considered impractical in the United States.

Several factors influenced the role of the discount rate in the 1920's. Emphasis on the use of discount policy for selective credit regulation, and a consensus among System officials that the discount rate was ineffective for preventing excessive borrowing by an individual member bank, tended to relegate the discount rate to a secondary role. On the other hand, belief by some officials that "direct pressure" was impractical, and increasing emphasis on the need to regulate the total quantity of credit, favored a more important role for the discount rate. Discovery of the value of open market operations in the early 1920's gave System officials two quantitative tools. The discount rate and open market operations soon came to be regarded as the "twin instruments" of Federal Reserve policy.

System officials devoted considerable attention to guides that might be useful in determining the timing of changes in the discount rate. The dominant view that emerged was that no simple rule or formula would suffice. Instead, decisions should be made on the basis of a wide range of relevant information on current credit and business conditions. Perhaps the most widely accepted principle was that the discount rate should be raised when there was evidence that bank credit expansion was becoming excessive in relation to the volume of business activity, and that the rate should be lowered in periods of depression to encourage expansion.

Studies were also initiated to determine the effects of discount rate action. Surveys, including questionnaires and calls on member banks by field men, indicated that changes in the discount rate had little effect on bank loan rates to customers. Exceptions were loans that were closely related to market rates, such as call loans, and business loans of the larger banks in financial centers.

Even though most member banks indicated that changes in the discount rate had little effect on customer loan rates, some System officials thought that the effect of a change on the cost of borrowed reserves had a significant influence on the total volume of bank credit.

Although open market operations have been the major policy instrument since 1951, a new proposal regarding the discount rate advanced in academic literature is that the discount rate should be tied to some relevant market rate.

Concluding remarks

The evolution of the discount function, even though interrupted by a long period of quiescence in both implementation and thought, has some significant implications for discount policy. On the basis of past experience the principal implications, in the opinion of the author, are the following:

1. Administration of the discount window has been neither an equitable nor an effective instrument for implementing a policy of selective credit control. At best, it has reached only a minority of commercial banks (a large number of member banks as well as many nonmember banks do not use

the discount window) and an even smaller fraction of all lenders. Discount officers can ordinarily identify "misuse" only after it shows up in bank condition reports—a *fait accompli*. Moreover, banks denied access to the discount window because of noncompliance may have an inflow of reserves from banks that do borrow from the Reserve Banks, or they may acquire reserves in the market.

2. The use of mechanical devices in administering discount policy has never been a satisfactory substitute for discretion.

The experiment with progressive discount rates in 1920 was soon abandoned. Some of the shortcomings were the result of the particular type of plan adopted. But even more serious weaknesses are inherent in progressive rates. First, no logical basis has thus far been proposed for computing a basic line. Any basic line, regardless of how computed, implies that *quantity* is the primary determinant of validity of borrowing from a Reserve Bank. Borrowing in excess of some arbitrary basic line is automatically penalized regardless of the reasons for the borrowing. This view is the antithesis of the concept (and the spirit of Section 4 of the Act) that, in deciding whether to extend credit to a member bank, Reserve Bank officials should take into consideration the condition and policies of the applicant bank and whether the proposed borrowing is consistent with the maintenance of sound credit conditions. Second, progressive rates hit especially hard member banks that are subject to erratic and pronounced seasonal and other temporary reserve drains.

Preferential discount rates, used only briefly except in war financing, proved to be discriminatory and ineffective. The preferential rate soon became the effective rate.

One of the lessons of experience is that courageous and well-informed discount officers have been more effective in implementing discount policy than any rule or mechanical formula yet developed.

3. Eligibility requirements have been more of a handicap than a help in implementing policy. They never achieved the purpose for which they were intended, and the philosophy underlying the requirements has been inappropriate for the economic environment that has prevailed for many years. This is mainly why the System has recommended to the Congress their elimination from the Federal Reserve Act.

4. Experience has demonstrated that the discount function has been useful in reinforcing anticyclical monetary policy—forcing banks to the discount window and raising the discount rate when desirable in implementing a restrictive policy, and lowering the discount rate and using open market operations to take member banks out of debt in periods of monetary ease.

EVOLUTION OF THE DISCOUNT FUNCTION: EPISODES OF CURRENT SIGNIFICANCE

This section is devoted primarily to issues and episodes believed to be of some relevance in the current reappraisal of the discount function. It attempts to summarize the dominant views expressed within the System and in academic literature prior to World War II.

The principal topics covered are as follows: the reasons member banks borrow; attempts to regulate the final use of bank credit; techniques of allocating Reserve Bank credit among member banks; appropriate and inappropriate borrowing; and the discount rate.

Reasons member banks borrow

Soon after the System began operations, Reserve Bank officials became concerned over the general attitude of member banks toward borrowing from the Reserve Banks. Many banks thought of borrowing from the Reserve Bank in the same way as borrowing from a correspondent—a source of funds to lean on when their own resources were short. Hence, Reserve Bank officials tried to inculcate in bankers the philosophy that Reserve Banks should be regarded as a lender of last resort.

In the 1920's two divergent views emerged (most of the analyses being in academic literature) as to why member banks borrow. One view was that member banks borrow only when in need of additional funds; the other put more emphasis on profit motivation. These views had significant policy implications, especially for the role of the discount rate.

Need theory. One view that emerged in the early 1920's and still prevails is that member bank borrowing is motivated primarily by need rather than by profit.[2] In essence, the doctrine was that member banks are reluctant to borrow from the Reserve Banks; they generally borrow only to meet a reserve deficiency; and they repay indebtedness to the Reserve Bank as soon as practicable. In repaying, however, banks usually withdraw funds from the money market and shift the reserve deficiency to other banks.

It is obvious that need is substantially influenced by open market policy. If sufficient reserves are supplied through open market purchases, there is little need to borrow; if, however, insufficient reserves are supplied through open market operations, member banks may be compelled to turn to the discount window.

Experience was used to support the need motivation for borrowing. A substantial spread between the discount rate and market rates was not unusual. Hence, it was alleged that if member banks borrow primarily for profit, market rates could not long remain above the discount rate. Borrowing to take advantage of higher market rates would soon eliminate the spread. Neither could market rates remain much below the discount rate so long as there was any appreciable volume of member bank indebtedness to the Reserve Banks.

A significant implication of the need theory is that the discount rate is not a major determinant of the volume of member bank borrowing. Exponents of the doctrine thought the volume of member bank borrowing had a greater influence on market rates than changes in the discount rate. The discount window, although only a marginal source of funds, had an important influence on market supply and hence on market rates. Evidence cited was that market rates moved closely with the volume of member bank borrowing, and changes in the volume of borrowing usually preceded changes in rates.

The discount rate had some influence on market rates, however. If the discount rate is above market rates, banks may turn to call loans or other market sources for reserves instead of to the discount window. But if the discount rate is below market rates, the tendency would be for banks in need of funds to turn to the discount window.[3]

Profit theory. The profit theory, simply stated, is that member bank borrowing from the Reserve Bank is motivated primarily by profit. Member banks tend to

[2] For example, see Winfield W. Riefler, *Money Rates and Money Markets in the United States,* pp. 19–32. Riefler was a leading advocate of the need theory.

[3] For example, see Riefler, *op. cit.*

borrow when it is profitable. Profitability of discounting or borrowing from the Reserve Banks is a major determinant of the volume of member bank borrowing.

The profit theory, although not expressly stated and developed, is implicit in a substantial part of System material dealing with discount rate policy since World War I. Proceedings of policy discussions prior to the Great Depression frequently reveal general acceptance of the principle that the discount rate should be a penalty rate in order to discourage borrowing for a profit; it was agreed, however, that implementation was impracticable in the United States because of the wide variation in interest rates regionally and by type of loan.[4]

A more sophisticated version of the profit theory is that member banks, faced with a reserve deficiency, will tend to select the lower cost among alternative reserve adjustment media.[5] When the discount rate is above market rates on assets available for readjustment—so-called secondary reserve assets—banks tend to turn to the market instead of borrowing from the Reserve Banks to cover reserve deficiencies. Banks are encouraged to borrow from the Reserve Banks when the discount rate is below market rates on these assets. The view widely accepted since revival of the discount function in the post-World-War-II period—that the discount rate should be equal to or above market rates on commonly used alternative assets for reserve adjustment, especially in periods of restraint—implies acceptance of this version of the profit theory.

Synthesis and evaluation. The need and profit doctrines came under close scrutiny in the mid-1930's, especially by Robert Turner who attempted to test the two theories, both analytically and empirically.

A critical weakness of the need theory is the nebulous nature of the basic concept. Advocates of the doctrine did not give a clear definition of need—usually referring to seasonal drains and temporary reserve deficiencies arising from market factors such as deposit flows. Need in this sense, however, should have little effect on the total volume of member bank borrowing. Seasonal drains and other market flows shift reserves among banks but do not affect significantly reserve needs of the banking system. If, on the other hand, need is defined to embrace all types of reserve deficiencies, reserve "needs" resulting from loan and deposit expansion, including lending and investing to take advantage of a rate spread, would be included.[6]

Turner points out that a spread between market rates and the discount rate does not prove that member banks do not borrow for profit, only that they do not borrow in sufficient volume to bring market rates into line with the discount rate. Banks may borrow to re-lend or invest at a profit, but limits imposed by discount policy and the tradition against borrowing may prevent a volume sufficient to eliminate the rate spread.

Turner, using available statistical data, attempted to test the validity of the profit theory. His findings may be summarized as follows:

1. There was no correlation (1) between the volume of member bank borrowing and the profit spread between the discount rate and bank customer loan rates, or (2) between borrowing and the profit spread between the discount rate and bond rates. In other words, banks try to take care of their

[4] For example, see the following (for description of conferences, see p. 163): Conference (1), Oct. 25–28, 1921 (p. 20 *et passim*); Conference (2), Nov. 19–21, 1919 (pp. 59–73 *et passim*), and Apr. 12–15, 1921, vol. 1 (*et passim*).

[5] For example, see Robert C. Turner, *Member-Bank Borrowing,* pp. 92–97.

[6] For an explanation and evaluation of the two doctrines, see Turner, *op. cit.,* chapters IV, V, and VI.

customers regardless of whether they are able to borrow from the Reserve Banks at a profit. And apparently they do not borrow from the Reserve Banks to invest in bonds even when the return affords a profit.

2. There was a fairly close correlation between the volume of member bank borrowing and the profit spread for three types of open market paper: call loans to brokers, time loans to brokers, and commercial paper. There was also close correlation between the volume of borrowing and the profit spread between the discount rate and the average of these three market rates.

3. Changes in the profit spread for open market paper appeared to be an important determinant of changes in the volume of member bank borrowing in the period 1922–30, but the correlation was not so close for the period 1931–36.

On the basis of his research and analysis, Turner concluded that the profit theory is not a complete explanation of the volume of member bank borrowing but that it is a significant one. The volume of borrowing tends to increase as the profit spread widens, but because of the tradition against borrowing there is a point beyond which widening of the spread has gradually less effect. There is an observable tendency for changes in the profit spread either to lead or to occur at the same time as changes in the volume of borrowing. A negative profit spread is associated with a low volume of borrowing, but it appeared not to be so important in determining changes in the volume of borrowing. Finally, a general theory of member bank borrowing must embrace consideration of factors influencing reserve positions as well as the profit theory.

Turner's conclusions are valid. Bank loan and investment policies are not directed toward taking advantage of every profit spread between their earning assets and the discount rate. The tradition against borrowing, as well as administration of the discount window, inhibits such actions. Nevertheless, a profit spread may induce some banks, especially the more aggressive ones, to pursue more liberal lending and investing policies; and the relation of the discount rate to rates on alternative reserve adjustment media surely influences banks in their choice of the source of funds to cover reserve deficiencies.

Attempts to regulate final use of bank credit

The general philosophy underlying the discount provisions of the Federal Reserve Act was that Reserve Bank credit should be confined to productive uses in industry, commerce, and agriculture. It should not be used to finance speculative activity of any kind—securities, real estate, or commodities—or to finance investments other than Government securities.[7]

This philosophy of the discount function was expanded and refined in the 1920's. A view prevalent inside and outside the System was that confining bank credit to short-term productive purposes was the real pathway to economic stability. Productive purposes included financing of an orderly flow of goods from producer to consumer, but not the building up of inventories in anticipation of higher prices. For example, the Federal Reserve Board's Annual Report for

[7] Materials concerning the discount function in the period prior to the mid-1930's were taken principally from the following sources, all within the System: (a) minutes of conferences of the Governors of the Federal Reserve Banks; (b) minutes of conferences of the Governors and the Chairmen and Federal Reserve Agents of the Federal Reserve Banks with the Federal Reserve Board; (c) minutes of meetings of the Open Market Investment Committee; and (d) Annual Reports of the Federal Reserve Board. The minutes of the annual conferences of the Federal Reserve Board with the Governors and Chairmen of the Federal Reserve Banks, usually held in October or November, in the first part of the 1920's were especially useful because the meetings were devoted entirely to papers and discussions of Federal Reserve policy.

1923 stated, "the economic use of credit is to facilitate the production and orderly marketing of goods and not to finance the speculative holding of excessive stocks of materials and merchandise." [8] Confining bank credit to productive uses, as here defined, would automatically result in the appropriate quantity of credit. This point was also well stated in the 1923 Annual Report:

> It is the belief of the Board that there will be little danger that the credit created and contributed by the Federal reserve banks will be in excessive volume if restricted to productive uses. . . . Administratively, therefore, the solution of the economic problem of keeping the volume of credit issuing from the Federal reserve banks from becoming either excessive or deficient is found in maintaining it in due relation to the volume of credit needs as these needs are derived from the operating requirements of agriculture, industry, and trade, and the prevention of the uses of Federal reserve credit for purposes not warranted by the terms or the spirit of the Federal Reserve Act.[9]

Eligibility requirements. The initial view was that confining bank credit to productive uses could be implemented by eligibility requirements. The original Federal Reserve Act limited access to the discount window primarily to short-term paper arising from, or the proceeds of which were to be used in the financing of, industrial, commercial, and agricultural activities. Except for a minimum gold reserve requirement of 40 per cent, eligible commercial paper could also be pledged as collateral against the issue of Federal Reserve notes. Thus, access to the discount window and to a large extent the issuance of Federal Reserve notes were directly related to holdings of eligible commercial paper. As a result, it was expected that Reserve Bank credit and Federal Reserve notes would automatically respond to the changing needs of production and trade.

Events and experience soon demonstrated that eligibility requirements were not an effective method of regulating use of credit. To facilitate financing the large defense expenditures incurred in World War I, the Reserve Banks were given authority to make loans to member banks against U.S. Government securities. More significant, however, experience soon demonstrated that the kind of paper offered for discount or put up as collateral for loans afforded no indication whatever of the use a member bank was to make of the proceeds. In fact, member banks came to the discount window to cover a reserve deficiency that had already occurred and that usually reflected the combined effects of a large number of transactions.

Preferential discount rates. Another early experiment in trying to influence the use of credit was the preferential discount rate. In 1915, a preferential rate was established on trade acceptances to encourage development of a market for acceptances and broaden the use of this type of paper. A broader market for acceptances would tend to stimulate U.S. exports and increase the liquidity of member banks. In the same year a preferential rate was established on paper based on some staple commodities to facilitate seasonal financing of the marketing of agricultural products.

In World War I and World War II, System officials established preferential rates on discounts and advances "collateralled" by Government securities in order to facilitate the financing of large wartime expenditures. The preferential rate in World War II applied to member bank borrowing "collateralled" by short-term Government securities.

Experiments with preferential discount rates, except against Government securities

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[8] *Tenth Annual Report of the Federal Reserve Board: Covering operations for the year 1923*, p. 5.
[9] *Ibid.*, pp. 34 and 35.

in wartime, were short-lived. There were two serious disadvantages. One was that banks in need of funds offered for discount the type of paper with the lower discount rate. The preferential rate was the effective discount rate. Second, preferential rates were discriminatory. Member banks holding the types of paper with preferential rates could borrow more cheaply than banks not holding such paper. Except for Government paper in wartime, System officials—especially Reserve Bank officials —were strongly opposed to preferential discount rates; they thought that all types of eligible paper should carry a uniform rate.

Preferential discount rates (or a penalty rate) have been proposed occasionally other than in wartime since the early experiments. In 1928 the System had been following a policy of moderate restraint in order to curb speculative use of bank credit, but there was no need to curtail bank credit for business and agricultural purposes. A member of the Federal Reserve Board recommended establishing a special preferential discount rate for paper drawn to finance the marketing of agricultural products and a preferential buying rate for bankers' acceptances drawn for the purpose of seasonal crop movement. The intention was to ease the impact of restraint on the marketing of agricultural products. The proposal, which was presented to the Open Market Investment Committee, was opposed by the Reserve Bank Governors. They opposed preferential rates as a matter of principle and also on the basis that such rates would not result in lower rates to farmers.[10]

In the fall of 1928, Professor O. M. W. Sprague proposed a penalty discount rate for member banks making stock exchange loans. For example, he stated:

> To curb the demand of brokers for credit, it is necessary to destroy the confident belief that additional funds will always be forthcoming in response to an advance in rates. This can be readily accomplished by the addition of a simple provision to the Federal Reserve act, authorizing, or perhaps directing, the Reserve Banks to impose a rate 1 per cent higher than the call renewal rate upon rediscounts for member banks that are lending on the Exchange at the time the accommodation is secured. If need be also a minimum borrowing period of seven days might be established.[11]

Serious objections were raised to the Sprague proposal. In addition to the usual objections, it would be difficult to implement such discretionary power wisely. Bank credit was needed to facilitate distribution of new corporate securities, which in turn were needed at times to encourage business recovery. It would not be easy to determine when securities loans were excessive. Passage of such legislation might also imply that securities loans are objectionable per se.[12]

Direct pressure. Ineffectiveness of eligibility requirements along with immobilization of discount rate policy following World War I because of Treasury financing requirements resulted in a shift of emphasis to "direct pressure" via the discount window. There was substantial support within the System to use direct pressure both to regulate the final use of bank credit and to prevent excessive member bank borrowing from the Reserve Banks.

In the spring of 1920 the Federal Reserve Board asked the Reserve Banks to submit a written report of methods used to keep informed on how member banks were using Reserve Bank credit. Some members of the Federal Reserve Board were ardent advocates of using discount policy to bring

[10] Minutes of the Open Market Investment Committee, Aug. 13, 1928.

[11] O. M. W. Sprague, "A New Device for Reserve Bank Control of Brokers' Loan Inflation," p. 599.

[12] For example, see Harold L. Reed, *Federal Reserve Policy 1921–1930,* pp. 183 and 184.

pressure on member banks to curtail credit for nonessential uses. According to this view, Reserve Bank officials should keep informed on member bank lending and investing policies and should deny access to the discount window to those extending credit for speculative and other nonessential uses.

In general, Reserve Bank officials did try to keep informed of their member banks' loans and investments through regular reports, bank examination reports, and interviews with officials of problem banks. Most of the Reserve Banks, through circular letters and other methods, urged member banks not to make loans for speculative activities, such as in securities or to enable borrowers to hold commodities for higher prices. The Governor of one of the Reserve Banks stated that borrowing to buy automobiles was one of the most extravagant things they had to cope with and that people were buying cars who could not afford them. One Reserve Bank refused to discount paper arising from the sale of pleasure automobiles, on the basis that the industry was overextended. The policy was soon abandoned, however. Some Reserve Banks, upon receiving a request for discount accommodation from member banks making speculative loans, followed the policy of asking the banks to liquidate such loans instead of borrowing from the Reserve Bank.

There was considerable sentiment that it was impractical to try to distinguish between essential and nonessential uses of bank credit in peacetime; however, discretionary discount policy could have beneficial results. Knowledge that Reserve Bank officials were scrutinizing their loans and lines of credit would cause member bank officials to be more selective in extending their credit. This attitude of member bank officials would in turn cause borrowers to be more careful in their applications for credit. A potential borrower contemplating purchasing some luxury that he would "be better off without," for example, would likely decide not to buy if the appropriateness of such borrowing were questioned.[13]

Strong support for direct pressure to influence allocation of member bank credit emerged again in the latter part of the 1920's. System officials became concerned as early as the mid-1920's about the flow of credit into the stock market. The growing volume of bank credit being absorbed for speculation in securities confronted System officials with a dilemma. The excessive flow of bank credit into the stock market called for a policy of restraint; a margin of unused resources and declining prices called for a policy of ease.

Actions to curtail the total quantity of bank credit and to make it more expensive in order to curb speculation would have harmful effects on legitimate business. The solution, according to some officials, was to use discount policy to prevent member banks from making speculative loans. The Federal Reserve Board, convinced that an increase in the discount rate would not be effective in curbing speculation, sent a letter to the Reserve Banks on February 2, 1929, calling attention to the large volume of speculative loans and to the fact that use of Reserve Bank credit to support such loans is contrary to the spirit of the Federal Reserve Act. For example, the letter stated:

> The Federal reserve act does not, in the opinion of the Federal Reserve Board, contemplate the use of the resources of the Federal reserve banks for the creation or extension of speculative credit. A member bank is not within its reasonable claims for rediscount facilities at its Federal re-

[13] See Conference (2), Apr. 10, 1920, especially pp. 515 and 516 *et passim*.

serve bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans.[14]

The Board also stated that it had no intention of interfering with the loan practices of member banks so long as those practices did not involve the Federal Reserve Banks. But the Board did have a responsibility when member banks were maintaining speculative securities loans with the aid of Federal Reserve credit.

From the very beginning, there was strong opposition to the policy of trying to use administration of the discount window as a tool of selective bank credit control. For example, the Governors of the Reserve Banks were unanimous that it was not practical to try to distinguish between essential and nonessential uses of credit in peacetime.[15] The principal objections to a policy of direct pressure were as follows:

1. It is impossible to determine the specific use a member bank makes of the proceeds of a loan from a Reserve Bank. The loan is to replenish reserves already impaired, usually by a large number of transactions.

2. Even if Reserve Bank credit should be denied to member banks making speculative loans or for other purposes not considered desirable, reserves created by loans to other member banks may be transferred through ordinary commercial and financial transactions to member banks making such loans.

3. Direct pressure cannot be applied to the large number of banks not borrowing from a Reserve Bank.

4. Direct pressure, at best, is feasible only for preventing excessive borrowing by the individual bank; it is impossible for Reserve Bank officials, in passing on loan applications of member banks, to determine what the total volume of reserves at the disposal of the banking system should be.

5. The Federal Reserve Act does not give either the Federal Reserve Board or a Reserve Bank control over the loan policy of a member bank. A Reserve Bank cannot compel a member bank to make a loan that it does not want to make nor restrain a member bank from making a loan that it wishes to make.[16]

Another aspect of the policy of direct pressure was discussed in the early 1920's. There was considerable concern that some member banks might be investing too heavily in bonds and that some of the smaller banks especially were being induced by salesmen to buy bonds of poor quality. One of the questions discussed by the Governors was whether, when a member bank comes in to borrow, Reserve Bank officials should go over its statement and try to tell the bank what its investment policy should be; also whether the bank should be advised to sell some of its bonds before the Reserve Bank would lend to it. Although discussed at some length, there was vigorous opposition to advising member banks on their investment policy because it would be undue interference in member bank management.

[14] See "Review of the Month," Federal Reserve *Bulletin,* Feb. 1929, vol. 15, p. 94. Another good source of information on pros and cons of direct pressure is U. S. Senate, Subcommittee of the Committee on Banking and Currency, Hearings S. 71, "Operation of the National and Federal Reserve Banking Systems," especially the statements of A. C. Miller of the Federal Reserve Board and George L. Harrison, Governor of the Federal Reserve Bank of New York.

[15] See Conference (2), Apr. 8, 1920, pp. 287–90.

[16] See *Eighth Annual Report of the Federal Reserve Board: Covering operations for the year 1921,* pp. 95 and 96. A good statement of the objections to a discount policy of direct pressure is given in *Interpretations of Federal Reserve Policy in the Speeches and Writings of Benjamin Strong,* pp. 126–33 and 190–93.

No action was taken toward trying to implement such a policy.[17]

A leading academic economist stated that the experiment of attempting to use discount policy to regulate use of bank credit was a failure. Attempts to curtail the use of bank credit for speculation also affected the use of such credit for business and agricultural purposes. At best, it might have held down total Reserve Bank credit somewhat, with little effect on the allocation of member bank credit among particular uses. In his opinion, a real effort to carry out the doctrine would have required: denying Reserve Bank credit to member banks making loans on the stock market; extending liberal loan privileges at low rates to member banks not making such loans; and open market sales of securities as necessary to mop up any excess reserves created in the process.[18]

Amendments in the early 1930's. Additional authority for selective regulation just about coincided with the termination of attempts to use the discount window as a means of influencing final use of bank credit. Legislation in the Great Depression, in addition to giving the Federal Reserve Board authority to fix margin requirements on loans for purchasing or carrying securities registered on a national exchange (excluding U.S. Government securities), also conferred additional powers to regulate member bank loans for speculation in securities.[19] Section 11(m) of the Federal Reserve Act was amended to provide that the Board on an affirmative vote of six members could establish for each district the percentage of each member bank's capital and surplus that could be represented by loans secured by stock and bond collateral, the percentage to be fixed "with a view of preventing the undue use of bank loans for the speculative carrying of securities." Under an amendment to Section 13, if any member bank, while indebted to a Reserve Bank and despite warning from a Reserve Bank or the Board of Governors, increases its collateral loans or loans to securities dealers for the purpose of purchasing or carrying securities (other than U.S. Government securities), its note to the Reserve Bank shall be immediately due and payable, and the member bank will be ineligible to borrow for a period to be determined by the Board of Governors.

The financial crisis accompanying the Great Depression revealed a serious weakness in trying to tie Reserve Bank credit too closely to narrowly defined eligible commercial paper. Eligibility requirements handicapped the System in meeting member bank needs in two ways. First, some banks did not have enough eligible paper and Government securities so that they could borrow adequate amounts to meet reserve drains, especially if subjected to heavy deposit withdrawals. Second, System open market purchases of Government securities to help check deflation resulted in a reduction in member bank indebtedness and the supply of eligible paper available to be put up as collateral for the issue of Federal Reserve notes. As a result, ability to issue Federal Reserve notes was declining at the same time public demand for currency was soaring. Some of the Reserve Bank Governors became concerned over this situation as early as 1930.

The Federal Reserve Act was amended

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[17] See Conference (3), Oct. 10 and 11, 1922, pp. 336–56.

[18] See Charles O. Hardy, *Credit Policies of the Federal Reserve System*, pp. 140–46.

[19] For a complete statement of legislation in the early 1930's affecting the discount function, see Howard H. Hackley, "A History of the Lending Functions of the Federal Reserve Banks," chapters 8–11.

to remove these handicaps. The Reserve Banks were given authority to lend against any satisfactory asset under rules and regulations prescribed by the Board of Governors but at a penalty rate ½ per cent above the discount rate on eligible assets. The Reserve Banks were also given authority for the first time to extend credit directly to individuals, partnerships, and corporations (which included nonmember banks) for a period not to exceed 90 days against U.S. Government securities as collateral, under rules and regulations prescribed by the Board. U.S. Government securities were also made eligible as collateral for the issue of Federal Reserve notes.

Regulation A was revised effective in October 1937. The revision was concerned primarily with bringing the regulation into conformity with amendments to the Federal Reserve Act; however, there was a statement of General Principles in a preface to the regulation. The General Principles may be summarized as follows:

1. The guiding principle underlying discount policy is advancement of the public interest; hence, the effect that the granting or withholding of credit by a Reserve Bank may have on a member bank, on its depositors, and on the community is of primary importance.

2. Reserve Banks are expected to consider not only the quality of paper offered for discount but also whether it is in the public interest to put additional funds at the disposal of member banks.

3. Reserve Banks, in accordance with the provisions of the Banking Act of 1933, are to keep informed on the loans and investments of member banks and on whether funds are being used for speculative purposes, fixed investment, and so forth.

4. In determining its discount policy, a Reserve Bank is to take into consideration the general business situation as well as the general conduct and management of the applying bank.[20]

Allocation among banks

Another objective in implementing the discount function, especially in the early 1920's, was an appropriate allocation of Reserve Bank credit among member banks. Section 4 of the Federal Reserve Act directed that the affairs of each Reserve Bank shall be administered "fairly and impartially" as among member banks and that each member bank should be extended such discounts and advances "as may be safely and reasonably made with due regard for the claims and demands of other member banks."

Little use was made of the discount window prior to World War I because most banks had ample reserves, and many banks still preferred to borrow from their correspondents as formerly. During the war, Federal Reserve policy was directed toward facilitating war financing, and member bank borrowing on Government securities rose sharply. Discounts and advances to member banks continued to soar during the postwar boom and then plummeted in the depression. One of the problems confronting System officials after the depression was a substantial number of habitual borrowers.

A study revealed that in mid-1925 nearly 900 member banks had been borrowing steadily for over a year. More than 250 national banks had failed since 1920, and more than four-fifths of these banks were habitual borrowers from the Federal Reserve prior to failure. A large number of the habitual borrowers still confronted

[20] See "Regulation on Discounts by Federal Reserve Banks," Federal Reserve *Bulletin,* Oct. 1937, p. 977.

problems that had their origin in the war and early postwar periods.[21]

Banking policy, in contrast to credit policy, was directed toward maintaining the sound financial condition of individual member banks. This policy was considered to be the joint responsibility of the discount function and supervisory authorities. Here we are concerned only with the discount function.

One of the problems confronting the System's discount officials was preventing individual member banks from making excessive use of Reserve Bank credit both with respect to what is sound banking policy and the member bank's fair share relative to the needs and demands of other member banks. The discount rate could not be relied on to prevent excessive borrowing, as already mentioned, because a penalty rate was considered impracticable in our type of banking system.

Additional collateral. One device used by several Reserve Banks to prevent excessive borrowing was to require additional collateral.[22] With use of the discount rate immobilized until early 1920 because of Treasury financing requirements, System officials were pressed to seek other methods of trying to deal with excessive borrowing. Some of the Reserve Banks required a margin of collateral, in addition to the usual amount, for member banks borrowing more than they considered appropriate.[23]

Additional collateral was usually required when a member bank borrowed in excess of a certain amount, such as its capital and surplus, or a basic line computed for each member bank by the Reserve Bank. In extreme cases, one Reserve Bank compelled such member banks to put up extra collateral in order to reduce their holdings of eligible paper and hence their capacity to discount or borrow from the Reserve Bank.

Even though the device apparently was not widely used, it aroused criticism. John Skelton Williams, formerly Comptroller of the Currency and *ex officio* member of the Federal Reserve Board, stated that sometimes the large additional margin—as much as 50 or even 100 per cent—made it impractical for country banks to get credit.[24] Additional margins of collateral of this magnitude, however, were apparently infrequent.

Progressive discount rates. In 1918 the Federal Reserve Board proposed for discussion the establishment of progressive discount rates on brackets of borrowing above a member bank's normal or basic line. The purpose was to prevent some banks from borrowing more than their proportionate share of Reserve Bank credit.

Several objections were raised against the proposal, especially by the Governors of the Reserve Banks, and it was decided that aggressive borrowers could probably be better dealt with by moral suasion. The proposal was made again in 1919. The Federal Reserve Act was amended in April 1920, on the recommendation of the Federal Reserve Board, providing authority for the establishment of progressive discount rates.

There were two principal reasons for the request for authority to establish progressive rates. One purpose was to prevent excessive borrowing by relatively few member banks without penalizing those that bor-

[21] See the report on member bank borrowing by Professor O. M. W. Sprague in Conference (1), Nov. 4 and 5, 1925, pp. 72–86.

[22] In the early post-World-War-I period, additional collateral was frequently required also for purposes of safety.

[23] See the following: Conference (3); Conference (2), July 1 and 2, 1918, Mar. 20–22, 1919, and Apr. 7–10, 1920; U.S. Congress, Joint Commission of Agricultural Inquiry, Hearings, "Agricultural Inquiry," vol. 2, p. 157.

[24] See U.S. Congress, *op. cit.*, p. 157.

rowed infrequently and only moderate amounts. A second purpose was to achieve a better allocation of Reserve Bank credit among member banks in accordance with the provisions of the Federal Reserve Act that credit should be extended "with due regard for the claims and demands of other member banks." In some districts borrowing was concentrated in a small number of large banks, which in turn extended credit to their smaller correspondents. Most large banks wanted to continue to serve their correspondents instead of having them borrow directly from the Reserve Bank.

Four Reserve Banks (Kansas City, Dallas, St. Louis, and Atlanta) established progressive discount rates in April and May 1920. The schedule for the four Banks provided that for each 25 per cent by which a member bank's borrowing from the Reserve Bank exceeded its basic line, a "super rate" of ½ percentage point was added to the regular discount rate.

The key part of the plan was establishment of a basic line for each member bank. The consensus of the Governors of the Reserve Banks was that the basic line should represent the member bank's contribution to the lending resources of the Reserve Bank. The latter, it was agreed, consisted of a member bank's reserve deposit and its paid-in capital to the Reserve Bank. The Kansas City, St. Louis, and Atlanta Reserve Banks adopted as a basic line a figure 2½ times a sum equal to 65 per cent of the reserve balance maintained or required to be maintained by the member bank plus its paid-in subscription to the capital stock of the Reserve Bank. The Dallas Bank established as the basic line an amount equal to the combined capital and surplus of each member bank. Advances to member banks "collateralled" by U.S. Government securities were excluded from progressive rates in order not to affect adversely the market prices of such securities or to work a hardship on those still carrying a large part of the Liberty Bonds acquired on original subscription.[25]

The experiment with progressive discount rates lasted only a short time. One Reserve Bank terminated progressive rates in the latter part of 1920, and the other three in 1921. Only a small percentage of the member banks paid a rate of 10 per cent or more—44 in the Atlanta District, 49 in St. Louis, 114 in Kansas City, and 20 in Dallas.[26] Great publicity was given to the fact that a member bank in the South paid a discount rate of 87.5 per cent. The bank had experienced a large outflow of deposits and its reserve balance dropped to $86, drastically reducing its basic line. The 87.5 per cent, of course, applied only to the upper bracket of its total borrowing.

Progressive discount rates resulted in widespread criticism, especially in political circles. It was alleged that progressive rates resulted in member banks charging their customers exorbitant rates; also that progressive rates put great pressure on member banks to reduce their borrowings, which in turn caused the banks to put pressure on their customers to repay their loans. Available evidence, however, did not support the charge that progressive rates resulted in member banks charging excessive rates to their customers. Instead, data revealed that there was no difference in the rates charged by member banks borrowing from the Reserve Banks and those not borrowing. In view of the criticism about exorbitant rates, the Atlanta and Kansas City Reserve Banks

[25] For example, see the *Seventh Annual Report of the Federal Reserve Board: Covering operations for the year 1920,* pp. 58 and 59.

[26] See Robert F. Wallace, "The Use of the Progressive Discount Rate by the Federal Reserve System," p. 61. Good outside sources on progressive discount rates are Wallace, *op. cit.,* pp. 59–68, and Benjamin Haggott Beckhart, *The Discount Policy of the Federal Reserve System,* pp. 367–77, 405–10.

rebated all interest paid by member banks in excess of a 12 per cent rate.

One of the principal beneficial results claimed for progressive discount rates was a better distribution of Reserve Bank credit among member banks. Progressive rates discouraged large borrowings by city banks in order to re-lend to smaller correspondents and resulted in more of these smaller banks borrowing directly from the Reserve Bank.

There was strong opposition to progressive discount rates both within and outside the System. First, member banks experiencing strong seasonal pressures and aggressive banks extending credit to meet the needs of their communities were likely to be penalized. Second, as applied by the four Reserve Banks, a hardship was imposed on banks in rural areas that were experiencing an outflow of funds as a result of the depression. Reserve drains reduced the basic line and resulted in higher super rates. Third, politicians and demagogues seized upon the relatively few instances of member banks paying unusually high discount rates to criticize and ridicule the System. Fourth, a rigid, automatic rule was substituted for discretion in administration of the discount window. Finally, with only four Reserve Banks using progressive rates, banks could evade the penalty by borrowing from a correspondent in a Federal Reserve district that did not have progressive rates.

Some of the weaknesses of the progressive rate experiment in 1920 resulted from the type of plan adopted. The basic line, above which penalty rates were applied, reflected an attempt to relate a member bank's fair share of borrowing to its contribution to the lending resources of the Reserve Bank. This was an erroneous idea, and there was no logical reason why a bank borrowing in excess of such a basic line should be required to pay a higher discount rate. Moreover, adoption of progressive rates by all Reserve Banks would eliminate the problem of avoidance by borrowing from correspondents in districts without such rates.

But there are serious weaknesses inherent in progressive rates, regardless of how the basic line is computed. Borrowing beyond a certain amount is *assumed* to be unwarranted and hence should be discouraged by a penalty rate. Progressive rates are applied on the basis of amount without regard to reasons for borrowing. The effect is to discriminate against member banks subject to large reserve drains, regardless of circumstances or how well the banks are managed. A member of the Federal Reserve Board, discussing progressive rates, stated that he hoped few Reserve Banks would resort to "the mechanical and bureaucratic device of that kind in order to control a situation that ought to be controlled through firm, discriminating governing." [27]

Progressive rates apparently were not effective in restricting member bank borrowing. One Reserve Bank official stated that member banks were not discouraged so much by progressive rates as by the fear that they might not be able to borrow from a Reserve Bank. The Federal Reserve Board conceded that progressive rates apparently were not so effective as the flat 7 per cent rate adopted by some other Reserve Banks.

Preferential rate. One of the staff papers in the discount study of 1953–54 dealt with a preferential discount rate on noncontinuous borrowing.[28] One suggestion was to charge a preferential rate on member bank borrowing against Government securities for 15 days or less provided the bank had

[27] See Conference (2), Apr. 10, 1920, p. 523.

[28] William J. Abbott, Jr., "A Preferential Rate on Noncontinuous Member Bank Borrowing," in "The Discount and Discount Rate Mechanism," May 1953.

not borrowed for at least a 15-day period. But other bases for applying a preferential rate to encourage noncontinuous borrowing could be used.

Some of the alleged advantages that might result from such a preferential rate were as follows:

1. It would penalize the continuous use of Reserve Bank credit and strengthen the sagging tradition against borrowing.

2. The device would have considerable flexibility as the spread between the preferential and the regular discount rate could be varied over time and among Reserve districts.

3. The preferential rate could be changed without the psychological impact of a change in the regular discount rate.

4. An increase in borrowing at the regular discount rate would be an indication of growing tightness.

5. It would assist in policing the discount window and encourage member banks to maintain greater liquidity.

But the proposal had serious disadvantages. It would discriminate against member banks that had heavy seasonal demands for loans and that might have to borrow in several reserve periods, even after liquidating securities and making other asset adjustments. In trying to solve one problem it would create another—that of preventing one member bank from borrowing at the preferential rate in order to re-lend to another that could borrow only at the regular discount rate. Finally, the public relations impact of a preferential rate might be harmful. The conclusion was that continuous borrowing could probably be prevented more effectively through discretionary administration of the discount window than by some mechanical device such as a preferential rate.

A similar proposal was made by a member of the Board of Governors in 1957. He suggested, however, a penalty discount rate for continuous borrowers; for example, banks borrowing for the third or possibly the fifth successive reserve period.[29]

Appropriate and inappropriate use

Even though two major considerations in discount administration in the 1920's were influencing the final use of bank credit and a fair allocation of Reserve Bank credit among member banks, appropriate uses in the modern sense of the term were also discussed.

One of the problems was the attitude of member banks toward borrowing from the new central bank. In general, member banks thought of borrowing from a Reserve Bank in the same way as borrowing from a correspondent. The widespread misunderstanding of the discount function among member banks focused attention on educating them as to the proper uses of the discount window.

The procedure followed by most Reserve Banks in administering the discount window varied somewhat according to the borrowing record and condition of the member bank. Well-managed banks that borrowed only infrequently were given only a routine investigation—determining eligibility of the paper offered for discount or as collateral, and analysis of readily available data on the bank's condition. Continuous and frequent borrowers, banks borrowing unduly large amounts, and banks with unsound policies or in poor condition were given much more careful scrutiny. Problem borrowers were typically subjected to much more careful analysis, covering such points as the character of the bank's loans and its lending policies; behavior of its deposits; its

[29] See Minutes of Federal Open Market Committee, May 7, 1957.

borrowing record from the Reserve Bank; examination reports on its condition; and perhaps discussion with bank examination officials as to the quality of the bank's management. Such internal analysis and investigation were often supplemented by interviews with the borrowing bank's officers or directors.[30]

Provisions of the Federal Reserve Act were often referred to for guidance as to appropriate uses of the discount window. In general, member banks should use the discount window for only short terms to meet seasonal, emergency, and other temporary credit needs. With respect to member banks in poor condition, a Reserve Bank should take a reasonable risk to prevent a member bank from failing, but it should not make advances on worthless paper or paper that would result in loss.

More attention was devoted apparently to inappropriate uses of the discount window. First, Reserve Bank credit should not be used for either speculative purposes or investments. The Annual Report of the Federal Reserve Board for 1923 stated:

> It is not a system of credit for either investment or speculative purposes. . . . The exclusion of the use of Federal reserve credit for speculative and investment purposes and its limitation to agricultural, industrial, or commercial purposes thus clearly indicates the nature of the tests which are appropriate as guides in the extension of Federal Reserve credit.[31]

Second, member banks should not borrow to take advantage of a differential between the discount rate and the bank's own lending rates. The Annual Report of the Federal Reserve Board for 1928 stated: "It is a generally recognized principle that reserve bank credit should not be used for profit, . . ." [32]

Third, continuous borrowing from a Reserve Bank was inappropriate for several reasons. It was inconsistent with the spirit of the Federal Reserve Act in two respects: Borrowing should be only for short term, and according to the principles in Section 4 the discount window should be administered impartially and with due regard to the claims and demands of other member banks. Continuous borrowing was also unsound banking policy. The Annual Report of the Federal Reserve Board for 1926 stated that continuous borrowing "would not be in accordance with the spirit of the Federal reserve act and would not be fair to the other member banks which may be active competitors of the borrowing bank. It may also impair the ability of the borrowing bank in case of insolvency to meet its obligations to depositors." [33] Discussion at policy meetings identified three types of continuous borrowers: banks in an overextended position; those using Federal Reserve credit as a means of enlarging their own operations; and banks borrowing to profit from a differential between the discount rate and their own lending rates.

Other instances of inappropriate discounting or advances to member banks were cited in System discussions. For example, a Reserve Bank should not discount or make advances to member banks when the effect is to perpetuate unsound policies and poor management. Illustrations of the latter were when 60 per cent of a member bank's

[30] Minutes of meetings of practically all of the policy-making groups in the 1920's contained some discussion of discount policy and administration of the discount window. For example, see the following: Conference (1), Nov. 12–16, 1923, especially pp. 102–36, and Nov. 4 and 5, 1925; Conference (4), Nov. 4–10, 1926, pp. 503–25; and Conference (3), Mar. 22–24, 1926, pp. 43–59, and Nov. 8–10, 1926, pp. 28–53.

[31] *Annual Report, Federal Reserve Board, 1923*, p. 33.

[32] *Fifteenth Annual Report of the Federal Reserve Board: Covering operations for the year 1928*, p. 8.

[33] *Thirteenth Annual Report of the Federal Reserve Board: Covering operations for the year 1926*, p. 4.

assets consisted of loans to officers and directors, or when an increase in borrowing from the Reserve Bank was accompanied by a persistent decline in the bank's deposits. In such cases, a Reserve Bank should make advances only when it appears the member bank can be salvaged, and only after a plan is agreed on for eliminating the unsound policies and practices; otherwise, extension of Federal Reserve credit enables some depositors to be paid at the expense of other depositors.

Disuse and revival

From the Great Depression until the Treasury–Federal Reserve accord in March 1951, the discount function fell largely into disuse, and problems other than discount policy were of concern to System officials. Discount rate policy also received relatively little consideration.

Restoration of a flexible monetary policy and revival of the discount function focused attention once again on the role of discount policy. A System Committee was established in 1953 to make a study of the discount mechanism and its role in the new environment. Several staff studies were made, and the committee submitted its report in March 1954. Regulation A was revised in 1955.

The revision of Regulation A largely reaffirmed the guiding principles for discount policy that had been developed earlier. Appropriate uses of the discount window, stated in the form of general principles in the foreword of the revised regulation, were analyzed in more detail in the staff papers and committee report.

Appropriate uses of the discount window may be summarized as follows:

1. To assist member banks in making very short-term reserve adjustments required by a temporary loss of deposits or impairment of liquidity.

2. To assist member banks in providing short-term and, to a limited extent, seasonal credit to facilitate production and the movement of goods through the productive process from raw material to the ultimate consumer. According to the foreword to Regulation A, Federal Reserve credit may be extended to cover "seasonal requirements for credit beyond those which can reasonably be met by use of the bank's own resources."

Permitting member banks to use the discount window to meet all of their seasonal reserve needs was considered undesirable because such a policy would probably result in the creation of excess reserves for the banking system as a whole and interfere with appropriate monetary policy. Moreover, such a policy would not contribute to sound banking practice. Member banks should manage their assets so as to be in a position to meet normal or expected seasonal fluctuations.[34]

3. Borrowing for longer periods is appropriate, according to the foreword to the regulation, "when necessary in order to assist member banks in meeting unusual situations, such as may result from national, regional, or local difficulties or from exceptional circumstances involving only particular member banks." In other words, borrowing for longer periods may be appropriate to enable member banks to meet situations arising out of adverse economic conditions, money panics, or other economic crises that threaten maintenance of sound banking and credit policies or the public interest.

Inappropriate uses of the discount window included:

1. To help finance speculative activities whether in securities, real estate, or com-

[34] See System Committee on the Discount and Discount Rate Mechanism, "Report on the Discount Mechanism," Appendix D.

modities or to enable a member bank to increase its investments (except to assist in the secondary distribution of U.S. Government and other securities).

2. Borrowing to take advantage of a rate differential or for tax avoidance.

3. Borrowing for a purpose that is inconsistent with the objectives of sound credit policy or the public interest.

4. Continuous borrowing—in effect using Reserve Bank credit to supplement a bank's own resources.

The committee report offered several objections to continuous borrowing. First, such borrowing would convert the discount window from a source of temporary and emergency assistance to one of semipermanent investment for a relatively small number of member banks. Second, a small number of banks would probably get an undue proportion of the reserves that should be made available through the discount window consistent with an appropriate monetary policy. Third, large and continuous indebtedness would contribute to an unsound banking practice, create substantial claims prior to that of depositors, and could threaten the stability of the banking system. And fourth, a policy of permitting continuous borrowing might result in the injection of more reserves than would be desirable for monetary policy.[35]

Perhaps it should be pointed out that in the staff studies, the committee report, and the revision of Regulation A no sentiment was expressed for using discount policy to influence the final use of bank credit, except that borrowing to support speculative activities and investments was considered inappropriate.

Elimination of eligibility requirements

The System Committee on Eligible Paper, in its report of May 1962, recommended that present eligibility requirements be repealed and that the Reserve Banks be authorized to make advances to member banks on their own notes secured to the satisfaction of the Reserve Banks, subject to rules and regulations prescribed by the Board of Governors. The recommendation was approved by System officials, and the Chairman of the Board of Governors in a letter to the Chairmen of the Senate and House Banking and Currency Committees of August 21, 1963, recommended legislation to achieve these results. A draft of a proposed bill accompanied the letter.

There were several reasons for the recommendation to eliminate present eligibility requirements and broaden access to the discount window. First, drastic changes in the economy since 1914 have resulted in marked changes in commercial bank assets. A marked trend toward loans of longer maturity and an increase in investments in the past three decades have resulted in a substantial decline in the proportion of bank assets eligible for discounting. In the postwar period there has also been a downward trend in bank holdings of U.S. Government securities. In view of the basic changes that have occurred, elimination of eligibility requirements is desirable in order that the Reserve Banks, "will always be in a position to perform promptly and efficiently one of their principal responsibilities—the extension of appropriate credit assistance to member banks to enable the latter to meet the legitimate credit needs of the economy." [36]

A second important reason for the recommendation is that the narrowly defined eligibility requirements serve no useful purpose. Initially, it was expected that the requirements would result in Reserve Bank

[35] *Ibid.*

[36] Letter from Chairman William McC. Martin, Jr., to the Chairmen of the Senate and House Banking and Currency Committees, Aug. 21, 1963.

credit, including Federal Reserve notes, automatically responding to changing needs of business. Experience soon proved these expectations unjustified. Departures from the principle that Reserve Bank credit should be extended only on the basis of short-term, self-liquidating commercial paper began in 1916 when the Reserve Banks were authorized to make advances up to 15 days on U.S. Government securities. As already pointed out, even more significant departures were made in the early 1930's.

Inasmuch as present eligibility requirements serve no useful purpose, and at some future time might seriously handicap the Reserve Banks in meeting legitimate member bank reserve needs, the emphasis should be on "the soundness of the paper offered as security for advances and the appropriateness of the purposes for which member banks borrow." [37]

Discount rate policy

A thorough analysis and review of the evolution of academic and System thinking about the discount rate as an integral part of monetary policy is outside the scope of this study. The focus of the study is directed primarily to the role of the discount rate as a part of the discount mechanism, particularly the aspects of significance for current appraisal of the discount function as a whole. Thus there is no attempt to give a complete chronological evolution of the discount rate's role in monetary policy. Accordingly, this section deals with the broader course of thinking on the function of the discount rate, with guides for determining changes in the discount rate, and with the effects of changes in the discount rate. The bulk of the material covered deals with the period prior to the Great Depression.

[37] *Ibid.*

Role of the discount rate. The role of the discount rate depends largely on the reliance that monetary authorities put on discount policy and other instruments, such as open market operations and changes in reserve requirements. A widespread belief that frequent borrowing is a sign of weakness and unsound banking policy, a consensus that a penalty discount rate relative to customer loan rates is impractical, a belief that the Reserve Banks should be lenders of last resort, and reliance on open market operations as the principal tool of monetary policy have all tended to relegate the discount rate to a minor role.

There was little in the way of a theory or philosophy of discount rate policy prior to the 1920's. System officials had had no experience in central banking, and initially there was a wide range of views on the principles that should be followed in establishing discount rates—some being relevant for a central bank while others reflected thinking more appropriate for a commercial bank. There were two main views: one that the discount rate should be above bank lending rates in order to discourage discounting for a profit, and the other that the discount rate should be low enough to encourage use of the resources of the new Reserve Banks.

Conditions prior to World War I were not favorable to the development of a discount rate philosophy. Lower reserve requirements provided in the Federal Reserve Act and an inflow of gold supplied banks with ample reserves, so there was little need to borrow or discount at the Reserve Banks. During the war and the postwar period prior to 1920, discount rate policy was directed toward assisting the Treasury in financing the war and the large volume of expenditures that continued into the postwar period.

The marked change in economic environment from the prewar period and the

postwar boom and depression emphasized the need for serious study and consideration of the objectives and instruments of Federal Reserve policy. In the first part of the 1920's annual meetings attended by members of the Federal Reserve Board, and the Governors and Chairmen of the Federal Reserve Banks were devoted entirely to Federal Reserve policy. The consensus was that policy should be directed primarily toward maintaining sound credit conditions and business stability.

There was a sharp difference of opinion within the System on the discount function, as already mentioned. Some favored direct pressure to regulate the use of credit; others thought more reliance should be placed on the discount rate. The latter thought the discount rate had several advantages over direct pressure as a means of credit control: it was impersonal, and it applied to all borrowers alike; it was suitable for regulating the total volume of bank credit, whereas direct pressure was effective only in regulating borrowing of individual banks; and rate changes did affect willingness of individual banks to borrow. It was not necessary for the discount rate to be above bank lending rates to have some restraining influence.[38]

A modern, forward-looking type of philosophy regarding discount rate policy began to emerge in the early 1920's. Discount rate policy should be directed toward mitigating the upward and downward swings of the business cycle. In order to achieve this objective the discount rate should lead market rates on the upswing to prevent or at least mitigate inflation; it should lead market rates on the downswing to prevent liquidation from becoming a strait jacket of deflation. Most System officials believed there was little danger that a low discount rate in depression would stimulate borrowing for inappropriate purposes, as some feared. Business firms do not borrow merely because credit is cheap.

This type of discount rate policy was considered consistent with the provision in the Federal Reserve Act that the rate should be established with a view to accommodating commerce and business. The discount rate should be low in depression periods: ". . . you do not accommodate commerce and business by high rates when four million men are out of employment and business is sick for lack of markets and markets are lacking because the world is more or less in commercial chaos." [39] A reduction in rates when business is in a slump can have a considerable effect in accelerating business revival; an increase when business is booming can do much to restrain, if not prevent, inflation. In implementing this type of discount rate policy, however, "(t)imeliness of action is of the essence of successful Federal reserve action." [40]

The role of the discount rate was influenced significantly by two developments that emerged in the 1920's. First, open market operations began to be used in the early 1920's as an instrument of monetary policy. This diminished reliance on the discount rate and raised the problem of coordinating the two instruments. Second, there was growing support for using Federal Reserve tools to regulate the total quantity of bank credit instead of its quality or use. The shifting emphasis toward regulating quantity instead of quality of bank credit was accompanied by greater reliance on the discount rate and less on discount policy.

[38] Some of the better sources of information on the discount rate in the 1920's are: Conference (1), Oct. 25–28, 1921, Oct. 10–13, 1922, and Nov. 12–16, 1923; Conference (4) Oct. 25–28, 1921; Conference (3), Nov. 2–5, 1925; and "The Discount and Discount Rate Mechanism," statements (June 21, 1954).

[39] See Conference (1), Oct. 25–28, 1921, p. 160.

[40] *Ibid.*, p. 156.

Discount rate policy was of relatively little significance during the long period from the mid-1930's until the accord of March 1951, for reasons already given. Studies of the discount mechanism in 1953 and the System Committee's report in 1954 dealt mainly with discount policy. Consideration of the discount rate was largely in terms of coordination with open market operations.

Discussion of discount rate policy, especially in the 1920's, dealt largely with guides and effects of rate changes and coordination of the discount rate with open market operations.

Guides to discount rate action. Prior to the 1920's the reserve ratio was frequently mentioned as a guide for determining changes in the discount rate, but proceedings of policy discussions indicate that it was rarely, if ever, a major reason for a rate change. A much more important consideration was the relation of the discount rate to market rates—usually the market rate on prime commercial paper prior to the Great Depression and the market rate on 3-month Treasury bills since World War II. As already mentioned, the penalty rate was generally accepted in principle but was considered impractical in terms of bank lending rates.

There was a consensus that the discount rate should lead market rates up in a period of expansion; a discount rate below market rates would likely encourage speculative activity and borrowing to invest at a profit. Keeping the discount rate generally above market rates in a period of expansion would discourage development of a speculative boom and misuse of the discount window.

There was a difference of opinion as to the proper relationship in a downswing. One school of thought was that the discount rate should lead market rates down in a period of declining business activity. Encouraging a decline in interest rates would relieve some of the pressure for liquidation and help to stimulate a revival in business activity. There would be no danger, according to this view, of stimulating speculation and other improper uses of credit. Another school of thought, however, was that on the downswing the discount rate should follow market rates down. The discount rate should not be lowered until an accumulation of funds had brought a decline in market rates. Leading market rates down involved the danger of encouraging speculative borrowing, and the lower rate would not stimulate borrowing for productive purposes.

The objective of trying to maintain economic stability and a growing belief that this required regulation of the total quantity of bank credit shifted attention from maintaining a certain relationship to market rates to a much broader range of information. The Federal Reserve Board in its Annual Report for 1923 stated: "Broadly stated, an effective Federal reserve discount rate will be one that gives effective support to a Federal reserve bank's credit and discount policy. The objective in Federal reserve discount policy is the constant exercise of a steadying influence on credit conditions." In deciding whether to change the discount rate, officials should look to the total flow of credit and general business and financial conditions. In 1931, a System official stated, "(I)f central banking authorities see and have reason to believe in view of the statistics available to them that the total volume of credit of the country is expanding at a rate and volume faster than any normal growth of business could justify, it is incumbent upon the central banking authorities to put pressure or restraint on that growth by an increase in the rediscount rate." [41]

[41] U.S. Senate, *op. cit.*, pp. 67–68.

Discretion based on a large amount of business and financial information instead of a few guides was needed for sound decisions in making discount rate changes. This view was well stated in the Board's Annual Report for 1923:

> No statistical mechanism alone, however carefully contrived, can furnish an adequate guide to credit administration. Credit is an intensely human institution and as such reflects the moods and impulses of the community—its hopes, its fears, its expectations. The business and credit situation at any particular time is weighted and charged with these invisible factors. They are elusive and can not be fitted into any mechanical formula, but the fact that they are refractory to methods of the statistical laboratory makes them neither nonexistent nor nonimportant. They are factors which must always patiently and skillfully be evaluated as best they may and dealt with in any banking administration that is animated by a desire to secure to the community the results of an efficient credit system. In its ultimate analysis credit administration is not a matter of mechanical rules, but is and must be a matter of judgment—of judgment concerning each specific credit situation at the particular moment of time when it has arisen or is developing.[42]

The view that policy actions should be based on informed judgment instead of rules or a few statistical guides still prevails.

Effect of rate changes. The effect of discount rate changes was also the subject of considerable study in the early 1920's. Many System officials thought the discount rate had little influence on the volume of member bank borrowing. The principal reason was that it was impractical to keep the discount rate above bank lending rates, with the result that banks could usually employ profitably funds borrowed from a Reserve Bank.

Some officials disagreed. They thought the cost effect of rate changes influenced willingness to obtain additional reserves by borrowing even though the discount rate might be below bank lending rates.

There were two linkages whereby a change in the discount rate might influence the volume of bank credit. First, an increase in the discount rate made borrowed reserves more expensive and caused member banks to scrutinize their loan policies more carefully. Second, the discount rate served as a signal to the public of Federal Reserve policy intentions. An increase in the rate was interpreted as an indication that credit was likely to be less readily available as well as more expensive. As a result, business enterprises were less willing to enter into future commitments in anticipation of higher prices or for other reasons.

Attempts were made to determine whether changes in the discount rate affected the rates that banks charged their own customers. Surveys and discussions with bankers indicated there was little effect on the lending rates of smaller banks; however, there was some effect on rates charged by the larger banks in financial centers. Large borrowers with alternative credit sources would often use a reduction in the discount rate as a bargaining point for lower rates. The discount rate also had some effect on loan rates tied more closely to market rates, such as brokers' loans and bankers' acceptances.

Academic economists apparently had more confidence in the effectiveness of the discount rate than most System officials. Leading economists thought that low discount rates were largely responsible for credit expansion and rising prices after World War I and that increases in the discount rate in 1920 had been a major factor in checking the expansion. They, too, thought that increases in the discount rate caused banks to be more careful about loans and induced some of them to raise their own lending rates. An increase was also interpreted by the public as a signal of more expensive and tighter credit. Some

[42] *Annual Report, Federal Reserve Board, 1923,* p. 32.

economists disagreed, pointing out that interest cost is only a small part of total costs.[43]

Coordination with open market operations. Open market operations were discovered as a valuable tool of Federal Reserve policy in the early 1920's. It was soon recognized that when properly coordinated the two instruments used in combination were more effective than either used singly. For restraint, open market operations could be used to force member banks to the discount window, thus making an increase in the discount rate more effective. And a policy of ease would be more effective if a reduction in the discount rate were combined with open market purchases to supply reserves and reduce member bank indebtedness to the Reserve Banks.

Turner, as a result of his studies in the mid-1930's, concluded that Federal Reserve policy would be more effective if more emphasis were placed on the discount rate and less on open market operations. Open market operations could be used to offset the reserve effect of market factors and to maintain a more stable and continuous volume of borrowing from the Reserve Bank. The latter would provide the basis for more effective use of the discount rate. Adjusting the discount rate relative to market rates on alternative reserve adjustment media would enable the System effectively to encourage or discourage expansion.[44]

Coordination of the discount rate with open market operations was discussed occasionally in the 1950's. There was some difference of opinion as to whether a policy shift should be initiated by open market operations or by a change in the discount rate. Some favored probing with open market operations, pending clearer evidence as to whether a definite move toward restraint or ease would be desirable. Open market operations have less psychological impact than a change in the discount rate and are flexible as to both timing and amount. Such operations could be reversed, if desirable, without the risk of serious psychological repercussions that might accompany a rollback in the discount rate.

Others favored discount rate action to initiate a change in policy. Leading with open market operations to implement a restrictive policy would likely result in the discount rate being below market rates much of the time. There would be an inducement for banks to borrow from the Reserve Banks instead of adjusting reserve positions in the market, and to borrow from the Reserve Banks in order to invest the proceeds at a profit. Monetary restraint would be rendered less effective. With the discount rate leading market rates upward, the restrictive effects of open market policy would be reinforced instead of alleviated.[45]

[43] See Beckhart, *op. cit.*, pp. 467–71; and Caroline Whitney, *Experiments in Credit Control: The Federal Reserve System*, pp. 211–17.

[44] See Turner, *op. cit.*, pp. 145–60.

[45] For example, see Minutes of the Federal Open Market Committee, Aug. 23, 1955.

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THE DISCOUNT MECHANISM IN LEADING INDUSTRIAL COUNTRIES SINCE WORLD WAR II

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Foreword

The objective of this study was to acquaint the Steering Committee with discount policies and techniques used by the central banks of leading industrial countries, in particular since World War II. Interest focused on the role of discounting as a tool of monetary policy in relation to other tools for each of 11 countries, as discussed in some detail in Part 2 of this paper. No attempt was made to appraise the efficiency of discount policy in each country. Such an endeavor would have required review and evaluation of a wide range of factors and conditions, which far exceed the resources and time available.

Given the considerable differences in the framework in which the discount mechanism operates in the United States and in each of the countries covered, the first part of the monograph attempts to bring out the main differences in institutional and policy environments that must be kept in mind when analyzing the potential of the discount mechanism in the United States against the background of foreign experience. In view of the general objective of the study, the review is not limited to policies and techniques that were being used at the time of the study, because in some cases discarded or radically modified arrangements represent interesting variants, and the reasons for dropping or for changing the original techniques cast some light on the problems encountered.

The author has benefited from comments and suggestions by Ralph A. Young and Robert F. Gemmill, members of the Secretariat, who had special responsibilities for this project. Robert C. Holland made substantial contributions to the analysis embodied in several chapters of Part 2. The initial drafts of the country studies that constitute Part 2 were written by Ruth Logue of the Board's staff (France, Netherlands, and Switzerland) and by Dorothy B. Christelow (Belgium and Sweden), Rachel Floersheim (Austria and Federal Republic of Germany), Leon Korobow (United Kingdom), Isaac Menashe (Canada and Italy), and Joachim O. Ronall (Japan), of the Federal Reserve Bank of New York. Mr. Stephen V. O. Clarke of the New York Bank also participated in preparing Part 2. I am also indebted to officials of the central banks of the individual countries whose discount mechanisms are described in Part 2 for their invaluable assistance.

The present study is a revised version of the report submitted to the Steering Committee in early 1968. For the most part the various country chapters in Part 2 do not include data or comments concerning the period after mid-1970. A Spanish translation of Part 1 of this study was published in 1969 by the *Centro de Estudios Monetarios Latinoamericanos,* Mexico City, under the title "El Mechanismo de Discuento Como Instrumento de Politica Monetaria."

Part 1

THE DISCOUNT MECHANISM AS A TOOL OF MONETARY CONTROL

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Part 1

THE DISCOUNT MECHANISM AS A TOOL OF MONETARY CONTROL

INTRODUCTION

Generalizations concerning the role played since World War II by the discount mechanism in the monetary policy of each of 11 leading industrial countries surveyed in this study [1] are difficult to make. In each country discount policy has been shaped by the specific characteristics of the country's economy and financial structure, the evolution of its economic philosophy, and its actual postwar experience. Generalizations must be distilled largely by rationalizing the reasons for observed differences in policies and their evolution over time.

The specific role played by the discount mechanism has depended in each instance on the policy objectives of the central bank, and in particular on the way in which the bank has supported government economic policies other than the traditional endeavors to defend the internal and external value of the national currency and to insulate it from disruptive influences from abroad. Concern with the widening and proper functioning of capital markets, including assistance in the financing of the public sector, has grown in importance since World War II, along with an older concern about the need to stimulate exports.

The way in which discounting is used in each country at a given time generally depends less on theoretical considerations and preferences than it does on policy objectives and on institutional realities, possibilities, and constraints. In particular, discounting depends on (1) the extent to which foreign exchange surpluses or deficits are subject to short-term variations; (2) the availability of alternative control mechanisms (such as cash reserve requirements, liquidity ratios, and open market operations); (3) the ability of banks to make short-run adjustments through their investment portfolios; and (4) the existence of facilities to redistribute excess reserves through an interbank money market.

The choice of instruments to implement policy goals normally depends on the trade-offs in terms of positive and negative side effects and, most importantly, on the degree of precision that may be expected from relying on any one of the instruments, singly or in combination, to achieve the desired effect.[2] Moreover, in each of the coun-

[1] Austria, Belgium, Canada, France, Federal Republic of Germany (West Germany), Italy, Japan, Netherlands, Sweden, Switzerland, and United Kingdom; "foreign central banks" or "other banks" always refer to such banks in these 11 countries. Parenthetical references in Part 1 are not intended to be exhaustive, but merely to refer the reader to one or two specific examples that can be found in the country chapters in Part 2.

[2] In some countries the authority for monetary control is quite diffused. Different agencies may have the authority to set the discount rate, liquid assets ratios, or credit and reserve ceilings and to determine eligibility requirements (or give final approval to such actions). Their actions are not always perfectly coordinated, even when elaborate coordinating agencies or arrangements exist.

tries surveyed, the current role of the discount mechanism reflects not only the policies of the central bank with regard to the means it chooses (or has at its disposal) to influence the cash position of banks but also the willingness of banks to fully use the discount facilities available.

Against the background of the experience of the leading industrial countries, the discount mechanism in the United States, no less than our entire monetary and banking system, appears to be unique rather than a variant among many similar systems.

PROVISION OF CENTRAL BANK CREDIT AT THE INITIATIVE OF THE BANKS

Discounting is the oldest instrument of central bank policy, and for a long period it was practically the only such instrument. Discounts and advances together are still the most important avenue for changing the reserve base at the initiative of commercial banks. The flexibility inherent in discounting has preserved the usefulness of the device even where the range of tools available to the central bank has been expanded considerably. Our review of foreign experience encompasses both discounts and advances, even though in none of the countries surveyed are the two methods of obtaining reserves strictly equivalent in terms of cost, as they are in the United States.

Basically, central bank policy becomes effective by affecting first the liquidity of commercial banks; through it, the liquidity of the entire economy; and finally, the level of real activity and the country's international payments position. Changes in bank liquidity are normally reflected in market rates of interest—which as a rule are closely related to the volume of borrowing from the central bank—and in the volume of money and credit available to the economy.

Central bank policy may aim primarily to influence either market rates or the volume of money and credit. The choice between these two basic approaches to monetary control depends in each country on specific conditions, including institutional arrangements and linkage processes, as well as on prevailing monetary views. Foreign experience provides illustrations for the two basic approaches and for a number of variants.

An example of the first approach is found in countries where the authorities aim at maintaining a level of short-term rates consistent with domestic and external objectives. The discount rate is used as an anchor for the entire structure of interest rates. Banks then determine how much they want to borrow at the discount rate.[3] The alternative approach is to place primary reliance on regulation of the volume of reserves rather than on their price. Access to reserves may be governed by quantitative controls as well as by restrictive eligibility requirements. Such controls are tantamount to nonprice rationing, and they may be designed to achieve multiple objectives. Nevertheless, countries that rely on quantitative controls to influence the cash position of banks may still assign to the discount rate an important role in regulating international capital movements, or they may use changes in the rate to support quantitative and related control techniques;

[3] A variant is to consider the discount rate as the upper limit of the proper range of short-term rates, and to make it effective by open market or foreign exchange operations when market rates tend to fall away from it. Another variant is the tying of the discount rate to a market rate that becomes the focus of central bank control.

but in such instances administrative discipline, rather than price, is the main tool of monetary management.

In the absence of significant alternatives, most of the countries surveyed regard discounts and advances as a normal means for adjusting bank liquidity positions. In fact, in some countries discounting is considered a usual source of a considerable part of the banking system's cash reserves rather than merely as a safety valve, available for the most part to provide credit for only very short periods, pending adjustment of banks' assets and liabilities. Other central banks, however, still insist that funds should be sought at the discount window only to meet seasonal and other specific temporary and reversible needs.

If the central bank has alternative means for injecting and absorbing reserves, it may use these tools in various combinations to achieve the desired effects and it may also vary reserve requirements. It normally pursues its rate or reserve-base aims by absorbing or supplying bank cash. It is possible for the central bank (1) to control (and vary) the conditions under which banks may obtain additional reserves at the discount window (through rate, qualitative, or quantitative controls, or through some combination of these three means) but to refrain from modifying the resulting volume of borrowing; or (2) to adjust the quantity of reserves obtained at the initiative of the banks to its own targets by undertaking offsetting (or supporting, as the case may be) operations through other channels. In this case, the extent to which commercial banks adjust their cash positions through the discount window depends on the volume of reserves that the central bank makes available to the market by other means. One of the significant aspects of the closer integration of monetary management with over-all public economic policy since World War II has been an effort in several countries to shift the initiative for injecting (and withdrawing) reserves from commercial banks to the central bank.

Operations at the discount window can influence the supply of bank credit and money (by affecting the reserve base or through the rate effect, or both) only if the banking system needs to borrow. A central bank may use various means to force banks to seek additional cash from it in order to make the rates on discounts and advances effective. Specific techniques include operations in exchange markets, open market sales of securities (United Kingdom), increases in reserve requirements (Austria), and reductions in discount quotas to force banks to seek accommodations at the higher rate on advances (West Germany).

To achieve sufficiently tight control over bank cash, the central bank must be able to estimate with a good deal of precision the timing and amount of open market or foreign exchange operations required to achieve the desired rate effects. By providing less than the full amount of reserves required to support seasonal, cyclical, or secular expansion of bank credit (for instance, by abstaining from purchasing securities in the open market), the central bank will force the banking system to the discount window. (The classical case of this is in the United Kingdom where, however, the borrowing is undertaken indirectly, through discount houses). The volume of discounts, interpreted in relation to changes in the central bank's securities portfolio and to changes in relevant cash and liquidity ratios, will be a direct indication of the state of monetary stringency.

In some countries, "refinancing" of bank credit at the central bank is common. A considerable part of the credit in use in the private economy is, in the final instance, provided through the discount window.

Moreover, the cash positions of banks are usually so tight in these countries that banks must go to the central bank for additional refinancing during periods of seasonal or cyclical pressures. In countries where cash reserve requirements exist, quasi-permanent borrowing by individual banks is tantamount to an offset to such requirements.[4] In countries where reserve requirements do not exist, but where banks maintain (or are expected to observe) conventional liquidity ratios, resort to discounting in effect reduces the borrowing bank's net liquidity position. Thus, in all countries the frequency of borrowing by individual banks and the aggregate amount of discounts and advances outstanding are elements that must be considered in interpreting (and influencing) the central bank's policy posture.

In countries where rediscounting is insignificant (either in relation to bank cash, or as a means of making seasonal adjustments in it), the reason is usually traceable either to excessive liquidity caused by foreign exchange inflows or postwar monetary overhangs (as in Switzerland; and for part of the past decade, in Sweden and Austria) or to other circumstances that have reduced the importance of discount policy.

Indeed, the ability of a central bank to use rediscounting as the main tool of monetary control relates directly to the size and types of commercial banks' assets. These portfolios must not be such as to provide automatic or semiautomatic access to central bank credit. Over long periods many central banks were confronted with the problem of controlling excess liquidity in their banking systems and of neutralizing the effects of foreign exchange surpluses. In the immediate postwar years, banks everywhere generally had an overhang of war-generated liquidity. In subsequent years and in varying degree, the individual countries covered by this study also experienced balance of payments surpluses—in large part the counterpart of U.S. deficits—and at times were exposed to speculative inflows of foreign capital.

In such circumstances the need for the commercial banking systems of most of the countries covered, and in particular those of continental Europe, to obtain liquidity at the discount window was much reduced. Indeed, in many countries the balance of payments surpluses during extended periods were much too large to be neutralized by any means of monetary policy, and in several the central problem of monetary policy since World War II has been to limit the monetization of the inflow of foreign exchange.

Thus, since World War II in most of the countries covered by the present study, discounts and advances have provided only a small—and in many cases, an insignificant—part of the funds needed to offset seasonal and cyclical fluctuations in the cash base and to meet growth requirements. Although excess liquidity and the opportunities for obtaining funds abroad reduced sharply the need to borrow from the central bank, a complete atrophy of the discount function (similar to the U.S. experience in the period after the depression of the 1930's and well into the post-World-War-II period) did not develop. The reasons for this were the wider seasonal swings in foreign exchange surpluses and in circulating currency, a less-developed interbank money market, and a lesser use of open market operations.[5] The accompanying table indicates that, in contrast to the United States, changes in holdings of foreign assets since

[4] Borrowing in excess of applicable reserve requirements has severely affected the usefulness of this monetary tool in several Latin American countries.

[5] Development of a national market for reserves reduces the need for borrowing from the central bank, as does concentration of banking and the growth of branch-banking systems.

the return to convertibility in most of the countries covered have been a very important, or even predominant, factor in changes in total asset holdings of central banks; in some countries this was true even in the earlier postwar period.

CHANGES IN CENTRAL BANK ASSETS

(In billions of national currency units)

Central bank of—	Period	Net foreign assets	Net domestic assets
Austria	1958–69	26.3	3.6
Belgium	1958–69	70.1	—1.8
Canada	1958–69	1.4	1.0
France	1958–69	10.1	37.3
West Germany	1958–69	4.2	22.9
Italy	1961–69	1,003.0	5,217.0
Japan	1958–69	1,056.0	3,038.0
Netherlands	1958–69	5.4	—.2
Sweden	1958–69	.9	5.8
Switzerland	1958–69	.1	1.1
United Kingdom	1963–69	—2.2	3.5
United States	1958–69	—7.5	43.4

NOTE.—Net foreign assets = foreign assets — foreign liabilities.

Net domestic assets = (claims on government — government deposits) + claims on other official entities + claims on private sector + claims on deposit money banks — other items, net.

SOURCE.—IMF, *International Financial Statistics*.

Discounts

Central banks of the countries surveyed (and of many of those elsewhere) have retained traditional forms and practices of providing credit to the banking system—that is, they have given preferential treatment to credit extended by discounting promissory notes. This prominence of rediscounting abroad reflects in part the survival of the trade bill as an instrument for short-term credit accommodation. The continuing, although perhaps diminishing, use of such bills in turn is traceable in some countries to the very significant role played by foreign trade in relation to gross national product.

Access to the discount window is traditionally based on eligibility requirements with regard to purpose, maturity, and the credit standing of drawee and endorser. While the stress is on the self-liquidating character of the paper discounted, there is no tendency on the part of the central banks surveyed to question the ultimate use made of the funds supplied or to consider that lending for productive purposes is more appropriate than for other uses. Terms and conditions, including eligibility requirements and maturity, are usually specified in a broad way by legislation and are administered by the monetary authorities, which set policy objectives and promulgate various operating rules that may include differentiated rates. In most countries the applicable discount rate depends on the nature of the paper offered (in some cases this applies to advances as well).

The ability to rediscount a particular credit is usually an important factor in determining bank attitudes toward loan applications. In particular, the status of the trade bill at the discount window has been an important factor in preserving the role of the bill. In a few countries, such as Japan, changes in eligibility requirements have been used as a tool of monetary control. Varying eligibility requirements in accordance with policy objectives give the central bank additional flexibility but—as in other instances—policy requirements may not be consistent with other considerations, such as safety.

However, eligibility rules by themselves are of limited significance in controlling the aggregate volume of discounts if commercial banks dispose of an adequate volume of paper that can be substituted for any specific items judged substandard. Similarly, the prior-authorization procedure (in France and Belgium) is by itself an insufficient means of controlling discounts if credit demands are strong enough to produce alternative requests to replace rejected applications.

While in all countries the discount function had its origin in the "real bills" doctrine, the degree to which it has weathered the changes in credit needs and financial structure that have occurred since the depression of the 1930's varies from country

to country. However, the administration of the discount window everywhere is now generally subordinated to over-all objectives of monetary policy. Indeed, in several countries the central bank has wide discretionary powers under the law to regulate access to discount facilities and to vary the conditions under which it will make discounts. These powers generally permit the central bank to refuse (usually without having to give any reason) accommodation even when the commercial bank can submit stipulated types of paper.

This discretionary power may lend considerable effectiveness to the central bank's over-all ability to influence commercial bank behavior. In effect, discounting assumes the role of an enforcement mechanism, because some central banks make it clear that access to the discount window depends on compliance with the over-all objectives of monetary policy and that such compliance is often the price to be paid for extending the discount privilege to certain classes of institutions other than commercial banks. In some countries, however, access to the window within stipulated ceilings and quotas is considered by the commercial banks as a right.

The review of paper offered for rediscounting gives central banks an insight into the credit policies followed by commercial banks. This is an important feature, because in most of the countries that have large numbers of commercial banks the central bank has few or no direct and current contacts with many commercial banks, except at the discount window. In countries where the central bank typically provides a large proportion of total bank reserves through the window, the need to renew the discounted portfolio affords the central bank a means for continued surveillance of commercial banks' lending.

In many cases, compliance by commercial banks with the wishes of the central bank is also reinforced by various supervisory powers of the central bank and by the threat of requests for additional powers if voluntary cooperation is not forthcoming. Informal arrangements to obtain compliance may involve (1) a "gentlemen's agreement"; (2) periodic conferences between the head of the central bank and heads of the large commercial banks; or (3) formal "window guidance," as in the case of Japan in certain periods.

Advances

While rediscounting of bills of exchange in many of the countries covered is still an important channel for supplying central bank credit to the private sector of the economy, foreign central banks have found it necessary to broaden discounting techniques and to introduce additional ways to provide credit for reserve adjustment purposes. One way has been through advances against collateral. Such advances originally played the role of a safety valve, but in recent years they have become in some countries the normal way to obtain short-term accommodations at the central bank. Other recent techniques include repurchase agreements [6] and direct purchase of acceptances. Such credit may be extended at the initiative of the central bank or at the initiative of borrowers (as in the case of money market dealers in Canada, within credit lines established for them). For decades most borrowing at the Federal Reserve Banks has

[6] The need for repurchase agreements arises primarily when conditions applicable to regular discounting are too restrictive (when paper offered must have a specific minimum maturity, or discounts are made for the remaining life of the instruments only) or when the borrower cannot be expected to dispose of an adequate volume of eligible paper (as in the case of Canadian money market dealers).

been in the form of advances instead of discounts. Central banks in most foreign countries, however, still make a distinction between discounts and advances and in some the distinction serves to differentiate access as a right and access as a privilege.

There is little uniformity between advances and rediscounting in the ease or relative cost of obtaining funds. Normally, the rate structure and other terms and procedures are designed to make advances available from the central bank—when banks have reached their discount ceilings (West Germany) or have run out of paper eligible for discounting—only at a penalty rate. Advances (referred to in some European countries as "Lombard credit") are often made on collateral that is not eligible for rediscounting, such as long-dated government debt. The required collateral may be limited to government securities (as in West Germany and Belgium) or to a broader list of specified securities.

In line with traditional "real bills" theory, advances are usually made only for very short periods. Sometimes it is more advantageous to borrow for a shorter time at the (typically higher) rate on advances when such loans can be paid off without restriction (West Germany) than it is to rediscount. And even if the rates for discounts and advances are identical, other terms may favor one of the two. This is often true, for example, in the United Kingdom, where the fact that advances can be obtained for shorter periods than discounts makes advances a less expensive source of funds (to the discount houses, in the given case), provided, in accordance with its policy (rate) objectives, the Bank of England is willing to make advances at the given time. On the other hand, the opposite is true in Canada, where the minimum duration of advances is 7 days.

Although some countries have gone to considerable lengths to maintain the conceptual and operational distinctions between discounts and advances,[7] most countries do rely more on one than on the other. In most of the countries surveyed advances are regarded as a less normal and less desirable means of providing reserves, and such accommodations are extended at a higher rate (as in West Germany and Austria, for instance) and/or for a limited time only. Advances at the discount rate may be made up to a ceiling amount set for each bank (which may be confidential); advances of additional amounts may be made at a penalty rate (as in Canada, where this rate is subject to case-by-case negotiation). The rate on advances (or its equivalent, which represents the highest rate at which banks actually borrow from the central bank) tends to set an effective ceiling on money market rates.

In other countries (as in Italy and the Netherlands), advances rather than discounts have become the common technique for extension of central bank credit. This is true in particular where the central bank encourages the use of advances by making them available on essentially the same terms as discounts. Greater reliance on advances reflects, by and large, changes in the structure and techniques of bank lending as well as a shifting away from the "real bills" doctrine. On the whole, advances may be regarded as the method likely to grow in relative importance over the years.

All central banks recognize that their role as lender of last resort is a crucial one, and discounting continues to be widely used to implement this role. Even in countries that use discount ceilings or where alternative means for injecting liquidity on a mas-

[7] In West Germany, discounted bills, but not advances, qualify as cover against note issue.

sive scale (for instance, through open market operations) are available, central banks may not refuse to lend at some price if the would-be borrower meets the formal requirements with regard to collateral or eligibility.

WIDENING OF THE RANGE OF OBJECTIVES AND TOOLS OF MONETARY POLICY

In all of the countries surveyed the scope of official economic policies has been broadened since World War II to include objectives similar to those proclaimed by the U.S. Employment Act of 1946; and in several countries the use of the discount mechanism has been adapted in various ways to the new policy objectives. Indeed, for this and other reasons—some of which are discussed below—in most of the countries surveyed the discount mechanism has undergone considerable change over the last quarter of a century, and no country currently relies on it as the sole tool of monetary policy. Adaptation of the traditional discount mechanism (including the shift from rediscounts to advances) to new needs and to new conditions has been accompanied by the development of new tools of monetary management. Many of these tools were pioneered by the Federal Reserve System.

In considering the evolution of the discount mechanism since World War II, one must keep in mind that each of the countries covered by this study—with the exception of Canada, Sweden, and Switzerland —has gone through a long and difficult period of economic adjustment and reconstruction in which various types of direct controls were used, some of which were continued into the 1960's. Because of the urgency of the postwar reconstruction, financial aspects were often pushed into the background; monetary policy was expected to contribute by facilitating and implementing attainment of targets that were set in terms of capacity, output, and/or technological progress. Such implementation often involved subsidy-level interest rates, "direction" of credit, and use of rediscounts as a means of providing funds for specific activities in preference to budget financing or as a substitute for private capital formation.

Excessive credit demands and lack of sufficient internal funds to support high rates of capital formation have characterized the economies of the countries studied during much of the period since World War II. In general, monetary policies of these countries (with the exception of the United Kingdom and Canada) in this period have endeavored to limit and regulate access to the discount window by specific rules, including quantitative provisions (allowing in some cases for procedures that amounted to little less than direct extension of credit for purposes having national priority); this has been true in particular of countries in which banks were not reluctant to remain in debt to the central bank. In several countries this condition led to the establishment of discount ceiling quotas for individual banks. In some countries the authorities have gone even further by establishing direct ceilings for bank credit expansion; in others they have endeavored to keep growth of bank credit in line with official objectives through informal directives.

Indeed, the conditions and challenges that emerged after World War II caused

several of the central banks surveyed to seek broader powers and to develop new tools of monetary management rather than to try to meet the new conditions by relying on the adaptability of the discount mechanism. In most countries the discount mechanism has been increasingly supplemented by other tools of monetary management; in particular, constraints on the use of changes in rates have led to the development of alternative policy tools and techniques and to the introduction of new ones.

The need to supplement the discount window by other control mechanisms can be traced to several factors, including (1) changes in the structure of commercial bank portfolios, with a declining proportion of discountable paper; (2) various constraints that tend to limit the central bank's latitude for using the discount rate as a rationing device; and (3) the tendency of commercial banks to make excessive use of the discount window in view of the willingness of the banks' customers to borrow at rates considerably higher than the discount rate. In several countries, as indicated earlier, the discount window was inadequate to deal with the consequences of huge and fairly persistent balance of payments surpluses. The need for new tools was felt most keenly in countries where external and internal considerations were flashing conflicting signals with regard to the discount rate.

As a result, the discount mechanism has undergone considerable change. The most significant aspect of this change has been the resort to quantitative limitations, and thus to a lessened dependence on changes in level of the discount rate itself. After World War II it became clear that the politically acceptable range within which the discount rate could be varied had narrowed and that a number of developments were inhibiting free and frequent use of changes in the discount rate. The reasons for these developments may be summarized as follows:

(1) Fear that the signal would be overinterpreted.

(2) Fear that large fluctuations in the rate would produce disruptive effects on the market for government securities and, more generally, on capital markets.

(3) Fear that automatic linkage between the discount rate and bank loan and/or deposit rates would tend to produce politically unacceptable levels of interest rates.

(4) Fear of inducing undesirable international capital flows that would offset intended effects of changes in rates on the domestic economy.

Because of these restraints on a flexible use of the discount rate, nonrate rationing of loans and manipulation of reserves acquired through balance of payments surpluses became supplementary, and in some cases alternative, tools of monetary control. Variable cash reserve requirements, liquidity ratios, and open market operations have been introduced since World War II in a number of countries as additional monetary tools, but in most countries they remain of limited significance (particularly for day-to-day control of reserve availability).

Most of the countries surveyed (the United Kingdom and Canada being the conspicuous exceptions) have not succeeded in developing markets for short-dated government debt that are broad enough and active enough to provide a main avenue through which to supply or absorb bank reserves, and such Treasury bill markets as do exist are extremely narrow. In such countries operations to adjust

bank liquidity (as well as Treasury debt operations) often involve direct dealings between the central bank and the commercial bank, rather than impersonal transactions through the market. In several countries bank liquidity can be affected by issuing to banks special Treasury instruments (usually a special category of Treasury bills, not available to the general public). These carry rates that are deemed appropriate by the authorities, not rates that are set by market bidding; and they are repurchased not at market rates, but at posted rates, as in West Germany.

Because of the unavailability or limitations of new monetary tools, most of the countries covered sought to achieve greater monetary restraint through nonprice rationing at the discount window, and some sought to shield certain sectors (for example, export financing, municipal borrowing, home mortgages, and so forth) from the effects that would have resulted from price rationing. Regulation of access to discount credit through quantitative limitations on borrowing (rather than by tightening eligibility requirements) became a policy tool. Hence, availability of eligible paper became a necessary, but not sufficient, condition for access to central bank credit, thus moving away from the automatism of the real bills doctrine.

Eligibility and collateral requirements for discounts and advances have always tended to influence the composition of commercial banks' portfolios (and, presumably to a lesser extent, the portfolios of other financial institutions having direct or indirect access to the discount window). In recent years several countries (for example, France and Japan) have added restrictive features to the discount mechanism with a view to restraining excessive use of central bank credit and to channeling bank credit into priority uses.

In some countries the discount window has been used to influence credit flows, usually by compartmentalizing discount procedures and by establishing a whole hierarchy of rates from preferential to penalty. Central bank credit has also been used rather widely as a supplement, or even as an alternative, to budgetary financing in implementing a variety of officially sponsored programs, including implementation of national investment plans. In such cases, institutional arrangements have been made for formally meeting the requirement that discountable paper be short term by substituting a series of short-term notes for the original medium-term loans.[8] Other examples of the use of discounting as a means of financing governmental programs are found in Switzerland (financing of defense stocks of raw materials) and Italy (agricultural price-subsidy programs).

The discount mechanism thus has grown in complexity in part because in many countries it is being used to meet specific objectives for which it offers certain advantages, both technical and budgetary. The need to resort to a variety of artifices to fit the letter of the requirements of the discount window arose, in part, from the inflexibility of the banking laws of various countries and the unwillingness or inability of governments to introduce desirable changes.

New techniques had to be introduced to sterilize the inflow of foreign exchange and to adjust monetization of domestic assets to variations in balance of payments surpluses. Central banks have endeavored (paralleling similar efforts with regard to meeting do-

[8] It should be noted, however, that use of the discount mechanism for stimulating investment, including provision of central bank credit on a semipermanent basis, has resulted from shortcomings in capital market structure and processes, not from any inherent superiority of discounting as a means of achieving policy objectives in this field.

mestic challenges) to develop alternative policy tools that would reduce reliance on the discount rate to prevent or correct imbalances in international accounts and, in particular, to cope with wide swings in foreign exchange flows.

Because foreign commercial banks usually keep part of their liquid assets abroad, mainly in the form of interbank balances and money market assets (subject to applicable foreign exchange control regulations), regulation of foreign exchange holdings of commercial banks has become one of the most important tools of monetary policy in several countries. Since convertibility of major currencies was re-established in 1958, closer integration of financial markets and the growing importance of banks and other financial institutions that operate across national borders —borrowing from their foreign branches and/or in foreign money markets, including in more recent years the Euro-dollar market—have provided commercial banks with additional sources of liquidity in periods of temporary strain and thus have further reduced the need for these banks to seek accommodation at the central bank.

A common objective of measures adopted in individual countries has been to control commercial bank liquidity that has resulted from foreign exchange inflows, and more generally to develop a foreign exchange policy that would support other monetary tools. Management of official exchange reserves can supply some of the day-to-day flexibility that otherwise would be lacking because of the limited scope (or absence) of open market operations and because of a variety of factors that reduce the flexibility of other policy tools. Several techniques are used to influence liquidity positions of banks in the countries covered. Among these are: (1) extension of foreign currency loans (by the central bank or by a separate foreign exchange institution typically managed by the central bank), (2) spot and forward swap arrangements, (3) forward exchange transactions, and (4) manipulation of reserve requirements against foreign deposits (West Germany, Switzerland). A variety of techniques have been applied in several countries to cope specifically with international capital movements; one of these—used in Italy, Switzerland, and Germany—prohibits payment of interest on foreign deposits. Furthermore, some central banks have taken measures to control commercial banks' borrowing abroad and to regulate their net positions in foreign currencies—by placing limits on the amounts of liabilities or foreign currency claims that banks (and nonbank institutions) may assume and by other means.

MAIN CONTRASTS WITH THE UNITED STATES

On the whole, since World War II the countries covered have relied more heavily upon the discount mechanism than the United States has to achieve domestic and external monetary policy goals by influencing the supply of credit, the cost of money, and the market pattern of rates. Before reviewing the various technicalities of the discount mechanism in each of the countries covered by this study, it might be useful to comment on the nature and extent of differences in the setting in which monetary policy operates in the United States and in the countries surveyed. These differences range from forces that cause fluctuations in the reserve base to institutional factors in the

financial area and beyond. But quite generally, access to central bank credit in each country is embedded in policy considerations, institutional arrangements, and procedures that are somewhat different from those in the United States.

In all of the countries surveyed, foreign trade accounts for a much larger proportion of gross national product than it does in the United States. For this reason international considerations are traditionally a main focus of monetary policy, and day-to-day management of foreign exchange reserves requires considerable official attention. Since commercial banks in these countries keep part of their liquidity abroad, mainly in the form of interbank balances and money market assets (which are subject to foreign exchange control regulations), regulation of foreign exchange holdings of commercial banks in several of the countries is one of the most important expressions of monetary policy.

Bank credit accounts for a much larger share of domestic credit flows in the countries surveyed than it does in the United States; we would go too far afield if we attempted to examine the underlying reasons for this variation. However, some of the reasons may be stated, although they apply to a different degree for each given country. Among the reasons are the relative narrowness of capital markets; the fact that a large part of capital formation bypasses these markets; the pre-emption of a considerable part of savings by the national government and by quasi-governmental institutions; and the lesser importance of financial intermediaries (in some cases a direct effect of earlier disastrous inflations). On the other hand, the predominant role of commercial banks in credit markets—especially in serving credit needs of private business—has usually resulted in rapid transmission to the central bank of fluctuations in credit demands.

Another significant difference in many of the countries studied is that an important segment of the commercial banking system is nationalized (as in France and Italy); in such instances public and specialized quasi-public credit institutions have access to the discount window. While nationalized commercial banks usually operate in much the same way as those privately owned and do not enjoy any preferential treatment at the discount window, subtleties may be involved that are difficult to detect.

Specialized quasi-public credit institutions usually combine several activities; these include (1) centralizing temporarily redundant resources for national networks of institutions with similar specialties; (2) providing rediscount facilities for these institutions; (3) attracting certain types of savings; and (4) channeling government funds into long-term investment. Giving such institutions direct access to the discount window broadens the original function of the discount window because central bank credit is used to implement certain priorities set by national economic policies, to influence the direction of investment flows, and to implement or support a broad range of specific economic policies, including the diversion of central bank resources to nonbudgetary financing. This widening of the discount function has no direct counterpart in the United States.

A related structural difference is reflected in the origin of the paper that reaches the discount window.[9] In several of the countries surveyed, large segments of industry are nationalized and other important units involve some degree of government partici-

[9] Also worth noting is that while the Federal Reserve System has been engaged almost since its inception in developing the acceptance market, it has chosen to monetize acceptances through open market purchases rather than through discounting, whereas in the other countries paper arising from foreign trade is not only typically an important part of the discounts but also enjoys preferential terms in some cases.

pation or sponsorship. Municipal ownership of public utilities is widespread, and the communications industry as well as important railroads, airlines, and shipping lines are usually government-owned, directly or indirectly. Contractors and some others that supply government owned enterprises (such as shipyards) enjoy official support that may extend to special facilities at the discount window. In some countries with a significant public sector (and in particular in France and Italy, but also in Japan where government tutelage, rather than outright ownership, is involved), the use of the discount mechanism as a means of directing credit has become a significant and integral part of the central bank policy.

Thus, a considerable proportion of the assets of commercial banks (whether privately or publicly owned) consist of loans (and other credits) to public enterprises, even though the form of the accommodations extended (and the eligible paper that they generate) may be so much like that used to accommodate private borrowers that the two are indistinguishable, on the surface at least. In effect, these assets represent credits extended to official entities or credits guaranteed by government institutions or instrumentalities, some of which have been set up to implement specific government policies.

Also in contrast to the United States, some of the central banks of Western Europe (having evolved from commercial banks) continue to have some private clientele, which have access to central bank resources through direct discounting (and in some cases also through advances, as in West Germany, Italy, and Switzerland). Direct lending to private borrowers (even to individuals, rather than to business borrowers, as in Italy) is in most cases a carryover from the time when the central banks were privately owned. The newer central banks (Canada) have never engaged in such activities, and the older ones are trying to close them out.

By and large, the relative volume of direct lending to private borrowers through discounts or advances is negligible. Furthermore, such lending has no policy purpose, except in the United Kingdom where the Bank of England acquires a certain volume of commercial bills regularly so as "to be in touch with the market" and to ascertain the quality and composition of the bills being offered in the market. Since this paper is concerned with the use of the discount window by foreign central banks as a tool of monetary policy, we shall not discuss techniques for discounting paper of private customers.[10]

Foreign central banks do not administer their discount windows on the basis of rigid rules on the public record (and, it is hoped, uniformly interpreted and understood by all), comparable with the Federal Reserve Regulation A as issued in 1955. The notion of "appropriate borrowing" is not encountered in the operations of foreign central banks.

Only a few of the central banks surveyed administer the discount window on the assumption that commercial banks are reluctant to borrow (and to stay in debt), even though it is well known that banks prefer to obtain liquidity elsewhere and that they go to the central bank only as a last resort. In most countries surveyed, commercial banks tend to regard access to the discount win-

[10] We shall also pay only passing attention to discounting of, or lending on, government securities undertaken either to accommodate the Treasury in periods when its expenditures exceed receipts, or to cover budget deficits, since such activities do not fall under the heading of credit policy (although monetary policy must, of course, cope with the resulting reserve creation). In some countries, borrowing by the national government takes the form of advances from the central bank rather than of marketable paper. In most countries, legislative safeguards exist to protect the central bank against abusive use of its facilities to cover budgetary deficits directly or indirectly.

dow as a right rather than a privilege (within applicable limitations, such as quotas) even though the central bank normally has discretionary authority. This attitude, confirmed by banks' experience, is traceable in some cases to the availability in their portfolios of specific types of paper that the central bank must discount automatically, but generally to the inherent function of the central bank as "lender of last resort."[11]

The United States, Canada, and Switzerland are the only important examples of countries that limit direct access to the discount window to commercial banks and that deny it to other money market participants.[12] Other foreign central banks interpret their role as lender of last resort more broadly; as a result, a variety of financial institutions other than commercial banks usually have direct access to central bank credit.

Some of the central banks surveyed extend (depending on historical and institutional factors) discount privileges or advances to most or all of the following groups: public and quasi-public credit institutions; central bodies of such sectoral credit institutions as national groupings of savings banks, farm credit associations, and credit unions (Italy); municipal savings banks (Italy, Japan); credit cooperatives (Netherlands); stockbrokers who act as dealers in government securities (Canada, Netherlands); and private borrowers. Such access may be available at all times (although it may, in fact, be resorted to rarely) or under specific conditions.

Access to the discount window is determined by law and/or administrative decisions; in none of the countries surveyed can banks elect to escape regulation by the central bank by acquiring a "nonmember" status and by so doing lose their direct access to the discount window. By and large, however, reserve (and liquidity) requirements abroad are administered more flexibly than in the United States. The greater flexibility that foreign commercial banks have in meeting legal reserve requirements and/or liquidity ratios frees both them and the central banks from some of the problems of day-by-day reserve management that are rooted in our system of administering member bank reserve requirements.

Because of the prevalence of nationwide branch-banking systems and the virtual absence of secondary financial centers,[13] some of the problems of reserve management inherent in our fragmentized commercial banking system do not exist to the same extent in the countries studied.[14] While important regional, and even local, banks exist in most countries studied, nowhere is there a counterpart of the reserve management problems with which thousands of our banks must cope.

This does not necessarily mean that offsetting of a much larger part of the local and regional day-to-day fluctuations in the demand for, and supply of, banking funds within the nationwide branch system tends to diminish to any significant degree the over-all seasonal variations in the demand for cash. In fact, forces operating in the op-

[11] In some countries at least (Italy being perhaps the most conspicuous example), access to the discount window was, originally, considered to be a *quid pro quo* for establishing the note privilege of the central bank.

[12] In the United States a bank must be a member of the Federal Reserve System in order to have access to the discount window.

[13] With some exceptions, however; but even Canada and the Netherlands each has only one additional financial center of real significance.

[14] While there are some parallels (the United Kingdom comes first to mind) to the limitation of the impact of our policy actions on member banks, the problem of "nonmembership" is not duplicated abroad.

posite direction may be equally significant. For instance, banks' cash positions in the countries surveyed are more exposed to fluctuations in the public's demand for cash because the portion of the banks' money supply that consists of currency is so much larger than it is here in the United States. Fluctuations in currency in circulation affect bank reserves one for one, whereas fluctuations in deposits affect such reserves only fractionally.[15]

The main objective of day-by-day discount operations is to neutralize the effects of seasonal and cyclical factors on the money market—in other words, to provide normal seasonal reserves and to accommodate, within broad policy considerations, cyclical swings in reserve availability—and in some instances to provide for secular growth. In none of the countries surveyed does there seem to be any specific philosophy or policy with regard to the way in which the cash base of the banking system should be enlarged to provide for secular growth. This lack may reflect, in part, an overhang from the real bills doctrine, which assumed, at least implicitly, that growth of "commerce" would generate an enlarged flow of bills to the central bank, which in turn would increase the reserve base. More importantly, in most of the countries studied, inflows of foreign exchange and — intermittently — government deficits have focused attention on the means for controlling excess liquidity rather than on the need to provide banks with reserves to assure adequate monetary growth. On the whole, therefore, it is proper to conclude that discounting in those countries is generally considered as a residual mechanism through which over-all availability of reserves is adjusted to longer-run growth requirements.

Most central banks use the discount mechanism—almost routinely—to minimize day-to-day and week-to-week fluctuations in money market rates and gyrations in bank reserves caused by tax payments, or other market stresses that recur regularly, such as those around the month-end. The extent to which discounting is relied upon to regulate bank reserve positions on a day-by-day basis depends on institutional factors and on the availability of alternative mechanisms in a given country. Specific situations are discussed in several of the country reports in Part 2; although by and large central banks can and do rely to a considerable extent on control at the discount window, it is also appropriate to add that they have no preference for discounting if other methods of adjusting reserves, such as intervention in foreign exchange markets or use of open market operations, are available.

Indeed, in most of the countries surveyed, day-by-day adjustments in reserves are made mainly by manipulating foreign assets and through the domestic interbank money markets (similar to our market for Federal funds). This is true despite the fact that nowhere is the interbank money market so developed and so actively used as it is in the United States and that there are no close counterparts of our correspondent banking system, which involves interbank borrowing on the basis of credit lines. Banks obtain only limited amounts of funds in the regular money market, and in most countries, except the United Kingdom and Canada, nonbank participation in that market is either nonexistent (by tradition or formal arrangements) or of marginal im-

[15] Currently, between one-third and one-half of the money supply of Italy, France, and Germany still consists of currency, and there is little reason to believe that the composition of the *marginal* demand for cash is different from its average composition.

portance (as in the Netherlands). Open market operations are conducted in most countries by the central bank only with commercial banks and/or with a limited number of other private financial institutions, including dealers in government securities and government and quasi-public institutions active in the capital market.

The development and routine use of open market operations have been thwarted in many countries by the narrowness of the market for government securities. The activity in a market for government debt depends to a large extent on the size, structure, distribution, and origin of that debt; considerable differences in these factors exist among the countries surveyed. In none of these countries is the (central) government debt so widely held and actively traded as in the United States. And most of these countries (exceptions: United Kingdom and Canada) have not succeeded in developing a market for short-dated government debt that is sufficiently broad and active to provide the main avenue for supplying and/or absorbing bank reserves.

In countries where it is not feasible to use open market operations for adjusting reserves and where the means of regulating the impact of flows of foreign exchange are insufficient, central bank intervention for balancing out end-of-period positions and for fine tuning of the money market (where this is an objective) has been attempted through other means, including, typically, outright transactions and repurchase agreements with the call-money market. In some cases such adjustments take the form of special arrangements at the discount window at the initiative of the central bank (as in France); such arrangements perform a function similar to repurchase agreements in the United States.

Even in those countries in which open market operations have become part of the range of policy instruments used by the central bank, such operations are not always continuous and are not necessarily undertaken "at the market"; indeed, transactions may be consummated at rates posted by the central bank (as in West Germany) or negotiated in each case (as in Japan). In such circumstances both sales and purchases usually take the form of special transactions. In some instances it becomes necessary to transform book credits to the government into marketable securities before any sales can be undertaken in the open market.

The traditional reliance on discounting, together with the fact that commercial banks as a whole are continuously "in the Bank" for considerable amounts, has tended to inhibit the extensive use of open market operations even where suitable securities and appropriate market arrangements are available. For example, when banks acquire excess cash, they tend to pay off or reduce their borrowing (or sell funds in the interbank market, and by this means obviate the need for banks with deficiencies to borrow at the central bank); hence, the central bank does not need to sell securities in the open market to mop up the excess funds. On the other hand, if the central bank permits commercial banks to borrow almost continuously, the commercial banks have little inducement to hold eligible securities. Thus, in many countries, the pivotal assets used for reserve adjustment are not the lowest-yielding government securities (such as Treasury bills), the yield on which is usually lower than the discount rate, but the lowest-yielding paper that is automatically rediscountable (such as medium-term paper in France).

RATE POLICY

Many of the changes that have been introduced in the traditional discount mechanism since World War II stem from modifications introduced during the depression of the 1930's. We shall discuss successively rate policy, quantitative controls, and the use of the discount window as a tool of selective control.

The discount rate is first of all the cost at which cash may be obtained from the central bank. Discounts have not only a rate dimension but also a time dimension. A technique widely used abroad is to require discounts to be for a certain minimum period, whereas in the United States emphasis is placed on maximum terms. Banks normally endeavor to borrow at the lowest cost, depending on the availability of required collateral and on applicable terms (such as minimum duration of a given accommodation).

Responsibility for setting the discount rate and related rates (such as the rate on advances) usually rests with the board of directors of the central bank, although in some cases this responsibility is lodged with a separate monetary authority (such as the Monetary Policy Board in Japan). Prior consultation of the central bank with the Treasury is usual in view of the generally close relationship between the two institutions or, less frequently, as a result of specific legal requirements (as in the United Kingdom).

The minimum amount by which rates are typically changed differs from country to country and reflects tradition and trade uses as well as policy objectives. In general, the minimum change is normally ½ percentage point, but some banks use steps of ¼ percentage point, and there is some tendency to make increases by the larger amount and decreases by the smaller amount. (In Japan, rates are changed by 0.365 of a percentage point, or multiples thereof, this figure being the equivalent of a rate of one-thousandth of 1 per cent per day.) Decisive action is usually symbolized by moves of a full percentage point in either direction, and in recent years there have been even larger changes (United Kingdom) to cope with serious external disequilibria. By and large, moves undertaken for external reasons involve changes by relatively larger amounts than those for purely domestic reasons, in particular if the central bank tends to follow rather than lead market developments.

Borrowing from the central bank usually involves a hierarchy of instruments carrying successively higher rates (and/or related terms that tend to raise the real cost of borrowing), so availability of specific categories of collateral determines the marginal cost of borrowing. This is true even when quantitative limitations are applied at the window. As long as adequate collateral of a given category is available within the banking system, the rate that it carries (such as the Lombard rate in West Germany) tends to become the effective ceiling on fluctuations in money market rates. The cost of marginal borrowing from the central bank (whether determined by eligibility requirements or quantitative restrictions) tends to determine market rates, unless conditions are sufficiently easy to drive market rates below the lowest applicable central bank lending rate.

When commercial banks are free to make the fullest possible use of credit facilities offered, the restrictiveness of any given discount rate depends on a number of factors including the terms of borrowing and the relation of the discount rate to market rates (or, more generally, to the cost of funds from alternative sources). Because

of the signal role of the discount rate and/or the relative inflexibility of that rate, and because certain rates on bank loans and deposits are tied to it, in actual practice discounts and advances in some countries are made at rates below or above the official rate, as policy requires.

All countries covered by the present study have a multiple-rate structure for central bank credit. Public reference is typically made to "the" discount rate, which is the particular rate considered to be the key to the whole structure of official rates. A multiple-rate structure is applied either by relating rate to the characteristics of the paper discounted or accepted as collateral, or by establishing a progressive- or stepped-rate structure designed to make it more expensive to borrow larger amounts or to borrow for longer periods. In the first case the discount rate may be differentiated according to the type and/or maturity of collateral, or by different institutional classes of borrowers.

When a whole family of rates is used instead of a single discount rate, subsidiary rates may be linked to the main rate in a variety of ways, including fixed or variable differentials; alternatively, subsidiary official rates may be linked to a significant market rate (for instance, the Treasury bill rate) as well as to the main discount rate. Such multiple-base linkage offers greater flexibility for adjusting the cost of borrowing to market conditions without requiring frequent changes in the discount rate itself (as in the case of the double-base system for lending to money market dealers in Canada). More generally, under a multiple-rate structure with variable differentials, changes in the structure of effective rates can be made more frequently than in the basic discount rate.[16]

Progressive-rate structures are used essentially to reduce administrative problems at the window. In some cases progressive rates are applied without introducing discount quotas, and in some countries it is indeed believed that such rates are an alternative to quantitative regulations. Foreign experience includes a great variety of examples of (1) progressive-rate structures as a function of size of borrowing (related to capital, reserves, assets, or some other magnitude) and duration of borrowing (Sweden, France); (2) posted or negotiated rates for borrowing in excess of basic quotas (Japan, France); and (3) preferential rates for specific types of instruments or categories of loans (France).

When the central bank endeavors to keep its discount rate above important market rates at all times, or to make the effective cost of borrowing higher than for comparable borrowing in the market, such rate is usually referred to as a "penalty rate."[17] When a central bank has a progressive-rate structure, all rates above the basic rate are usually considered penalty rates. If deemed necessary, the central bank may operate in the call-money or government securities market with the specific purpose of keeping market rates below a certain penalty-rate level.

Penalty rates are also used (1) to support other tools of monetary control, such as observance of liquidity ratios (Sweden); (2) to penalize re-lending of borrowed reserves by banks; and (3) as a means of regulating borrowing above quotas or as a measure of restraint if there are no quotas. Continuous or too-frequent borrowing may

[16] For instance, from Dec. 3, 1959, to Apr. 8, 1965, there were a number of changes in one or more of the specific rates for discounts or advances of the Bank of France (the total number of changes was 17), whereas the basic discount rate was changed only eight times.

[17] In the context of this study, the term "penalty rate" refers to a level in relation to market rates, and "progressive rates" to the structure of rates.

be reduced by applying penalty rates after a set period or for repetitive recourse to the window within a determined period; in the last case, penalty rates may apply to an individual bank (as in Canada), or they may apply to all commercial banks, when such banks, collectively, have been in debt for more than a specificed number of days (5 days in Sweden). In some cases the penalty rate is graduated in such a way as to become almost prohibitive if borrowing reaches a certain margin above the normal quota (the "superhell" rate in France) or so high as not to be used because funds can be obtained more cheaply by other means.

A willingness to borrow at a cost higher than the basic discount rate has been interpreted in several countries (France and Japan, for the second tranche of progressive rates) as prima-facie evidence of extreme tightness in credit. The central banks of these countries have made it a policy rule in such cases to relieve the pressure by injecting reserves through open market operations or by other means in order to avoid high marginal rates (such as the "superhell" rate in France and the second-tier penalty rate in Japan) and to avoid pushing money market rates to excessively high levels. Foreign experience also suggests that a progressive structure of the discount rate tends to produce discontinuities in the rate curve around the steps and that the steps may pose problems for monetary policy.

The principle that central bank credit should always be available—though at penalty rates—is thus preserved, but the ultimate penalty rate is used mainly to encourage banks to adjust their reserve positions through borrowing in the open market or by selling securities. It may be noted, however, that a policy of maintaining the penalty-rate status of the discount rate when an increase in the discount rate appears inappropriate (Canada) may lead to periods of excessive ease if reserves are supplied through open market operations in order to prevent a rise in market rates.

In many countries deposit and/or lending rates (or important segments of the rate structures) of commercial banks are automatically tied to the discount rate. Such linkages have come into existence in a variety of ways: (1) as a result of the depression of the 1930's, (2) under war emergencies, (3) as part of control measures instituted by totalitarian governments, or (4) as a result of actions by bankers' associations, with or without official review and/or sanction. When lending rates are rigidly linked to the basic discount rate, the cost of discounting at higher (including penalty) rates cannot be passed on readily to customers; the resulting pressure on profit margins constitutes an additional restraint for meeting customers' loan demands.

Tying of commercial bank rates to the discount rate may have a certain degree of flexibility. Margins relating commercial bank rates to the discount rate may be varied from time to time; also, commercial bank rates may follow changes in official rates not automatically but rather with a delay of a varying length. In some countries at least, and depending on credit conditions, undercutting of stipulated minimum rates or concealed additional charges are not unknown.

Rigid tying of deposit and lending rates to the discount rate is inimical to flexible use of the discount rate for monetary policy purposes. As already mentioned, some countries have tried to resolve the problem by lending to banks at rates that were actually higher or lower than the official discount rates. In recent years there has been a tendency to loosen or remove such traditional or institutionalized linkages.

QUANTITATIVE CONTROLS

Most of the countries surveyed have not been able to place exclusive reliance on the discount rate for controlling aggregate bank reserves, that is, to rely on rationing through rate alone and on keeping an "open window" at that rate. Those that traditionally relied on regulation through rate (for example, the United Kingdom) have found it necessary in recent years to make considerable use of moral suasion, aiming at quantitative limitation (but avoiding overt, rigid control) of commercial bank lending, and to apply such limitation to a steadily widening circle of credit institutions. Even those central banks that have continued to place exclusive or primary reliance on the rate have found it necessary in recent years to differentiate the cost of accommodation at the discount window; a recent example of the need for greater flexibility in rate administration to differentiate between the cost of discounts relevant for the international flow of funds and for regulating the domestic money market without changing the rate was provided in the United Kingdom.

Some of the countries surveyed have attempted to limit the growth of bank credit to specific maximum amounts; in so doing they have used a variety of quantitative restrictions. Quantitative controls may apply to reserves (usually, to the aggregate volume of discounts) or directly to some or all bank assets. They may be geared, as in France, to credit targets specified in national economic plans. Various techniques to limit bank credit expansion directly have been used at different times in various countries. Direct control of total rediscounts, reserves, and/or loan volume is usually supported and reinforced by various forms of moral suasion; Japan is a conspicuous example.

Controls may involve fixed limits for loans or total assets or maximum permissible rates of increase during specified time periods. Alternatively, the ratio of loans to deposits, or to some other total among a bank's assets or liabilities, is made subject to regulation. Still another method of controlling demand at the discount window is by freezing a certain volume of eligible assets in bank portfolios through separate liquidity ratios.[18] From time to time the central bank may vary the list of liquid assets that qualify for inclusion; furthermore, it may stipulate minimum percentages of specific assets (such as Treasury bills) to be held within the over-all liquidity ratio. The (variable) liquidity ratio (*coefficient de trésorerie*) in France, no longer in force, was an outstanding example of this technique.

Some central banks use discount quotas (credit lines) as a means of influencing directly the total volume of bank credit. These quotas are the fulcrum against which rate policy becomes effective. Discount quotas are typically used in countries where alternative monetary policy tools (such as open market operations) to control the reserve base are not available or cannot be used meaningfully and/or where variable cash reserve requirements are not available to control the credit multiplier. In several countries discount quotas have proved inadequate to achieve this goal, and they have had to be supplemented later by ceilings on total loan volume or by other quantitative controls.

Still other countries have concluded that only a direct control over bank credit would achieve their policy goals, but they

[18] In other countries, such as West Germany and Switzerland, liquidity ratios are imposed for other than monetary policy reasons.

have retained discount quotas as part of the control mechanism. Indeed, a central bank that directly controls the total volume of bank credit may downgrade the role of discount quotas—or may dispense with them altogether—and supply reserves readily (while at the same time taking into consideration the volume of reserves acquired from, or absorbed by, other sources) as long as credit expansion remains below target limits.

Quotas to regulate the volume of discounts are set—and modified—on the basis of broad policy considerations. Such quotas may be set for total borrowing from the central bank, or for discounts (as in West Germany after 1952); and additional credit lines may be established for advances.[19] Additional quantitative limitations may apply to the permissible amounts of specific types of assets within the total discount quotas. In fact, discount quotas may be equivalent to credit lines with no questions asked, or they may be conditional on the borrower's conforming with the wishes of the central bank or on the observance of specific, stated ground rules.[20]

Quantitative regulation of access to the discount window always raises questions of equity and flexibility. Setting of discount quotas for institutions (and administration of these quotas) must steer between excessive generosity, which might interfere with the conduct of monetary policy, and excessive restrictiveness; in the latter case, the problem of above-quota accommodations becomes chronic. Quotas may be geared to bank capital, liabilities, past changes in selected balance sheet items, or a number of other variables.[21] Quotas need to be adjusted upward over time to keep in step with the growth of the economy and its expanded credit needs because the variables on which quotas are based, such as capital funds, do not necessarily grow at the same rate as do the needs that the quotas are designed to meet. Adjustments may be automatic or may be subject to discretionary determination.

Techniques used for setting and changing discount quotas for individual institutions[22] range from complex formulas (as in West Germany) to informally determined across-the-board percentages (as in the case of advances in Italy). Various approaches have been developed to revise ceilings in the light of growth requirements and, in some countries, changing policy objectives.

Quotas may be left unchanged for long periods (as in Canada) or recalculated frequently on the basis of formulas (monthly in West Germany, quarterly in Japan), or they may be administered informally, in the guise of approximate guidelines (as in Italy). Attempts to reduce the area of administrative judgment and/or to provide for gradual increases in quotas by linking them to such balance sheet items as short-term liabilities (and medium-term liabilities, if the borrowing financial institution is a savings bank) foundered on the hard fact that any addition to reserves may lead to secondary credit expansion, which in turn would provide the justification for a further rise in the quota. Indeed, any automatic linking of quotas to bank assets or liabilities (or other growth variables) carries with it the danger of an automatic inflation of quotas. Obviously, when quotas are

[19] In several countries in which dealers in government securities are an important element in the mechanism through which monetary policy is implemented, separate lines of credit may be established for them. A related reason for such credit lines is the endeavor to develop a national capital market.

[20] Access to central bank credit still depends on availability of proper collateral in an individual institution's portfolio.

[21] The smaller banks may be given special consideration in setting or administering discount or loan quotas.

[22] In at least one country (France) revisions of ceilings were negotiated with the banks involved.

based on capital accounts, some degree of manipulation of the base by individual banks is possible because the banks can increase their capital accounts.

Some degree of flexibility is generally provided in one of the following ways: (1) by permitting banks to exceed over-all discount quotas at a penalty rate or under special conditions, (2) by exempting from the quota certain categories of paper (such as medium-term paper covering approved financing of equipment or of exports), (3) by establishing additional quotas for specific categories of credit instruments, (4) by granting or negotiating temporary supplementary quotas for purposes and amounts specified in advance (such as to meet money market pressures at the end of the month), or (5) by negotiating such quotas on a case-by-case basis to accommodate specific situations (West Germany). Some flexibility is essential where the central bank does not possess adequate alternative tools for meeting exceptional or unexpected situations.

Such "overline credit" may take the form of (temporary) supplementary quotas at regular rates granted for specific reasons and for limited periods (West Germany). Normally, however, borrowing above the quota is available only at a penalty rate and is subject to quantitative restrictions or "window guidance." The cost of above-quota accommodation may be stepped in such a way as to become, in effect, prohibitive beyond the first "tranche" above the basic quota (France). Alternatively, borrowing above ceilings may involve merely the obligation to adjust borrowing downward in subsequent periods.

Under a system of discount quotas, tighter monetary policy usually has a pervasive effect, inasmuch as banks that are close to exhausting their leeway under quotas tend to sell discounted bills to banks in a more comfortable position. As a result, total borrowings tend to rise toward the aggregate quota ceiling; market rates also tend to rise, and the upward pressure on rates is reinforced as some banks begin to borrow at penalty rates. In effect, while offering additional accommodation at a penalty rate and under restrictive conditions, as a privilege rather than as a right, the central bank counts on the rate to inhibit credit expansion beyond the limits set by quotas.

The effectiveness of discount quotas depends on a skillful combining of quantity and rate controls. But it also depends on the availability and cost of alternative sources of reserves and on the volume of liquid assets the banks have at their disposal, as well as on whether or not the balance of payments is generating a significant surplus. From the point of view of monetary policy,[23] the main advantage of a formal quota is that it reduces problems of day-to-day administration of the discount window by stating unequivocally how much each bank may borrow within the framework of established discount policy. In fact, a discount quota indicates the amount that an individual bank feels it can borrow as a right, as long as it adheres to clearly stipulated ground rules. To a large extent, administrative problems are shifted from the control of total borrowing to the control of "overline" borrowing.

The use of discount quotas as a tool of monetary control raises at least two questions: (1) what is the role of unused quotas (the "unused margin") and (2) how can changes in quotas be used to implement policy.

1. One of the widely recognized limitations of quotas is the stated or implied right

[23] As distinct from the use of rediscount quotas to protect the central bank from possible losses as a result of excessive lending to individual banks (as in West Germany before 1951).

on the part of banks to make full and continuous use of the quotas; such use, except for the cost involved, amounts in effect to an equivalent reduction in reserve requirements or in prescribed liquidity ratios. Usually, there are considerable differences in the actual use that various categories of banks make of the credit lines available to them. On the other hand, the effectiveness of discount quotas depends, in part, on the policy of banks to exhaust the quotas and to require additional accommodations when loan demands build up and/or on the unwillingness of the central bank to permit continuous use of the full quotas. In some countries banks normally use only part (but typically a substantial part) of their credit lines but shift to fuller use when official credit policy becomes more restrictive.[24] The typical attitude of banks toward utilization of quotas thus becomes an element in setting their over-all level. In formulating its day-to-day operating objectives, a central bank must take into account the willingness of banks to reduce further the leeway available under credit lines. On the other hand, under a system of discount quotas, the margin between current borrowings and the quota ceiling tends to become an important consideration in determining a commercial bank's lending policy.[25]

The attitude of central banks toward interbank trading in excess reserves is not uniform. Not all foreign central banks frown upon or penalize re-lending at a profit. In most European countries borrowing to re-lend is considered consistent with the normal use of lines of credit; in others (such as Sweden) it is not. In countries in which re-lending (through an interbank money market) is recognized as part of the adjustment process, borrowing in order to re-lend in the interbank market and/or for buying bills from banks that have exhausted their quotas is common. Even when a penalty rate is involved, banks with unused margins may still have a strong inducement to discount for the purpose of lending to the market (France).

2. Discretionary changes in credit lines are used:

a. To meet special situations (such as the reduction in these lines in West Germany in 1964 to offset foreign borrowing).

b. As a sanction against nonobservance of the rules of the game or for noncompliance with the expressed wishes of the central bank. (For instance, in West Germany; in 1965, the Governor of the Bank of France in his capacity as Vice-Chairman of the National Credit Council, in a published letter to the Banking Association, threatened to reduce quotas of banks that expanded credit too rapidly.)

c. As a countercyclical measure. The central bank can achieve greater ease or tightness merely by changing aggregate quota ceilings and in this way bring about a commensurate change (other things being equal) in the amount of the "unused margin" (Japan).

d. For ordinary business reasons, such as failure to meet bank examination standards, deterioration of bank management, or adverse developments in the financial position of the borrower (West Germany).

Thus, the role of discount quotas as a tool of credit control depends on prevailing bank attitudes toward them; these attitudes in turn depend in large part on whether, under what conditions, and at what cost a given category of credit institution can expect to obtain central bank credit beyond the unused portion of the quota. Uncer-

[24] This is even true when, as in Italy, banks are expected to repay their advances completely from time to time and not to return to the window immediately.

[25] Italian and West German banks even include the unused margin in computing their liquidity positions.

tainty about bank attitudes toward this unused margin is, indeed, one of the basic difficulties of operating with discount quotas. West German experience also suggests that these attitudes may not be consistent over time.

SELECTIVE CONTROLS THROUGH THE DISCOUNT WINDOW

In countries in which discounting is used as a means of selective credit control to influence the distribution of bank credit (France, West Germany, and Japan being the most important examples), certain types of loans may be exempt from over-all quota ceilings or may benefit from specific additional quotas.[26]

Typically, certain types of investment and export credits are favored, and preferential discount rates may apply to such paper (as in France). Conversely, low-priority activities may be discouraged by quantitative, cost, or eligibility restraints at the window. In some countries discount rates are structured in such a way as to encourage specific categories of lending, or of lending on specific terms. The structure of rates at the window becomes an indirect means of influencing portfolio composition.

Distributive considerations (selective controls) may also be made effective within over-all discount (or credit) quotas if preference is given to certain categories of paper, either through automatic access to the discount window (frequently after prior approval of credit by the central bank) or through preferential rates, or through a combination of such techniques. In fact, such policies amount to direct central bank financing of favored economic activities, provided the funds supplied are in effect used for the purpose intended; evidence on this point is contradictory.

Sometimes a privileged status is given to credits that private lenders would not have undertaken without what really amounts to a take-out commitment by the central bank (France); private credit is thus substituted, at least temporarily, for central bank credit or Treasury resources. Endowing certain credits with privileges at the discount window has the double aspect of selective credit controls (credit direction) and creation of additional bank liquidity. The favored assets become, in effect, instruments of secondary liquidity that give their holder automatic access to central bank credit at his option, since they can be converted into reserves without prior notice.

Extension of preferential treatment to specific types of credit (or instruments) usually involves obtaining a preliminary authorization—usually in the form of a certification by affixing a "stamp" or "visa" from the central bank or the proper primary discount institution (see below)—which is tantamount to a commitment to discount the particular loan on presentation, at the holder's option.[27] "Stamped bills" (Japan) or "visaed bills" (France), kept in the portfolio of the original lender (commercial banks), are in effect instruments of secondary liquidity since they may

[26] As an alternative to using the discount mechanism directly as a means of qualitative credit regulation, it may be used indirectly to enforce compliance with selective credit policies applied through other techniques (West Germany, Italy).

[27] More generally, in some countries commercial banks may obtain, in the form of a "visa" or "stamp," the central bank's advance certification that a particular credit is eligible for discount. Some central banks review in advance all bank loans, or all credits above a certain amount, to determine their eligibility at the window (Belgium). Such review usually amounts, in effect, to screening and tends to have some selective control aspects.

be converted into cash without question at any time. After banks have obtained an official seal of approval, they may be more willing to hold such paper in their portfolios than they otherwise would.

Indeed, some countries have used the advance approval technique (in particular, when coupled with the availability of preferential rates) to induce commercial banks to enter new fields of lending (medium-term loans) or to expand their assets in specific areas in line with over-all government economic policy. In effect, an unconditional agreement to discount through the technique of formal advance agreements permits the central bank to add at its own discretion (and under certain conditions, in a discriminatory manner) to the liquidity of the banking system. In some countries, discounting of certain instruments outside of quotas has impaired the control by central banks of over-all credit expansion. As a result, certain central banks have found it necessary to put an outside (global) limit on the volume of such preferred paper that they would discount (West Germany).[28]

Pursuance of multiple-policy goals by countries using quantitative credit tools sometimes results in complex schemes under which the over-all effectiveness of ceilings is undermined by various exceptions. More generally, the use of the discount mechanism as a tool of selective credit control tends to render more difficult the implementation of over-all monetary policy, especially when the discount window is used to stimulate particular activities.

[28] For description of a special technique to restrict rediscounting of exempt paper, see the chapter on France.

INDIRECT ACCESS TO THE DISCOUNT WINDOW

Access to the discount window need not be direct. It may involve the use of a discount market or of primary discount institutions. The oldest and classical example is the interposition of the discount market. Through discount houses in the United Kingdom it is possible for banks to even out some of their reserve surpluses and deficits at rates that may be below the official discount rate, if warranted by money market conditions. And if banks that have deficits obtain central bank credit through discount houses, they may be able to conceal their identity, at least temporarily (Canada).

In other countries—in some cases as a result of the financial crisis of the 1930's—special primary discount institutions have been created, and these in turn rediscount with the central bank. But in particular in periods of stress, traditional eligibility requirements have often proved too rigid to permit injection of needed liquidity. To cope with this type of problem some countries have created separate official institutions, the specific purpose of which is to rediscount paper not eligible at the central bank's discount window. In order to carry portfolios of such instruments, these institutions usually also borrow in the short-term money market—sometimes on call—and from the central bank, and they are given access to the latter's rediscounting facilities.

These institutions (1) provide credit for carrying out certain government economic policies without directly involving the central bank; (2) extend credit on terms that are more flexible with regard to maturity, collateral, and quality than available from the central bank; (3) give additional flexibility to the conduct of credit policy, in

particular when expansion is desired; and (4) contribute to broadening credit and capital markets by substituting their own credit for that of their borrowers, by borrowing at short term in order to discount medium-term debt, and in other ways.

Some countries have created specialized credit institutions to close a credit gap and in particular to stimulate medium-term financing. These institutions, which normally are government sponsored, also act as primary discount institutions by discounting credits that originate in specific activities considered worthy of official support (typically export trade, but also public construction, equipment financing, and others). They have access to rediscounting at the central bank to the extent that alternative sources of funds to finance their activities are insufficient. Such sources typically include: (1) their own funds; (2) borrowing in the money market; or (3) special resources, such as Treasury deposits or long-term funds raised in capital markets (Belgium). Primary discount institutions have extensive direct dealings with commercial banks and usually cooperate closely with their respective central banks.

In fact, primary discounting institutions are a conduit for central bank credit on the basis of collateral of a maturity or quality not acceptable for regular central bank operations. Typically, short-term instruments (eligible at the discount window) are issued against a portfolio of debt instruments of longer maturity; this procedure is known as "liquefying" or "mobilizing" long-term assets. An alternative technique is for these institutions to hold medium-term paper until it moves close enough to maturity to become eligible at the discount window. The official rediscounting institution may provide the additional endorsement (usually the third "name") required to make the instrument rediscountable at the central bank. It also normally examines the loan application and issues an advance discount commitment without which the original lender would not make the loan or would accommodate the borrower only at a higher rate (France).

By changing the conditions under which it makes such rediscounts, or by varying the ceiling for such rediscounts, the central bank has a potentially powerful means of controlling the activities of these public investment and primary rediscounting institutions. Frequently, however, there is little room for use of discretionary policy because the central bank is expected to implement government policies carried out by the specialized institutions.

In some respects the specialized central credit institutions resemble similar government credit institutions in the United States, which also use borrowed or Treasury funds to finance certain sectoral activities (such as housing). In contrast, foreign specialized credit institutions typically rely in the main on the rediscount technique for obtaining official financial assistance.

Credit activities of primary discount institutions require adequate and continuous coordination with over-all objectives of credit policy. These institutions are usually subject to direct and close supervision by the Ministry of Finance, and there is normally little room for policy conflicts. To meet such conflicts, if they do occur, several countries have created special coordinating bodies, such as the National Credit Council in France.

UNIFORMITY OF ADMINISTRATION

Uniform administration of the discount facility does not pose significant problems abroad because the central bank operations are directed from one single center. This is true even in Germany where the "Landeszentralbanken" are the closest counterpart of Federal Reserve Banks that can be found abroad. Discounts are usually available at all branches of the central bank, whether the branches are few (as in the United Kingdom) or relatively numerous (as in Italy or France). Uniform discount administration is assured by issuing rules and regulations to regional and local offices. When necessary, quotas are assigned to each office to assure that the aggregate amount of discounts does not exceed over-all ceilings determined by the head office. Daily reporting of discounts and advances made (and maturing) permits the head office to exert tight and current control and to make quick changes in individual branch-office quotas when necessary.

Because of the prevalence of branch banking, a large proportion of the paper that originates locally is discounted at the head office of the central bank. The cash position of a branch system is normally managed centrally by the head office. When need to rediscount arises, the head office, in its dealing with the central bank's main office, offers paper that originates at branch offices as well as at the head office. This is not necessarily true in countries where the headquarters of some of the leading national branch-banking systems are not located in the capital (as in Japan) or where important regional branch systems exist (as in France, Italy, and West Germany).

Uninhibited access to the discount window and transactions undertaken by the central bank to bridge short-term swings in reserve availability permit banks in most countries to reduce the demand for excess reserves to near zero.[29]

[29] Also, in some countries, the reserve ratio needs to be observed only on specified control days, such as the end of the month. The absence of the need for meeting cash reserve requirements within relatively short periods reduces the pressure for developing detailed and up-to-date data of the kind on which the Federal Reserve System bases its elaborate and continuously revised projections of reserve needs and availability.

CONCLUDING REMARKS

Although still an important tool of monetary policy, discounting has lost the central position it held so long; the change began after the banking crises of the 1930's and has become clearer since World War II. In almost all of the countries surveyed, central bank policy has come to rely on additional tools of monetary control, while the discount mechanism itself has undergone in many countries considerable changes, with great emphasis placed on quantitative limitations rather than on eligibility requirements.

Several developments contributed, in varying degree, to reducing the original significance of the discount tool. World War II created conditions of excess liquidity and caused significant changes in the institutional environment. These in turn required the introduction of new monetary tools (in some cases, following their development in the United States) and led—in some countries at least—to closer integration of monetary management with over-all economic controls and planning. It is, indeed, not improper to speak of a "politization" of the discount rate inasmuch as practical limits

for discount rate variation, and in some cases conflicting domestic and balance of payments considerations, have tended to reduce the scope of control through manipulating the rate.

In some countries where progress toward developing flexible and effective open market operations has been slow, one can discern a tendency to regard changes in reserve requirements as an alternative. By and large, however, there has been some disenchantment with the potency of variable reserve requirements as a tool of monetary control, and as a result there has been a tendency to introduce or expand direct controls. In the larger continental countries in particular, but also in Japan and in several other countries, direct quantitative regulation of bank liquidity and/or bank credit has become an integral and important part of monetary controls.

Inability of central banks to use open market operations as a main tool of monetary policy, as well as difficulties encountered in developing adequate new tools of monetary policy (such as variable reserve requirements, or even fixed reserve requirements), have tended to keep the discount function as one of the important tools of monetary policy, as well as a tool that is useful in the management of liquidity of external origin. The only routine means by which central banks can help commercial banks meet short-term fluctuations in their reserve positions is by rediscounting the paper held by these banks or by making advances to them. But with its rationing function much reduced, the discount rate has become in several countries mainly a peg for manipulating the structure of a variety of commercial bank and other rates.

Even when the average amount of reserves provided to the banking system as a whole through the discount window over the year is relatively small, the marginal role of these reserves may be important. Similarly, changes in the discount rate may have considerable significance even though they affect directly the cost of only a small fraction of the reserves in use. One reason is that deposit and lending rates of commercial banks are geared to the discount rate; another is that changes in the rate may be of crucial significance in achieving desirable flows in international accounts.

In some countries (Netherlands, Belgium) the rate still has an important domestic signal function through its announcement effect, but that function has been lost in others, mainly because changes have always been very infrequent (Italy) or because the rate has been tied to a market rate (as in Canada, 1956–62). Except in Canada and Switzerland—where discounts and advances are of quite marginal significance, although for different reasons—discounting continues everywhere to be an important tool of central bank policy, and in some countries it has become an important avenue for achieving economic objectives of government policy outside the credit field. In these countries the use of the discount window was broadened—not primarily because it was judged to be a more powerful means for controlling money and credit, but because it provided a convenient way for achieving certain government policy objectives. To some extent it appeared to be a natural way of utilizing the money-creating power of the central bank to meet some of the new challenges of the post-World-War-II era and to provide another indirect way for government guidance of the economy—by now an unquestioned principle in all of the leading industrial countries surveyed.

Many countries expect to achieve greater policy flexibility by developing open market

operations and a more sophisticated management of fluctuations in foreign exchange reserves, rather than by rejuvenating the discount mechanism. But understandably, central bank attitudes vary toward the present role of discounting in relation to other tools of monetary control and potential use in the future.

In view of the numerous modifications that the discount mechanism has already undergone in most of the countries surveyed, it seems safe to assume that further evolution is likely, as conditions change and new challenges arise. Only history will show in what countries, and in what ways, changes in the setting and objectives of monetary policy and the gradual emergence of other tools of monetary management will change the relative role of discounting as a tool of monetary policy.

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Part 2

THE DISCOUNT MECHANISM IN INDIVIDUAL COUNTRIES

INTRODUCTION

The chapters in this part describe the essential aspects of the discount mechanism in the 11 countries covered by this study. No attempt has been made to keep the structure and coverage of the individual chapters uniform. The general aim has been to include only those details that seem essential to bring out the framework in which the discount mechanism is operating in each of the countries covered, to relate the mechanism to other tools of monetary control, and to describe specific processes and techniques. The emphasis is on post-World-War-II developments; it did not seem necessary to trace the historical evolution of the discount mechanism in each of the 11 countries. In some cases, however, it seemed useful to describe policies or techniques now supplanted.

It has not proved possible to present a comparative analysis of the role of discounting in quantitative terms without at the same time adding considerably to the explanatory material. Therefore we concluded that little would be gained—considering the over-all objective of the study—by including statistical data that were limited and not entirely comparable.

AUSTRIA

Introduction

From the time Austria recovered sovereignty—through the 1955 State Treaty—until the National Bank Law was amended in 1969, the country was obliged to conduct its monetary policy with narrowly circumscribed central bank powers. After recovering sovereignty, Austria had little choice but to integrate as closely as possible with the international economy and to live with the ebb and flow of international capital. Nevertheless, it still had to face the problem of domestic monetary control.

Owing to the small size of the country's cash base in relation to international flows of funds, the most important problem of monetary control was to minimize any disruptive effects of changes in the cash base arising from changes in central bank international reserves. The increase in Austria's international assets in the 5 years ending December 1965 was equivalent to two-thirds of the cash base of the banking system at the end of 1960, which totaled only $900 million. Maintenance of monetary control under such conditions requires powerful tools, but the monetary authorities were not well equipped even with the traditional policy tools.

Prior to the 1969 amendment monetary policy had been implemented primarily through official ceilings on the volume of

bank credit. The discount mechanism had played only a subordinate role. Moreover, in rudimentary money and capital markets, the central bank's open market powers were virtually useless as a means of offsetting the effects on the cash base of the large growth of the central bank's holdings of international assets. Likewise, its authority to vary reserve requirements was too narrow in scope—certainly too narrow to absorb into reserve balances the funds that the commercial banks had acquired as the result of surpluses in Austria's balance of payments.

Realizing their predicament, the authorities rarely used the discount rate for domestic monetary control purposes. However, borrowing at the central bank was controlled to some extent—with access to central bank credit (whether in the form of discounts or advances) being regarded as a privilege. For control purposes, the authorities resorted fairly often to changes in cash reserve requirements—more often than to changes in central bank rates.

Monetary powers in Austria are shared to some extent with the Ministry of Finance. Inasmuch as they had little influence on the cash base of the banking system, the authorities implemented their monetary policy primarily through direct controls over bank credit. These controls included the so-called voluntary credit ceiling agreements between the Ministry of Finance (rather than the National Bank) and the credit institutions, and also prescribed observance of compulsory liquid asset ratios. The ceiling applied to all types of credit including credit to the Government and credit to the private sector; exceptions were made only for special categories such as export credit. The ceiling was set in terms of percentages of the bank's total liabilities and of its net worth. No penalty was imposed for violation of the ceiling, but the latter was not exceeded by all the banks taken together. When total bank credit approached the ceiling in 1966, the authorities raised the ceiling.

Under the 1969 amendment to the National Bank Law, the Austrian National Bank was given far wider powers to pursue an effective monetary policy. In particular, the National Bank's power in the field of reserve requirements and open market policy was increased considerably. The Bank now has the authority to sterilize large increases in foreign deposits. Although not enough time has elapsed to make a firm judgment on the over-all effects of the changes in the National Bank Law, it appears that the National Bank has tended to take a more active posture in monetary policy, particularly since signs of inflationary pressures began appearing in the economy in late 1969. While the 1969 amendment of the central bank law does not contain any provisions relating specifically to the discount mechanism, the over-all strengthening of the National Bank's powers may increase the importance of the discount mechanism in the future.

In its current state of evolution, Austrian monetary policy seems to be in transition from a stage where the volume of credit was controlled chiefly by direct means to one where the conventional tools of monetary policy are becoming more important. During most of the 1960's Austria was troubled by a slow rate of growth and had few problems with inflation. The primary task of monetary policy in this period was to deal with the effect of fluctuations in international reserves on the money supply.

In times of capital inflows the use of conventional monetary policy instruments leads to higher interest rates, which encourage increased inflows of capital and thus further aggravate the problem. Hence, prior to 1965, when there was a surplus in the balance of payments, the Austrian authorities

had to rely on direct controls to achieve their monetary aims. In 1965 and 1966 when the country began to experience balance of payments deficits, this policy became less effective. In the backspin of the German recession, Austria's rate of growth slowed considerably during 1967, and the authorities were forced to give primary consideration to domestic rather than balance of payments objectives in their monetary policy. Liquidity ratios and credit ceilings remained unchanged, but monetary policy was eased by lowering reserve requirements and the discount rate. And in 1965 the National Bank began to engage in open market operations.

Banking system

Half of the stock of the Austrian National Bank is owned by the Government; the other half is held partly by bodies representing the interests of businesses and their employees and partly by credit institutions and insurance companies. The majority of the board of directors is appointed by the Government (the remaining members being elected by the shareholders other than the Government), and the President of Austria appoints the president of the Bank. The board of directors appoints the Bank's general manager, his deputy, and four managers to conduct the day-to-day affairs of the Bank and to implement its monetary policy decisions. A commissioner appointed by the Ministry of Finance attends the board's meetings to assure that the policy actions taken are in conformity with the law. In recent years, the formulation and implementation of monetary policy have involved close cooperation between the central bank and the Ministry of Finance, which is vested with important monetary control powers.

The banking system with which the authorities deal is one that is highly concentrated. Two large commercial banks each operate a nationwide system of branches; several other commercial banks serve various regions of the country. In addition, there are several types of specialized credit institutions.

Reserve requirements

Prior to the 1969 amendment to the National Bank Law, the maximum rate for cash reserve requirements that the National Bank could set for any category of credit institution was 15 per cent.[1] The 1969 amendment left this ceiling unchanged for time and savings deposits, but raised it to 25 per cent for demand deposits. This reserve ratio can also be applied to borrowed funds and to foreign liabilities and liabilities in foreign exchange to Austrian residents, to the extent that they exceed foreign assets and credits in foreign exchange to Austrian residents. In addition, the National Bank may impose reserve requirements of up to 50 per cent on increases in the excess of foreign liabilities over foreign assets of the credit institutions. This latter provision represents the most powerful tool yet available to the authorities to control inflows of foreign capital, which have often proved disruptive to the conduct of monetary policy in the past.

In the 1969 amendment the interest rate payable on shortfalls in meeting reserve requirements was raised from 3 percentage points to 5 percentage points above the discount rate. Deposits held for reserve purposes are counted as part of the liquid assets held under credit-control agreements with the Ministry of Finance.

Savings banks or urban and rural credit cooperative (*Reiffeisen*) societies are normally affiliated with their own central credit institutions. They may hold their required

[1] This term covers commercial banks, savings banks, mortgage banks, urban and rural credit cooperative societies, and the Postal Savings Bank.

deposits with such institutions, which in turn are required to hold equivalent deposits with the Austrian National Bank. Similarly, commercial banks and other credit institutions, such as mortgage banks, may deposit their reserve balances with the Postal Savings Bank, which in turn is required to make an equivalent deposit with the National Bank.

The National Bank tends to adjust minimum reserve requirements to the international flow of funds. As of September 1970, reserve requirements for institutions with total deposits of 40 million schillings or more were 9½ per cent on demand deposits, 7½ per cent on time and savings deposits up to 12 months, and 6½ per cent on time and savings deposits of more than 12 months. For institutions with less than 40 million schillings in deposits, reserve requirements for demand deposits were 5½ per cent, while time and savings deposit requirements were 5 per cent.

Discounts and advances

Legally, all credit institutions have access to facilities at the Austrian National Bank. Until the 1969 amendment to the National Bank Law prohibited the practice, some private firms and individuals could discount paper with and obtain advances from the Bank. The ability of credit institutions to discount and borrow depends mainly on the availability of paper eligible for rediscounting or as collateral against advances.

Paper eligible for discount includes schilling-denominated bills and promissory notes issued by private or publicly owned enterprises, provided such paper has the signatures of two parties known to be solvent and is payable (in Austria) within 3 months. The Federal Government may obtain advances by using Treasury certificates as collateral. The ceiling for such advances was raised by the 1969 amendment to the National Bank Law from an absolute limit of 1 billion schillings to 5 per cent of Federal Government revenue, or almost 5 billion schillings on the basis of projected revenue for 1970. Bills arising from export transactions under the export promotion program were for awhile rediscountable at a preferential (lower) rate, but no longer are. In addition, the National Bank may discount securities or coupons of securities eligible as collateral for central bank advances, provided they are payable within 3 months.

Decisions as to whether bills offered are rediscountable are made by an outside Committee of Scrutiny appointed by the National Bank's board of directors. However, the advice of the committee is not binding on the board of directors.

The National Bank may also make loans against collateral for a period of not more than 3 months. Assets accepted as collateral are gold coin or bullion, bonds listed on the Vienna stock exchange, bills of exchange or promissory notes payable in national or specified foreign currency with a maturity of no more than 3 months, foreign exchange, and warehouse receipts issued by officially authorized warehouses.

There are no explicit limits on rediscounting or granting of loans at the stated rates for discounts and advances. Nevertheless, the National Bank maintains informal ceilings on the amount of central bank credit extended to each credit institution. When it believes that an institution's discounting is bordering on the excessive, it requires that further borrowing by that institution be in the form of advances (at a higher cost). The National Bank will raise the ceiling if in its judgment such an adjustment is justified. The basis for this informal control is the provision in the law that the National Bank may refuse rediscounting and advances against collateral without

statement of reason. The only quantitative restraints and ceilings apply to Government borrowing and to export promotion bills (currently 3 billion schillings), which are not subject to the credit ceilings applicable to commercial banks.

During the 15-year period since the National Bank was organized in its present form, the discount rate has been changed nine times within the range of 3¾ to 5 per cent, two of the nine changes having taken place in 1969 and 1970 (through July). These changes serve as a widely recognized signal of the National Bank's view of the direction in which monetary and credit conditions should move, in part because of their possible effects on the structure of domestic interest rates. Changes in the central bank discount rate are usually accompanied by changes in the rates on advances, which are higher than the discount rate and are sometimes instrumental in affecting the lending rates of credit institutions.

There is no rigid link between the discount rate and the lending rates of credit institutions, which move in response to other forces as well. Changes in the discount rate have at times preceded, and at other times followed, the general trend in interest rates. In 1963 a reduction of the discount rate to 4½ per cent produced no effect on interest rates, and the monetary authorities negotiated agreements with the credit institutions to lower their loan rates by ½ to 1 percentage point. The discount rate has recently been more important in determining the structure of interest rates, but only when used in conjunction with other instruments, such as the issuance of short-term cash certificates to commercial banks and their subsequent redemption.

Other instruments of monetary policy

In its direction of monetary policy, the National Bank also makes use of credit ceilings, liquidity ratios, open market operations, and moral suasion.

Credit ceilings. Under the Credit Control Agreement (originally made in 1951 and fundamentally revised in 1957) the authorities have negotiated voluntary credit ceilings with credit institutions that apply to the total volume of loans and advances that credit institutions may make. These ceilings are stated as fixed proportions of a credit institution's net worth and liabilities. They apply to the total of schilling loans on current account, acceptances, advances to public authorities, advances against mortgages, and loans to credit institutions to which ceilings or voluntary agreements do not apply. Discounted and rediscounted bills are included in this total, but export promotion bills, European Recovery Program bills,[2] and certain other types of financing are excluded.

Net worth is defined to include not only paid-in capital and reserves but also pension reserves (which usually expand more rapidly than capital and regular reserves). Liabilities consist of schilling deposits of Austrian and nonresident depositors and promissory notes. To avoid double counting, deposits belonging to Austrian credit institutions that are subject to voluntary or imposed ceilings are not considered liabilities for the purpose of extension of credit. Schilling deposits of foreign credit institutions that may be included in liabilities for this purpose are limited to the level of such deposits on December 31, 1963. Thus, acquisition of additional schilling deposits of foreign credit institutions cannot increase the credit ceilings.

Since July 1966 the ceiling for commercial banks has been equal to 70 per cent of

[2] ERP bills arise from loans made for industrial and other development purposes by the National Bank out of a revolving fund consisting of the schilling counterpart of Marshall Plan aid to Austria.

liabilities plus 75 per cent of net worth.[3] The net worth ratio has been unchanged since April 1957, but the liability ratio was reduced on three occasions between 1962 and 1964 and raised in July 1966. Thus this tool was frequently used in response to changes in monetary conditions. Individual banks and other credit institutions have exceeded their credit ceilings from time to time, but credit expansion of all credit institutions has remained below the aggregate ceiling, and only recently has the margin available for expansion been reduced substantially.

Liquidity ratios. Liquidity ratios, originally established for the protection of depositors, have been employed on occasion in recent years for monetary policy purposes. These ratios, also established under the Voluntary Credit Control Agreement, prescribe the form in which credit institutions must hold a certain proportion of their assets; this proportion is set in terms of the liabilities of the credit institution. Such liabilities are defined as all-schilling deposits of Austrian and foreign depositors (including credit institutions), promissory notes, and acceptances.

Currently, "primary" liquid assets are defined as vault cash and deposits with the National Bank and the Postal Savings Bank, and for banks the ratio of such assets to liabilities is presently 10 per cent. "Secondary" liquid assets are defined as securities acceptable by the National Bank as collateral for advances and bills eligible for rediscount, net foreign assets, and collection items sent to other credit institutions as well as demand balances held with them; the liquidity ratio on "secondary" assets for banks is currently 30 per cent. Different ratios with regard to primary and secondary assets apply to other categories of credit institutions. Any deficiency in primary liquid assets incurs a penalty charge equal to the discount rate, but the penalty for a deficiency in secondary liquidity is only 1 per cent.

Open market operations. In view of almost continuous surpluses in the Austrian balance of payments, the National Bank did not use the authority to undertake open market operations for the purpose of regulating the money market until 1965, except for two special transactions in 1962. In 1965 a law provided for the conversion of the central bank's claims on the Government—up to a total of 3 billion schillings —into 2 per cent Treasury certificates (with maturities from 3 months to 2 years) for use in open market operations. A favorable balance of payments situation and the lack of money market facilities so far have restricted the scope of open market operations, but since October 1966 the Austrian National Bank has occasionally appeared as a buyer in the open market. Fixed-interest-bearing securities that fall due within 1 year from the purchase date are eligible for such purchases.

The 1969 amendment to the central bank law contained several new provisions designed to enable the National Bank to conduct open market operations more effectively. Chief among these was a provision allowing the National Bank to issue short-term debt certificates and to determine their amounts, maturities, and interest rates. In January 1970, when the discount rate was raised to 5 per cent, the National Bank used its authority for the first time by issuing 1.5 billion schillings ($57 million) of cash certificates. At the end of May 1970, when the National Bank believed that the possibility of a severe liquidity

[3] Net worth is defined to include paid-in capital and reserves (also pension reserves) less the value of certain assets, such as real estate and buildings owned and permanent investment in other enterprises.

squeeze existed, it redeemed two-thirds of these certificates. With its broadened powers and its increasingly activist stance, the National Bank will most probably pursue open market operations more vigorously in the future.

Moral suasion. Moral suasion has been used by the authorities from time to time. Examples are (1) the agreement with most categories of credit institutions to reduce the cost of credit to the nonbank public, and (2) the agreement with selected banks in 1964 not to repatriate foreign assets. A more recent example was a letter issued in August 1966 to the credit institutions from the Ministry of Finance stating that, according to the Credit Control Agreement, credit was to be granted only for economically justified purposes, and that consumer credit at that time was not economically justified unless all credit demands for investment purposes had been satisfied.

BELGIUM

Introduction

In Belgium monetary policy is administered by the National Bank, under the direction of the Minister of Finance. Open market operations are executed by the Securities Stabilization Fund (SSF), which is administered jointly by the Minister of Finance and the National Bank. When other means of financing its operations prove insufficient, the SSF may obtain advances from the National Bank.

At the end of World War II the liquidity of Belgian commercial banks was very high, because these banks had accumulated a very large portfolio of short-term Treasury certificates. In order to control credit expansion in the early postwar period, the authorities required the banks to maintain high liquidity ratios by holding Treasury certificates—thus preventing massive liquidation of such securities to meet loan demands.

However, for a number of years after the war, credit demands of business and industry were never long lasting, and they could be regulated quite easily through changes in official interest rates. On the other hand, the requirement that banks maintain high liquidity ratios had the indirect effect of supplying funds to the Treasury when inflationary pressures resulted in an increase in bank deposits, and the opposite effect in the case of deflationary trends; hence such ratios defeated their purpose. For that reason, toward the end of the 1950's and in the early 1960's the ratios were successively modified and ultimately abolished.

In recent years credit demands of business and industry have been extremely large during certain periods, and it has not been possible to control these demands exclusively by manipulation of the National Bank's rates. Moreover, the monetary authorities could not expect to influence in a significant way the volume of bank lending to the private sector by regulating bank liquidity, for the banks have, in effect, many possibilities for obtaining funds for such lending. Included among these possibilities are (1) sale of holdings of short-term Government securities and (2) rediscounting of loans (trade bills). In April 1969, however, ceilings were established for rediscounts and certified paper.

Indeed, the rediscounting of a large proportion of trade bills is an important characteristic of the Belgian credit system. Domestic trade bills that meet the eligibility

conditions of the National Bank may be rediscounted with that institution, but since April 1969 only within the limit set by the ceiling on rediscounts and certified paper. Foreign trade acceptances if previously certified by the National Bank (see p. 210) may be discounted at the Rediscount and Guarantee Institute (*Institut de Réescompte et de Garantie* (IRG)), which operates as a primary discounting institution; or, when these acceptances have a remaining term of less than 120 days, they may be discounted at the National Bank. Moreover, banks may buy and sell in the market any bills regardless of whether the bills are rediscountable at the National Bank or at the IRG, which acts as a broker for the greater part of the bills that it does not acquire for its own account; these include uncertified bankers' acceptances, uncertified trade bills, and medium-term investment credits. Finally, the banks may obtain from the National Bank advances against Government securities for very short periods.

During periods of very active demand for credit by business and industry, the National Bank has established guidelines for maximum expansion of bank loans and has asked the banks not to exceed the amounts allowable under the guidelines. For a time these recommendations were supported by a cash reserve requirement of 1 per cent. As in previous periods when the National Bank had set credit expansion guidelines for the banks, the appropriate supervisory authorities applied similar regulations to other financial intermediaries. The Belgian two-layer discount mechanism (IRG and National Bank), in which two sets of discount rates are used at each level, gives the monetary authorities great flexibility in controlling the volume, composition, and cost of central bank credit, while providing a safety valve by making it possible to obtain secured advances for very short periods.

However, Belgium is a clear example of how inadequate the discount mechanism of a small country may be to control domestic liquidity in the face of strong international influences. Furthermore, until the introduction of rediscount ceilings in April 1969, when the authorities acquired new control tools, they used existing tools sparingly; for instance, the highest reserve ratio imposed on deposits was 1 per cent. While discount and other domestic operations have usually tended to dampen the effects of international factors on bank liquidity, the contribution of reserves of foreign origin to bank liquidity (in some important instances related to Government borrowing) generally far exceeds the volume injected by discount operations.

Institutional framework

The private banking system consists of about 80 commercial banks. The three largest—*Société Générale de Banque, Banque de Bruxelles,* and *Kredietbank*—are countrywide branch systems that together account for more than 75 per cent of all commercial bank deposits. There are several medium-sized banks (such as *Banque Lambert*) and a few small banks that are of importance in specialized fields —such as the diamond trade, public works, industrial finance, and consumer credit—as well as some private savings banks and some other categories of private credit institutions.

Public credit institutions, the combined assets of which are about equal to those of the commercial banks, have an important impact on the money market and on banking practices. These institutions include: (1) the Government-operated postal giro system, which has substantial deposit liabilities that are invested exclusively in Treasury securities; (2) a nationwide public savings bank (General Savings and Pensions Fund), which channels savings of individu-

als into Government bonds, construction, and medium- and long-term loans to industry; (3) the Belgian Municipal Credit Institution, which makes loans to local governments from savings deposits and the deposits of municipal funds it receives but obtains more than half its funds by issuing bonds; and (4) the National Industrial Credit Company (NICC), which raises funds by soliciting time deposits and issuing Government-guaranteed bonds and in turn uses these funds to make medium- and long-term loans to industry.

Since these public credit institutions keep accounts with the National Bank, their operations affect directly the credit base of the commercial banks. The nature of this impact is complex, however, because these public institutions make sizable purchases of bills and acceptances, originated by the banks, and place any free balances they may have in the day-to-day market. Competition from public credit institutions has caused commercial banks to enter new fields; for example, the success of the postal giro system has stimulated the banks to broaden their branch-banking facilities, and the thriving term-loan business of NICC has led them to expand their medium-term loans to industry.

The National Bank of Belgium [4] was founded in 1850 as a joint stock company. The Bank's activities have been modified by various laws and royal decrees since 1938. The most important laws affecting the Bank were those of 1948 that permitted the Government to acquire half of the capital stock of the central bank and introduced important changes in the Bank's organizational structure.

The National Bank possesses most of the usual central bank powers. However, its discounting power is limited to paper with maturities of 4 months or less, and its open market activities are circumscribed by legal limitations on the volume of Government debt it may hold.[5]

The Belgium-Luxembourg Foreign Exchange Institute, established in 1944, has the ultimate responsibility for the administration of exchange control in the Belgium-Luxembourg Economic Union. The Institute is under the supervision of the Minister of Finance, who exercises such supervision through a commissioner. It is administered by a board, the chairman of which is the Governor of the National Bank of Belgium. Its day-to-day management is entrusted to the National Bank, and its exchange control functions for most payments and transfers are delegated to authorized banks.

Several special official institutions participate in the operation of three of the main instruments of monetary policy; that is, rediscounting and lending on collateral, open market operations, and the setting of various minimum liquidity and reserve ratios.

The central bank determines discount policy, while the IRG operates as a primary discounting facility for certain credit instruments. The IRG was established in 1935 in an attempt to prevent repetition of the difficulties of the early 1930's. At that time the banks were unable to meet demands for cash by rediscounting with the central bank because much of the paper they held was ineligible—for maturity or other reasons. Capital of the IRG was supplied by the commercial banks, but it operates as a para-

[4] Since 1935 the National Bank has also offered some central banking services to Luxembourg (which joined in economic union with Belgium in 1921), but not all of these have been used.

[5] The limit, set in an agreement between the Bank and the Government, was originally 44,333 million Belgian francs (B.F.) (including B.F. 34 billion representing consolidated war debts), plus an amount equal to the Bank's capital, reserves, depreciation, and pension funds, but was raised by 6.2 billion in September 1968. It will be reviewed after 3 years. There are also provisions for a supplemental credit line in certain contingencies, such as large withdrawals from the postal giro system.

governmental organization, under a board of eight members appointed by the Government.[6]

The Securities Stabilization Fund was established in 1945 to regulate the market for long- and medium-term Government securities by conducting open market operations in such securities. In 1959 the SSF's power to engage in open market operations was extended to short-term Government paper. Whereas in the first few years the SSF financed itself primarily by borrowing in the money market, since 1957 it has been issuing its own securities to commercial banks and, more recently, to other financial institutions.

Operations of commercial banks are supervised by the Banking Commission established in 1935. It has authority to impose liquidity and reserve ratios, after obtaining governmental approval; the National Bank has authority to make recommendations for those ratios, which are set in the light of policy considerations. However, not until 1946 did the Banking Commission use its authority to set a liquidity ratio; the one set then was designed mainly to freeze bank claims on the Government resulting from World War II. That ratio was eliminated in 1962. Subsequently the Commission has imposed cash reserve ratios from time to time. The Commission also has the authority to impose capital ratios and has done so since 1946.

Public credit institutions are supervised by the Ministry of Finance and private savings banks by the Central Office for Small Savings, of which the Governor of the National Bank is the president.

Discounts and advances

The National Bank extends credit to commercial banks, to the IRG, and to a number of other Government credit institutions, largely by rediscounting commercial bills and bankers' acceptances. Trade bills must bear signatures of three persons or entities known to be solvent (including that of one Belgian bank) and must meet the National Bank's standards for quality and maturity. Rediscounts—except those for the IRG—are made for a minimum of 10 days, and discounted bills are kept until maturity. The Bank consolidated in July 1969 its seven discount rates into two; it also has three different rates on advances.

In order for bills and acceptances arising from foreign trade to be eligible for rediscounting when they come within 120 days of maturity (the maximum term legally permitted for central bank discounting), they must have been "certified" by the National Bank. The Bank's review is designed primarily to assure: (1) that an identifiable commercial transaction is covered by the paper, and (2) that the term of the paper is consistent with the period of time needed to complete the underlying transaction, which may range up to several years. Until June 1970 such certification was "unconditional." Since June 1970, however, the "unconditional" certification ("visa") has been replaced, in the case of short-term bills and acceptances covering exports to other countries of the European Economic Community, by a "conditional" certification ("certification"). The main difference between a conditional and an unconditional certification is that a bill, when granted the latter, was charged at once to the bank's ceiling (for rediscounts and certified paper) and was certain thereafter to be accepted for rediscount by the National Bank, whereas, with a conditional certification, a bill will be accepted for rediscount by the National Bank only if the bank's ceiling shows at the time the necessary unused margin.

Until recently separate discount quotas for certified bills and for other bills were

[6] While there is no statutory requirement that any of these members shall be representatives of the National Bank, in 1969 three of the board members in fact were.

set for individual banks on the basis of their capital and reserves;[7] prior to April 1969 these quota ceilings were reached only in exceptional circumstances and the National Bank had almost never refused to discount bills that satisfied the qualitative eligibility requirements. However, in April 1969 the informal quota system was replaced by a more formal system of ceilings on rediscounts and certified paper that set a limit on each bank's ability to borrow from the central bank, either directly or via the market. The new policy instrument also enables the Bank to influence directly the size of bill holdings that are eligible for rediscounting.

As a matter of policy, the National Bank does not do any direct discount business with firms domiciled in Brussels, but it does engage indirectly in such business through most of its agencies. These agencies have local discounting committees consisting of wealthy individuals who scrutinize and endorse (for a fee) the paper offered, and the Bank relies on the recommendations of these committees.

Advances provide liquidity at a higher cost than discounts and for very short periods only. Between 1966 and 1969 advances to banks against collateral of Government securities (including Treasury certificates and certificates of indebtedness of the SSF) accounted for less than 2.5 per cent of total central bank credit. These loans may be repaid after 1 day, and the central bank does not allow these credits to be utilized for more than a few days.

The IRG operates as a rediscounting agency for certified bills and acceptances. It purchases (or rediscounts) bankers' acceptances and trade bills certified by the central bank if they are within 2 years of maturity; for bills that mature within the 120-day limit, it offers terms that are even more favorable than those of the central bank. The IRG also provides the third name necessary to make the paper discountable at the central bank. The IRG acts both as broker and as principal. It sells to commercial banks and public credit institutions some of the paper offered to it.[8]

Before 1962, 75 to 90 per cent of the bills and acceptances certified by the National Bank were offered to the IRG. Since 1962, when the high liquidity ratios that had required banks to hold large amounts of Government securities were eliminated, banks have found it possible to retain some eligible paper for longer periods in their own portfolios—sometimes discounting the paper as it approached maturity. Nevertheless, in recent years between 50 and 65 per cent of the paper certified by the National Bank was still acquired by the IRG. Of the bills and acceptances acquired by the IRG, both certified and not certified, and not subsequently sold in the market, the proportion rediscounted with the National Bank has fluctuated between about 45 and 80 per cent in recent years.

The IRG also makes a secondary market (as an intermediary) for commercial paper —primarily that which has not been certified by the National Bank—with maturities ranging from a few days to 5 years. Some of the paper traded in this market meets the

[7] The quotas were computed as multiples of capital funds for the two main categories of discountable paper: domestic commercial bills and foreign trade bills and acceptances. The quota for certified bills for each bank was communicated to that bank.

[8] The IRG also extends credit lines to banks for general use and to finance manufacturing operations, customers' receivables, and public works. While originally only one of its main activities, IRG's rediscount business has grown in the postwar period to become its principal function. The ceiling for these credits, which are not discountable at the National Bank, as established by the directors of the IRG, was increased from 20 billion to 27.5 billion B.F. in January 1970. In recent years a relatively small portion of the credits granted have been taken up. The IRG charges a commission of ¼ percentage point for these credits and remits half of this fee for any unused credits.

requirements of the National Bank and therefore would be eligible for rediscount with the central bank. Although the IRG does buy commercial paper, it has a ceiling on the total amount of noncertified paper and promissory notes of banks that it will hold.

The IRG finances its operations by borrowing in the day-to-day market, by rediscounting with the central bank, and by selling bills either outright or under repurchase agreement.[9] It alone among the day-to-day market participants is a borrower only. The SSF is sometimes a substantial lender and sometimes a substantial borrower. Other participants are usually small net lenders. (Other Government and quasi-governmental financial institutions, commercial banks, and private savings banks are not allowed to be net borrowers on balance in any quarter (see pp. 213 and 214) and, taken together, are heavy net lenders.)

The cost of credit available from the IRG tends to follow market rates. When the IRG has to increase its borrowing from the central bank, its discount rates tend to approach the official discount rates. IRG intermediation adds considerable flexibility to the availability and cost of central bank credit to the banking system, directly or indirectly.[10]

The discount rates set by the National Bank and the IRG (which generally adjusts its rates to conform with rates of the central bank, albeit sometimes with a lag) occupy key positions in the short-term interest rate structure. Since commercial banks tend to rediscount a portion of their portfolios of bills and acceptances, rediscount rates in the secondary market move with the rates set by the central bank and the IRG. In fact, banks often quote interest rates in terms of the National Bank discount rate. Rates on bank deposits are set by agreement between the National Bank and the Belgian Bankers Association.

The extent to which the specialized agencies can expand rediscounts and open market purchases without involving central bank credit, directly or indirectly, is of course limited. By providing highly liquid assets to banks and other credit institutions and by trading in short- and medium-term commercial obligations (in the case of the IRG) or Government obligations (in the case of the SSF), the IRG and the SSF have undoubtedly contributed to the development of the money market and of the market for commercial paper and Government securities in Belgium.

Nevertheless, the ability of the IRG and the SSF to finance their operations outside the central bank—in the day-to-day market, for example—is immediately dependent on bank credit and ultimately on central bank credit. In Belgium, where almost 50 per cent of the money supply consists of currency issued by the central bank, the banks have little leeway for credit expansion without the support of the central bank. In fact, in recent years operations of the IRG and the SSF have been supported indirectly by the central bank in one way or another.

Other instruments of monetary policy

Until recently the monetary tools used, in addition to the discount mechanism, were open market operations and foreign ex-

[9] Financial commitments of the IRG are limited by the amount of the Government guarantee on IRG obligations, which stood in January 1970 at 27.5 billion B.F.; this guarantee covers not only borrowing in the day-to-day market but also contingent liabilities created by credit lines extended to banks (whether or not taken up by them), liabilities under repurchase agreements, and, most important, the contingent liabilities inherent in its endorsement of commercial bills and bankers' acceptances rediscounted with the central bank.

[10] For example, between July 6, 1964, and June 3, 1966, the official discount rate was not changed, but the schedule of IRG rates was altered 14 times.

change operations and controls. Very little resort has been made to reserve requirement ratios, but liquidity ratios, not used since 1962, were reintroduced for a 1-year period in June 1969. Moreover, since 1969 the National Bank has again employed credit ceilings. The reason is that in circumstances that call for a rapid change in credit conditions—such as was necessary in that period—exclusive reliance on the discount mechanism is unlikely to produce the desired results with sufficient speed, because the effectiveness of discount policy depends, to a large extent, on the banks' need to borrow and/or on the elasticity of loan demands. In this same period direct controls were introduced over the money market.

The SSF influences the liquidity of the monetary system by increasing or decreasing its borrowing from the National Bank and by making deposits with, or withdrawing them from, that Bank. While operations of the SSF are often quite substantial, a large portion of these operations usually do nothing more than release existing bank liquidity; they do not inject central bank credit into, or withdraw it from, the banking system.

Reserve requirement ratios were imposed early in 1962, as one of the moves to increase the central bank's control powers. The Banking Commission has the authority to set reserve requirements of up to 20 per cent of sight (demand) and short-term deposits and up to 7 per cent of other liabilities and savings deposits, if requested to do so by the central bank. But in fact, this control tool has been used in Belgium very sparingly; a 1 per cent rate was in effect from mid-1964 to mid-1965 only.

The Belgian National Bank has also been experimenting with foreign exchange operations as a means of influencing domestic liquidity. In 1966 for instance it sold on the "free" foreign exchange market part of the proceeds of the Government's foreign borrowing in an effort to reduce the effects of such borrowing on domestic liquidity by encouraging capital outflows. Most capital outflows and certain other payments must be effected via the "free" as opposed to the "official" market. The free foreign exchange market, which is fed by the proceeds of capital inflows, limits capital outflows; any official additions to the supply of "free" foreign exchange would normally encourage capital outflows, but the incentive may prove ineffective in periods when tight money markets at home favor borrowing abroad. The Belgium-Luxembourg Foreign Exchange Institute also occasionally imposes controls on the foreign exchange operations and the net foreign positions of banks.[11]

Credit ceilings have been imposed on a "voluntary" basis since 1964 by the National Bank on commercial banks and by the Finance Ministry on Government credit institutions and insurance companies. Ceilings for lending by savings banks are set by the agency supervising this sector. At various times in recent years, the central bank has applied direct restrictions on bank credit expansion by setting credit ceilings for individual banks. Related ceilings for Government credit institutions, insurance companies, and private savings banks have been set concurrently by other authorities.

Direct controls have been employed recently in the day-to-day (interbank) market as well. Since this market appeared to

[11] Most recently, in April 1969, the Belgium-Luxembourg Foreign Exchange Institute established a ceiling for each Belgian and Luxembourg bank for working balances in foreign exchange drawn from the controlled market as well as for the amount of Belgian franc advances in convertible accounts to foreigners; later in the year the ceiling was reduced and applied separately to the two types of foreign exchange assets.

be used for more than the very short-term liquidity adjustments it is designed to provide, directives were issued to banks, public credit institutions, and private savings banks requiring that the loans of each institution to the market must at least equal, during the quarter, its borrowing from the market; however, the new ruling does not apply to the SSF or to the IRG.

Still another tool, which was introduced by the Banking Commission in June 1969 but which lapsed a year later, was the "reinvestment" ratio. This ratio was defined as the relationship between easily negotiable assets and short-term liabilities of banks. It differed from the "cover ratios" abandoned in 1962 because it included commercial paper. It was designed to increase gradually to 60 per cent over a 12-month period the percentage of short-term Belgian franc liabilities covered by easily negotiable assets.

CANADA

Introduction

In Canada monetary policy is a major expression of official economic policy, which has an influence on aggregate demand and on flows of capital into and out of the country. Economic developments and credit conditions in the United States are of considerable importance for Canada, and the maintenance of certain relationships between Canadian interest rates and those in the United States is frequently an objective of, as well as a limiting factor on, monetary policy. Nevertheless, interest rate spreads between the two countries do vary considerably at both the short and the long end of the maturity spectrum. There is also considerable scope for differences in monetary conditions to occur as a result of variations in the mix of monetary, fiscal, and debt management policies.

The Bank of Canada employs open market operations, two types of reserve requirements, the discount mechanism, and management of the Government's cash balances as its principal tools for carrying out monetary policy. For a number of reasons, as will be discussed below, the banking system normally makes use of the discount window only as a last resort. The principle underlying discount policy in Canada is well stated in the following excerpt from a report submitted by the Governor of the Bank of Canada to the Royal Commission on Banking and Finance: [12]

> The present arrangements under which such advances may be obtained are designed to limit the Bank's role as lender of last resort to exceptional circumstances and to encourage the chartered banks to use, whenever practicable, alternative methods of adjusting their cash reserves in the markets such as calling day-to-day loans or selling securities.

There are several reasons why the discount window has never been an important and continuous source of funds for the Canadian banking system and has customarily been used only for short periods in particular circumstances. The chief one is that the banks can adjust their cash positions by calling loans made to money market dealers; by selling short-term securities in a well-functioning money market; and to some extent, by converting short-term foreign assets into Canadian dollars. Other reasons are (1) the concentration of banking reserves in nine branch-banking systems in which cash gains and losses of individual branches tend to be offset; (2) the method

[12] Bank of Canada, *Evidence of the Governor of the Bank of Canada before the Royal Commission on Banking and Finance,* May 31, 1962, p. 148.

of computing reserve requirements and a relatively long averaging period (one-half month), which gives the banks considerable flexibility in adjusting their reserve positions; and (3) a reluctance to borrow at the end of a month, in order to avoid showing such borrowings in the published month-end statement of assets and liabilities.

The Bank of Canada usually influences the liquidity of the banking system by open market operations in Government securities of all maturities and by shifting the Government's cash balances between its own books and those of the chartered banks.[13] It can also change the statutory secondary reserve ratios, which establish the banks' minimum holdings of the total of cash in excess of the cash reserve requirement, Treasury bills, and day-to-day loans. In addition, the central bank may influence the behavior of the banks by moral suasion. One recent example was its request, in 1969, that banks make no further upward adjustments in interest rates paid for large fixed-term deposits.

Institutional framework

The Bank of Canada, established in 1934 and the youngest central bank among those covered by the present study, is vested with customary central banking powers. It is fully owned by the Canadian Government, and its board of directors is appointed by the Government.

The commercial banking system is highly centralized. Nine chartered banks form the nucleus of the system, and they operate over 6,000 branches and/or offices throughout the country. In addition, the financial system includes a variety of other institutions that carry on certain types of banking business: savings banks; mortgage loan and trust companies; and credit unions and consumer credit companies. Some of these institutions operate nationally, while some serve whole provinces and others more limited areas.

Until July 1967 the law required the chartered banks to hold vault cash and/or deposits with the central bank that would equal 8 per cent of their total Canadian-dollar deposit liabilities.[14] Under a voluntary agreement with the Bank of Canada, these banks also held a secondary reserve —consisting of day-to-day loans and Treasury bills—equal to 7 per cent of their total Canadian-dollar deposit liabilities. The two reserves brought the liquidity ratio to 15 per cent. In addition, the chartered banks normally held a liquidity cushion consisting of additional Treasury bills, day-to-day loans, other loans to investment dealers and brokers callable on demand, and a large portfolio of Canadian Government bonds concentrated in the shorter maturity area.

Under the new Bank Act, which became law on May 1, 1967, and provided for implementation beginning July 1967, reserve requirements (still to be held in the form of vault cash or central bank deposits) were raised gradually between July 1967 and February 1968 to 12 per cent for demand deposits and lowered to 4 per cent for time deposits, and the Bank of Canada's power to vary them was removed. However, the Bank of Canada was given the power to re-

[13] Shifting of Government balances by the Bank of Canada—with the approval of the Finance Minister —provides a technique for smoothing fluctuations in bank liquidity resulting from payments into and out of the Government's account at the central bank and, in addition, serves as an important instrument for short-term adjustments in bank reserves. The share of Government deposits placed with each bank is determined by a formula worked out by the banks themselves.

[14] Actually, the Bank of Canada had the power to raise cash reserve requirements to 12 per cent, but it never used that authority. While a penalty of 10 per cent per annum is levied on any deficiency in required cash reserves, the banks are careful to avoid deficiencies.

quire the banks to maintain their statutory cash reserve requirements over a semi-monthly instead of a monthly period. Also, the Bank of Canada was empowered to impose a variable secondary-liquidity ratio ranging between 6 and 12 per cent of total Canadian-dollar deposit liabilities, to be held at the commercial bank's discretion in any mix of (1) cash reserves in excess of the minimum requirements, (2) Treasury bills, and (3) day-to-day loans; this ratio is currently set at 9 per cent.[15]

Canada has no market equivalent to the Federal funds market in the United States. The chartered banks normally adjust their cash positions by calling day-to-day loans or by disposing of Government securities. These banks also have some scope for obtaining temporary liquidity from foreign sources by drawing down their foreign assets (consisting mostly of call loans, short-term securities, and deposits with foreign banks) or by increasing their short-term foreign currency liabilities and converting the proceeds into Canadian dollars. Recently there has been increased use of commercial paper and bankers' acceptances as sources of liquidity.

Discounts and advances

Central bank credit is available to the chartered banks and one federally chartered savings bank through rediscounts and collateral advances, and to money market dealers [16] under repurchase agreements. The Bank of Canada has authority to make short-term advances to the Canadian Government, but in practice such advances have been extremely rare.

Availability of central bank credit. Although rediscounting of commercial paper is an important feature of Canadian banking operations, commercial banks in fact obtain central bank accommodation entirely through advances because they hold a large portfolio of Government securities that they can use as collateral.

The Bank of Canada has authority to make advances to banks on such terms and conditions as it deems appropriate. It may accept a wide variety of paper as collateral,[17] but in practice all of its advances have been secured by Government paper.

The Bank of Canada does not put a ceiling on commercial bank borrowing from the central bank. However, it may reduce the attractiveness of such borrowing by progressively increasing the discount rates on consecutive advances in any one half-month reserve period. The first advance to a chartered bank in any reserve period (up to a certain confidential amount for each bank) is made at the official discount rate, which is a penalty rate in that it has always been above the rates on day-to-day loans and short-term Treasury bills. A second advance in the same reserve period, or a renewal of an advance, or an advance in excess of the amount specified by the Bank of Canada may bear interest at a negotiated rate above the discount rate. Advances are made and renewed for either two or three business days, at the option of the borrowing bank.[18]

[15] As with the old Act, deposit liabilities in currencies other than Canadian dollars are not subject to explicit reserve requirements. The new Bank Act (article 72) states that the banks must maintain "adequate and appropriate assets against liabilities payable in foreign currencies."

[16] There are about 15 money market dealers that have entered into arrangements giving them the right to obtain central bank accommodation at their initiative.

[17] Acceptable collateral, as defined in the Bank of Canada Act, consists of Federal and provincial government securities; U.K. securities within 6 months of maturity; U.S. Government securities; most bills of exchange and promissory notes endorsed by a chartered bank; Canadian municipal securities; securities issued by a local school authority (corporation or parish trustee); mortgages; gold or silver coin or bullion, or documents of title relating thereto.

[18] In addition, on the last day of any averaging period a bank may at its option take an advance for 1 day provided it had on the previous day a cumulative cash ratio at least equal to its required cash ratio for the period.

Central bank credit to money market dealers. Money market dealers may obtain central bank accommodation by selling Government securities with a maturity of 3 years or less to the Bank of Canada under an agreement to repurchase the securities within a maximum period of 15 days. The price at which these securities are resold is such that the dealers incur a cost equal to the so-called money market rate (see next paragraph) or the discount rate, whichever is lower. In contrast to the chartered banks, money market dealers are not required to pay interest for any minimum period of time, and the agreements are usually outstanding for only a few days. The dealers are given lines of credit on the basis of the volume of their business and inventories and of alternative sources of financing. The credit lines of dealers were designed in such a way as to assure liquidity of the day-to-day loans through which the commercial banks finance the dealers.

Level of the discount rate. For the first 20 years of the Bank of Canada's operations, the discount rate was of little significance; it was changed only three times. However, after a short-term money market developed in 1954 and the use of advances rose substantially under tightening credit conditions, the Bank of Canada raised the rate quite often in order to keep it above market rates. Then in 1956 the Bank of Canada shifted to an automatic technique for setting the discount rate, which came to be known as the "tied rate." From then through mid-1962 the Bank of Canada's discount rate was fixed weekly at a margin of ¼ of a percentage point above the latest weekly tender rate for 91-day Treasury bills. This method of setting the discount rate is unique in the history of central banking.

The tying of the discount rate in Canada reflected a central bank philosophy that the discount rate should not be used to lead or influence market rates or as a means of indicating the views of the central bank with regard to changes in economic conditions or to a new posture in monetary policy.[19] The main reason for tying the discount rate to the weekly bill tender rate in 1956 was to assure its penalty character; the resulting gradual changes in the cost of central bank credit were thought to be preferable to frequent changes by discretionary amounts. Use of the tying technique makes it possible for the central bank to raise the cost of credit unobtrusively in situations when it might be difficult to obtain support for a discretionary rate increase. Indeed, the tying technique was introduced following a period in which six successive increases occurred within 14 months.

However, use of the rigid linkage technique amounts to giving up direct control over the discount rate and substituting therefor indirect control of the market (Treasury bill) rate to which the discount rate is

[19] The Bank of Canada wanted no policy significance attached to these adjustments in its discount rate and hoped to minimize any disruptions to the economy that changes or expectations of changes might cause. According to a press release issued at the time of the institution of tied rates:

> . . . the bank rate is not changed arbitrarily or with a view to bringing about other interest rate changes. On the contrary, it has been desired since the development of the money market . . . that the bank rate should be kept in line with other interest rates and should move when they do, but not usually otherwise. The present technical change in the method of setting the bank rate from week to week is intended to clarify this relationship and remove what has evidently been a source of some public misunderstanding.

Four years later this opinion still prevailed. The Governor of the Bank of Canada wrote in the Bank's *Annual Report* for 1960:

> It will be apparent that there is no past history in Canada of having changes in the bank rate made with a view to influencing other interest rates, or as a means of indicating the views of the central bank with regard to changes in economic conditions or monetary policy. The Bank's view has been that moving the bank rate would not be the best method of giving such indication, which if they were to be given at all, would be the subject of public statements.

By pegging the discount rate in this manner, the Bank of Canada appeared to avoid using the rate for policy purposes. This impression was convenient at a time when monetary constraint was being aggressively used for the first time, and when the Bank had come under strong criticism for causing the substantial rise in Canadian interest rates.

tied. Because the Bank of Canada could substantially influence the bill rate (and thus the entire structure of short-term rates) by affecting the bank's cash reserves and by varying the amount of Treasury bills it purchases at the weekly auction, it in effect kept a good deal of indirect control over the bill rate, which automatically determined the discount rate. During the period in which the discount rate was tied, the Bank of Canada had a substantial portfolio of Treasury bills, and actually it did not follow a neutral policy with regard to the rate (as it would have by merely rolling over its bill portfolio).

While indirect management of the discount rate proved effective in normal periods, it became clear that an immediate, substantial increase in the cost of money could not be achieved through this device; such a need had developed in June 1962, when the authorities had had to take steps to counteract a threat to the exchange value of the Canadian dollar. Hence indirect management was abandoned at that time as part of a program to deal with a foreign exchange crisis.

The Bank of Canada has concluded since then that a discount rate that is set by the Bank provides an important element of stability in the structure of money market rates that had been missing during the era of the tied discount rate. When changes in the rate are being contemplated, discussions between the Bank of Canada and the Government may bring consideration of monetary policy into sharper focus. On some occasions, changes in the discount rate merely confirm basic policy changes that have been affecting market interest rates for a considerable period.

Since the return to a fixed discount rate in June 1962, central bank credit has been available at two different rates. The Bank extends advances to the chartered banks at the official Bank rate, and it enters into repurchase agreements with money market dealers at the money market rate (which is still set weekly by the central bank at ¼ of a percentage point above the 91-day Treasury bill rate) or at the official Bank rate, whichever is lower. Since the 91-day Treasury bill rate has always been kept below the official Bank rate, money market dealers have had to pay what in fact was a penalty rate.

The rationale behind the use of a double-base discount rate is that such a rate gives the central bank more operating flexibility. There may be times, for example, when the central bank would like to have short-term rates move down without having to take an overt action that might be construed as signaling a shift in the basic direction of monetary policy. In these circumstances the use of a separate money market discount rate assures money market dealers that they will obtain central bank credit at rates close to current (and declining) money market rates rather than at the unchanged (and higher) discount rate, which would tend to counter the downward pressures on short-term rates. Obviously, if in times of rising interest rates the spread between the official discount rate and the Treasury bill rate becomes less than ¼ of 1 percentage point, the dealers will opt to get cheaper accommodation at the official rate, and therefore the double-base discount rate would in effect become a single rate.

The official discount rate was set at 6 per cent in 1962, following a serious crisis in foreign exchange markets, as part of a comprehensive stabilization program designed to restore equilibrium in Canada's balance of payments. Subsequent changes in the Bank of Canada's discount rate have been made quite frequently, for both internal and external reasons, including the interest sensitivity of private capital flows between the United States and Canada.

There is no direct link by law or custom,

and therefore no fixed spread, between the central bank's discount rate and the loan and deposit rates of commercial banks. However, until May 1, 1967, commercial bank rates were limited under the Bank Act to a rate of interest or discount no higher than 6 per cent per annum on domestic loans.[20] Thus, rates of more than 6 per cent in the money and capital markets tended to cause pressures on the chartered banks, which on such occasions were faced with difficult problems of nonprice rationing.

Testifying at the hearings of the Royal Commission on Banking and Finance in 1962–63, Governor Rasminsky pointed out the disadvantage of interest rate rigidities in financial markets and indicated his opposition to a direct statutory linkage between the central bank discount rate and commercial bank lending or deposit rates. Under the new Bank Act, effective May 1, 1967, the ceiling on commercial bank lending rates was lifted to 7¼ per cent for the balance of the year and was eliminated altogether after January 1, 1968.

Quantitative role of central bank credit. Between 1958 and 1970, the yearly averages of commercial bank borrowing from the central bank outstanding on weekly reporting dates ranged from 0.001 per cent to 0.260 per cent of the chartered banks' required reserves. During the same period similar yearly averages of Government securities held by the central bank under repurchase agreements with money market dealers ranged from $2.4 million to $15.3 million (Canadian); as a proportion of chartered banks' required reserves, such holdings ranged from 0.24 to 1.38 per cent. During the same period the ratio of commercial bank borrowing at the central bank to their loans to the private sector averaged less than 0.03 per cent. For very short periods central bank credit has of course been much more important in cash reserve and money market adjustments than these annual average figures suggest.

[20] To some extent the banks had avoided this limitation by using various service charges.

FRANCE

Introduction

France, like most other continental European countries in which international transactions play a major role in domestic monetary and credit conditions, has found that regulation of the cash base of the banking system is complicated by the effect of external influences on bank liquidity. Prior to accepting convertibility, the banks' cash base had been enlarged mainly by discounting at the Bank of France, or by some very large loans by the Bank to the Government.

During most of the time since 1958, the expansion of the cash base of the banking system in France has been brought about largely by increases in official holdings of international assets. In the 7-year period 1961–67, during which there was a reversal in France's external payments position, official holdings of international assets trebled and accounted for nearly four-fifths of the expansion in the cash base. During 1968 and most of 1969, official holdings declined and thus had a restrictive rather than an expansionary effect on the cash base. Because it is difficult to reduce or offset bank liquidity brought about by surpluses on international transactions, French monetary authorities tend to rely heavily on direct controls over bank credit expansion to deal with inflationary pressures.

In periods when curtailment of inflows of foreign funds became a major policy objective, the central bank tended to keep the banking system supplied with enough cash to maintain money rates in Paris at low levels relative to those in major centers abroad. For this purpose, policy instruments developed to control discounting were used and refined in various ways; however, open market operations of the kind employed in the United States have never been used to supply funds to the banks in France. Such success as has been achieved in restraining inflows of foreign funds is attributable to employment of other monetary policy instruments to minimize money market stringencies that might attract funds from abroad, rather than to regulation of the foreign exchange position of banks or to prohibition of payment of interest on foreign-owned franc balances.

Because existing monetary policy instruments were not well adapted to the relatively new situation of large payments surpluses, and for other reasons, French monetary authorities have made several important changes in policy instruments and banking regulations in the last several years: (1) Cash reserve requirements were introduced to supplement and eventually replace required liquidity ratios. (2) The number of channels through which the central bank may funnel credit has been somewhat reduced, and the related structure of rates has been simplified. (3) Efforts have been made to reduce the importance of discounting commercial bills as a means of obtaining credit at the Bank of France. (4) Efforts have also been made to develop an active market for short-term Government securities so that the Bank of France can engage in open market operations, which for years have been inhibited by long-standing taboos against central bank lending to the Government as well as by the underdeveloped state of the money and capital markets. And (5) progress has been made to simplify the discount rate structure of the Bank of France. All of these changes affect in some way the regulation of discounting at the Bank of France, which is basic to the French system of monetary controls.

Discounting at the Bank by the banking system, which includes public and semi-public financial institutions, is restricted by a system of ceilings and liquidity ratios and by a prior authorization procedure. Since discounting within ceilings is considered a right rather than a privilege, however, commercial banks always have available what is, in effect, a line of credit at the central bank. However, there have been numerous changes since the early 1950's in regulations designed specifically to achieve quantitative limitations on expansion of bank credit.

In order to keep discounting within bounds, all discounts above ceilings, unless they fall into an exempt category (see p. 231), are made at a rate that at times is much higher than the ordinary discount rate. Since 1968 the differential has been 2½ percentage points.[21] In recent years the Bank of France has supplied liquidity to banks with the objective of keeping market rates below this ultimate penalty rate and —as indicated earlier—within a range that is compatible with the objectives of reducing inflows of speculative short-term foreign funds.

For a long time flexible liquidity ratios, under which bank exemptions from discount ceilings were limited first to Treasury bills and later to a considerably wider vari-

[21] From 1951 through 1967 banks could discount up to 10 per cent above their ceiling at an intermediate penalty rate called the "hell" rate. The highest levels at which the two penalty rates, "hell" (*enfer*) and "superhell" (*super-enfer*), were set were 8 and 12 per cent, respectively, in 1958 when the discount rate was 5 per cent. In December 1967 the two rates were combined into a single penalty rate.

ety of paper, were used as an important tool to control access to the discount window and to facilitate adjustment of the banks' cash positions. Until recently, they were manipulated in conjunction with special techniques at the discount window that had been developed to avoid end-of-month stringencies. One such ratio is still in force, but it is scheduled to be gradually reduced and ultimately abolished.

The discount mechanism has been used also as a means of selective credit control —in particular to support medium-term financing of expenditures for housing and industrial equipment and of exports. Qualitative credit controls in France make use of moral suasion and of a procedure of prior authorization by the Bank of France to make certain credits automatically eligible for discount.

Institutional structure

Monetary authorities. Responsibility for formulating monetary policy is shared by the Bank of France and the National Credit Council (NCC), which was established by the 1945 law that nationalized the Bank of France and the four largest commercial banks. The President of the Republic appoints the Governor (and two deputy governors) of the Bank of France. The president of the NCC, which has 44 members, is the Minister of Finance. However, the Governor of the Bank of France is the *de facto* head of the Council and is generally the presiding officer at its meetings. In addition to these two officers the NCC consists of representatives of several Government departments, of public and semipublic financial institutions, and of various economic and social interests; it has its own small secretariat drawn from the staff of the Bank of France.

Technically, the Bank of France has primary responsibility only for decisions that affect its own operations—mainly decisions related to rates and terms for discounts and advances. In these matters the NCC may only advise the Bank. On the other hand, matters that require action by the banks—as for example, maintenance of liquidity ratios—are technically the responsibility of the Council, which is concerned with banking procedures. In practice, the Council acts through the Bank of France as agent.

In addition to being responsible for monetary and banking control measures, the NCC provides a medium for coordination of views on the objectives and techniques of monetary policy. In this process the Bank of France provides leadership, but ultimate responsibility rests with the Government. The influence of the Bank of France depends to a large extent on the personality of its Governor.

A similar working relationship exists between the Bank of France and the Banking Control Commission, which was set up by the nationalization law primarily to administer liquidity ratios of the banks. The members of the Banking Control Commission are the Governor of the Bank of France, who is its *ex officio* president, two representatives of the Government, one representative of the commercial banks, and one representative of bank employees.

Structure of the banking system. The principal types of credit institutions that are classified as banks in France can be grouped into three categories: (1) *banques de dépôts* (deposit banks); (2) *banques d'affaires* (investment banks); and (3) other financial institutions. Some of the latter are organizations of a limited scope and of a specialized nature, and as such they are supervised by a ministry responsible for their particular area of activity. The most important institutions in this category are the *banques populaires* (cooperative credit

societies catering to the banking needs of small manufacturers, traders, and artisans) and the *caisses de crédit agricole* (agricultural credit cooperatives). The cooperative banking societies and the agricultural credit cooperatives have their own central discount institutions (the *Caisse Centrale des Banques Populaires* and the *Caisse Nationale de Crédit Agricole,* respectively). The *Caisse Centrale de Crédit Coopératif* is the central institution of nonagricultural cooperative credit institutions.

Several other public intermediate financing institutions that do not accept deposits play a very important role in the French banking and credit system and have discount privileges at the Bank of France.[22] They include the *Crédit National,* which provides long- and medium-term financing to public and private enterprises from funds acquired primarily by the issuance of bonds and which also endorses medium-term equipment paper, thus satisfying a requirement for making this paper discountable at the Bank of France; the *Caisse Nationale des Marchés de l'État,* which guarantees credit granted for the purchase of equipment by public and private enterprises; the *Crédit Foncier de France,* with its subsidiary, the *Comptoir des Entrepreneurs,* both of which grant mortgage credit from funds derived primarily by the issuance of bonds; and the *Caisse Centrale de Crédit Hôtelier, Industriel et Commercial.* Another institution that does not accept deposits is the *Banque Française du Commerce Extérieur,* which finances foreign trade on its own account and also assists other banks in such financing.

All deposit, investment, and long- and medium-term credit banks are under the jurisdiction of the Banking Control Commission and are known as the "registered banks." Their assets comprise nearly 80 per cent of the assets of the banking system as a whole.[23]

The distinction established in 1945 between deposit banks, which could not accept deposits with a maturity of more than 2 years, and investment banks, which could not accept deposits with a maturity as short as 2 years, was virtually eliminated on January 1, 1966. (However, the two types of banks remain subject to different regulations with regard to investments in shares.) The deposit banks perform all, and the investment banks some, of the functions that would be classified in the United States as commercial banking. French investment banks also engage in the same types of activities as do investment banks in the United States. The seven discount houses are classified as deposit banks. The four largest deposit banks, as already noted, were nationalized in 1945, and two of them were merged in 1967. The three nationalized banks, which together account for about one-half of total assets of all banks, are managed very much in the same way as privately owned banks, and they compete among themselves for all types of business. The nonnationalized deposit banks include establishments located in Paris (including a few with branches outside the city) and regional and purely local banks, as well as foreign banks. Practically all the investment banks are located in Paris.

[22] Additional financial establishments that may make loans but that do not accept deposits from the public include the following main categories: *sociétés financières* (financial societies, which do mainly an investment management business), stock brokerage houses, and instalment credit firms.

[23] At the end of 1969 the Banking Control Commission was supervising 237 French banks in Metropolitan France, with resources of 272 billion francs ($49 billion), of which 191 were deposit banks, 18 were investment banks, and 28 were long- and medium-term credit banks. In addition, the Banking Control Commission had under its jurisdiction 9 French banks operating overseas, 51 foreign banks in France, and 9 banks in Monaco.

Savings institutions (*caisses d'épargne*) have no direct access to central bank credit. However, nearly all of the funds collected by the savings institutions, which include "autonomous" savings banks, many of which are sponsored by municipalities, and the nationwide Postal Savings System are deposited with the *Caisse des Dépôts et Consignations,* which reinvests them in approved securities; hence, in the normal course of their business, savings banks have no need to discount their assets. The *Caisse* also manages the liquid funds of the social security system and the reserves of pension funds. It has access to central bank credit.

Among these institutions, only the *Comptoir des Entrepreneurs* (which supplies credit to contractors of major public works projects) is a substantial discounter with the Bank of France of paper that it originates; the others merely rediscount paper that has been previously discounted with them by banks or their member institutions. Thus, in effect, there is a two-tier discounting system—with specialized discount institutions dealing with a large number of primary credit institutions, mostly of local or regional significance, and discounting credits with the Bank of France, as needed. In some cases, however, they discount their own short-term notes drawn against a portfolio of discounted medium-term paper.

Indeed, an outstanding characteristic of the French banking system is its heavy reliance for liquidity upon discounting, either at the Bank of France or at the public financial institutions. This circumstance had its origins in the traditional willingness of the Bank of France to discount freely and in the high proportion of currency in the French money supply, which makes the banks quite sensitive to liquidity drains. All registered banks, as already noted, may in principle open an account for discounting purposes at the Bank of France, and in practice many banks have additional accounts for their main branches. The *Banque Française du Commerce Extérieur* may also discount directly with the Bank of France. A cooperative credit society may have an account for discounting purposes at the Bank of France, but individual agricultural credit cooperatives may not.[24]

Types of liquid assets held. The types of short-term assets acquired by French banks to meet their needs for liquidity depend to some extent upon the kinds of business that the banks are permitted to conduct, upon the standards of eligibility for discounting or for obtaining advances from the Bank of France, and upon the kinds of paper the Bank may purchase on the open market. Prior to the end of 1967, when they were abolished, two separate liquidity ratios were imposed by the NCC to control the liquidity of banks. The first prescribed minimum holdings of Treasury bills (*planchers*); the other, minimum holdings of a broader range of liquidity instruments (*coefficient de trésorerie*). These ratios constituted an additional and important tool of credit control (see below).

About 80 per cent of all commercial bank credit in France is extended in the form of discounted trade bills. Largely as a result of the heavy reliance by banks upon the Bank of France as a source of loanable funds, and the conditions imposed by the Bank for such accommodation, a major part of commercial banks' business consists of discounting short-term bills. These banks extend credit to the private sector largely in the form of discounts of commercial bills, acceptances, warrants, and cross endorse-

[24] For many years the Bank has not accepted new private customers, and for about 15 years it has discouraged credit demands from its remaining private customers—mainly nonbank, nonfinancial enterprises.

ments of promissory notes, all of which are described in French banking statistics as "discount of bills." At the end of 1968 "private paper" (*autres effets*) constituted almost half of the total assets of registered banks. At the large deposit banks this ratio was somewhat higher, and for investment banks it was slightly more than 40 per cent.

A considerable part of private paper consists, however, of loans to Government-owned enterprises, such as railroads, aircraft factories, and so forth. At the end of 1968, short-term Government securities made up less than 1 per cent of the total assets of registered banks; cash and deposits with the Bank of France and the Treasury, 3 per cent. Most of the nonliquid assets of the deposit banks were advances and overdrafts. Customers are expected to use overdrafts only to meet marginal requirements because such credits cannot be the basis for obtaining central bank credit.

Other than resorting to the central bank directly, individual French banks can increase their domestic short-term (under 1 year) borrowing only through the Paris money market. The main suppliers of funds to the money market are the commercial banks, stockbrokers, the various semipublic institutions that manage large amounts of funds, and the Bank of France (see above). The banks at times do discount at the Bank of France within discount ceilings for the purpose of supplying the funds so acquired to the money market. French banks may also borrow abroad.[25]

Instruments of monetary policy

During most of the postwar period a principal objective of monetary policy in France has been to direct bank credit into approved uses and to control its expansion. In mid-1964, keeping money market rates below the level that would attract inflows of funds from abroad became another major objective. With the development of a current-account deficit in 1966 the emphasis shifted to keeping capital from flowing out, and subsequently interest rate policy has been guided by balance of payments considerations.

At first French monetary authorities sought to control expansion of bank credit by restricting its monetization through ceilings on central bank credit and by use of liquidity ratios designed to neutralize war-generated liquidity. But in 1958 ceilings were introduced and used intermittently to control directly the expansion of bank credit to the private sector.[26]

Discount ceilings. The first step toward generalized credit control was the introduction in September 1948 of ceilings on discounting at the Bank of France at the basic discount rate. Originally the ceilings were placed on each bank's account for discounting purposes at the Bank of France, but as it turned out they were effectively restrictive for small banks only.

Discount ceilings for individual banks were initially set at approximately the level of discounts outstanding on September 30, 1948. But since then the global ceilings have risen because of adjustments in the ceilings of individual banks, and on a few occasions the ceilings have been raised across-the-board for reasons of over-all policy.[27] Several years ago each bank's discount ceiling was fixed on the basis of a complex formula that took into consideration mainly a number of quantitative fac-

[25] Until Jan. 31, 1967, they were required to maintain a balanced position in foreign exchange on spot and forward combined. Their claims in a given foreign currency, vis-à-vis both residents and nonresidents, were required to be equal to their liabilities in the same currency.

[26] Such ceilings were in effect for about a year, and then again from February 1963 to June 1965. After being formally abolished in February 1967, bank credit ceilings were reintroduced for the period October 1968 to October 1970.

[27] Most notably, the discount ceilings were raised

tors such as deposits, assets, and capital accounts; these formulas are changed very infrequently and do not reflect the relative growth of each bank. At first banks were required to bring their discounts within the ceilings only at the end of the month, but since 1951 they have been required to keep within the ceilings at all times.

Several kinds of paper are exempt from discount ceilings: in particular (1) bills representing medium-term credit to finance housing, industrial equipment, and exports (approved through the prior authorization procedure; see below), (2) grain storage bills, and (3) short-term foreign trade bills. Most types of paper representing medium-term credit must be discounted first with one of the intermediate financing agencies before becoming eligible for rediscounting at the Bank of France. The exemption from discount ceilings of certain categories of credit serves to promote the flow of credit into such activities deemed to deserve preferential treatment. The Bank of France requires as a condition for discounting that its prior authorization be obtained for bills representing purely financial transactions and for certain types of medium-term paper.

When the system of making medium-term credit discountable at the Bank of France was introduced in the early postwar years, it was expected that the intermediate financing agencies, which are collectors of savings, would hold the bulk of this credit to maturity. Claims upon the resources of these agencies were so great in the 1950's, however, that the agencies were constrained to pass on to the Bank of France the bulk of the medium-term credit instruments discounted by them.

Liquidity ratios. Prior to 1967, banks were not required to keep any particular cash reserves, but they were subject to two related liquidity ratios. These ratios had essentially the same initial purpose: to force banks to hold assets that could otherwise be monetized to provide the basis for an excessive expansion of credit—in the first case by discounting such assets or by letting the short-term Government securities run off, and in the second, by discounting at the Bank of France outside of ceilings.[28]

For nearly two decades the so-called Treasury bill "floor" (*plancher*), instituted in 1948, was used to immobilize banks' large holdings of Treasury bills, inherited in the main from World War II and from early postwar deficits. Banks were required to hold Treasury paper in an amount not less than 95 per cent of their holdings of such paper as of September 30, 1948, and to place 20 per cent of the subsequent increase in their deposit liabilities in such securities. The liquidity ratio was fixed at a uniform 25 per cent of deposit liabilities in 1956 and was reduced to 20 per cent in 1961. Since this Treasury paper was of a type reserved solely for financial institutions

by nearly 25 per cent in the inflationary period of 1955–57 and then lowered by about 35 per cent in the second half of 1957 to offset the monetary effects of new advances granted by the Bank of France to the Treasury at that time. From 1957 to the end of 1959 the discount ceilings were stable at a level of about 4.3 billion francs. By the end of 1969, they had risen to 9.6 billion francs.

[28] For purposes of safeguarding the solvency of banks, a different agency, the Banking Control Commission, prescribes a ratio of liquid assets to short-term liabilities (*rapport de liquidité*). It defines liquid assets for this purpose as cash; deposits with the Bank of France and the Treasury; deposits with banks and correspondents (including call loans); Treasury bills and similar securities drawn on or guaranteed by certain Government agencies; bills and acceptances discountable at the central bank; coupons collectible and in suspense accounts; claims on foreign exchange dealers and stockbrokers; subscriptions to securities; securities that are eligible to guarantee advances from the Bank of France; and other securities that are traded on the public securities markets. The last item may comprise at most only 5 per cent of short-term liabilities. This scheme was intended to apply to all classes of banks, but a specific ratio (60 per cent) has been prescribed only for the deposit banks. It is expected that the investment banks will be made subject to the liquidity ratio later.

and yielded considerably less than other Treasury bills, which were designed for sale to the general public, the *plancher* produced a rather important and cheap source of funds for the French Treasury. An improvement in Government finances made it possible to reduce gradually (between 1961 and 1966) the Treasury-bill-floor requirement, which French monetary authorities had long regarded as providing the Treasury with an inflationary source of financing. The floor was abolished effective September 1, 1967.

In 1961 an additional liquidity ratio, the *coefficient de trésorerie,* was introduced.[29] It required the banks to hold a percentage of their deposit liabilities in certain liquid assets—including cash, Treasury paper held to meet the floor ratio, and those kinds of paper that could be discounted at the Bank of France outside of the banks' ceilings. The *coefficient* had an upper limit of 36 per cent, and its lower limit was the floor ratio for Treasury bills, but in fact the *coefficient* was varied only between 30 and 36 per cent. Thus, as the banks were allowed to reduce their holdings of Treasury bills, they were required to hold larger amounts of medium-term or other paper exempt from discount ceilings.

The institution of the *coefficient* constituted a technique for immobilizing designated types of credit at the banks. In effect, this provision compelled banks to allocate a certain percentage of their resources to loans or investments designated as eligible for inclusion in the *coefficient.* Only paper held above the level required to satisfy the *coefficient* could be discounted at the Bank of France; making it discountable outside the ceiling was another way of giving such credits preferential status.

[29] Although the *coefficient de trésorerie* could have been fixed separately for each class of bank, the same ratio was applied to all classes.

In addition to exemption from discount ceilings, export credits have benefited from a preferential discount rate of 3 per cent since 1957. At the end of 1960, just before the inauguration of the *coefficient,* banks held nearly 5 billion francs of this paper discountable at the Bank of France outside of the ceilings; hence they were in a position to almost double the volume of their discounts without having to pay the "hell" rate. The *coefficient* forced the banks to hold about 90 per cent of this otherwise discountable paper in their portfolios, although the Bank of France, in exempting this paper from the ceilings, had given an implicit commitment to discount it.

The *coefficient* was a powerful tool for controlling access to the discount window; indeed, when in use it was regarded as the principal instrument for controlling the liquidity of banks. While the main purpose was to prevent excessive use of Bank of France credit, the ratio was frequently lowered by a few points in order to allow the banks greater access to the central bank in periods of tightness due to temporary factors, such as end-of-month cash drains. Such temporary reductions served to keep money market rates from rising above a level that would attract inflows of funds from abroad. While this liquidity ratio was originally intended to be both a credit-rationing device (with preferential treatment for Government securities) and a quantitative credit-control device (since it limited the discounting of medium-term paper), in 1965 and 1966 it was used primarily for short-run quantitative control purposes. (In 1966 alone it was altered eight times.)

Although formally abolished in January 1967, the *coefficient de trésorerie* was replaced at that time by a similar liquidity ratio known variously as the *coefficient de retenue* or the *portefeuille minimum* and initially set at 14 per cent. Since the abolition

of the *coefficient de trésorerie* left banks with considerable holdings of medium-term credits discountable at the Bank of France outside their discount ceilings, the new ratio, which requires the banks to hold a portfolio of such medium-term credits equal to a certain percentage of their liquid liabilities, was designed to prevent banks from making immediate use of this excess liquidity. It is the intention of the Government to reduce, and ultimately abolish, the *portefeuille minimum* as increasing reliance is placed on discount ceilings and cash reserve requirements to control bank liquidity. However, in 1969 and 1970 the Government twice increased the *minimum* in response to financial developments, and it appears that final abolition is not contemplated for the foreseeable future.

Cash reserve requirements. Liquidity ratios were designed primarily to control pressures at the discount window, and they have been fairly successful in doing that. As the major means for such control, however, they were replaced in 1967 by legal reserve requirements, which became fully effective in October of that year, and the provisions of *portefeuille minimum* were designed as a transitional arrangement. Under the new system the Bank of France may require banks to maintain at the central bank cash balances of as much as 10 (later raised to 15) per cent of their deposit liabilities.

In introducing the system of legal reserves, the Finance Minister gave three reasons for the change: (1) alignment of French monetary control techniques with those in other major countries; (2) removal of major constraints on the kinds of assets that banks may hold; and (3) desirability of developing a free market in Government securities, a necessary precondition to making Paris a major European capital market. In 1970 the central bank began to use this tool more vigorously. It raised requirements twice—by 1 percentage point each time—against both demand and time deposits (to 7.5 and 2.5 per cent, respectively, as of July) in an effort to offset balance of payments surpluses.

In February 1971, institution of an additional reserve requirement against credits granted was announced, but no immediate use was made of this new power. This reserve requirement may be imposed on financial institutions that do not accept deposits as well as on banks.

Open market operations. Prior to January 1967 the Bank of France used two kinds of supplementary accommodations to cushion short-run fluctuations in bank liquidity. While both were referred to as "open market operations," neither involved a market process that would allocate funds or set the rate. In both cases, credit was channeled through discount houses, for very short periods, at a cost set by the central bank. Each bank used one specific discount house for its operations in the money market, including interbank sales of funds and "open market" operations with the Bank of France.

One technique was used to meet the day-to-day needs for funds of about 50 leading banks, which had been given an open market "limit" (or quota) at the Bank of France in addition to the discounting quotas (or ceilings). Each such bank could obtain automatically additional Bank of France credit at the basic discount rate up to a limit that in practice was set at about 10 per cent of the bank's discount ceiling. Such drawings took the form of sales to the Bank under repurchase agreement of paper already in the Bank's custody. These *en pension* sales, which were negotiated through the discount houses on behalf of individual banks, actually constituted an additional line of central bank credit.

The other kind of "open market opera-

tion" was used solely to meet end-of-month strains in the money market when cash withdrawals for the payment of wages, salaries, and rents tended to reduce the liquidity of the banks. The technique was similar to that described above, but only 10 to 12 of the most important banks were involved; the rate for such exceptional accommodation, which on occasion reached a substantial volume, was usually set by the Bank above the basic discount rate. Using estimates of sources and uses of funds, supplemented by personal contact with the discount houses and the banks involved (which absorb 85 per cent of the funds made available), officials at the Bank of France made projections of the volume of funds needed at the end of the month and asked banks to deposit the necessary collateral.

Unlike the Bank's rates for regular operations, which are fixed in advance and remain unchanged for long periods, the rates charged for end-of-month repurchase operations were fixed by the Governor on a day-to-day basis. Although both kinds of operations were always used to ease money market pressures and were ostensibly at the initiative of the banks, in the second kind of operation the Bank of France took the initiative in estimating the amount of funds needed to keep market rates within the desired range.

The central bank's right of intervention was limited to short-term Government and private bills admissible to discount. However, in December 1966 a decree extended its operations to bonds and medium-term bills issued by credit institutions with a special legal status; subsequently, the list of eligible bills was further expanded.

Starting in January 1967 a number of other modifications were made in the Bank of France's open market operations. The Bank's objectives have gradually changed from mainly facilitating the placement of Treasury bonds and thereby providing more flexibility to bank liquidity, to regulating bank liquidity on a day-to-day basis with more precision than is possible with other monetary instruments.

In the fall of 1968, the Bank of France rationed the banks' access to its open market window so as to moderate credit expansion. This led to the establishment of a parallel interbank market for short-term loans, a sort of Federal funds market, and at that time the day-to-day rates in that market were considerably higher than the Bank of France's rate. The interbank market is still active, but the rates are identical to those posted by the Bank of France.

As a result of its more active intervention the Bank of France has begun to exercise considerable influence on money market rates. The Bank most frequently acts as a lender, but on occasion it also absorbs excess liquidity. Since the suspension in 1967 of the banks' right to negotiate certain bills at the discount rate, the central bank has intervened exclusively at the prevailing market rate. Until June 1968 it used a single rate in all open market operations; since then, separate rates have been set for private paper and Treasury paper, with the rate for the former usually ⅛ of 1 percentage point higher than that for the latter.

During the first few months of 1971, the intervention rate was set below the basic discount rate, and as a result, banks began to borrow from the money market before reaching their ceiling at the discount window. This has led the Bank of France to enlarge the list of paper eligible for the money market.

Quantitative restrictions. Direct restrictions on certain kinds of credit were abolished in February 1971. Until then such restrictions had also been an important instrument of monetary policy in France. Credits to the

nationalized industries were restricted to the level of 1958 by the *Caisse Nationale des Marchés de l'État,* whose endorsement is required to make such credits negotiable. Residential construction credits were restricted by a 1964 agreement—signed by the Minister of Finance, the Governor of the Bank of France, and the Governor of the *Crédit Foncier*—according to which special construction loans outstanding were to be progressively reduced and new authorizations for such loans were to be held within an annual ceiling.[30] Direct restriction applied not only to certain categories of loans but also to the volume of credit extended by the entire banking system to any individual borrower (see p. 232, footnote 35).

Moral suasion. Direct Government ownership of large segments of industry as well as of commercial banking and of the various specialized institutions in the field of medium-term credit offers various opportunities for implementation of official policies. To relate credit policy to over-all goals of Government economic policy, the Commissioner General of the National Economic Plan issues credit guidelines on behalf of the NCC. For example, a directive issued on September 12, 1963, asked that credit not be extended for speculative purposes, including land speculation, and that priority be given to export industries, to those industries being exposed to new foreign competition by reduced tariffs, and to those projects designed to increase efficiency. Such directives have no force of law, and it is difficult to determine how effective moral suasion and the prior authorization procedure have been in directing credit into approved channels.

[30] The original intention to reduce such loans from 10 billion francs at the end of 1964 to 8.4 billion francs at the end of 1968 was later (August 1967) largely nullified by raising the ceiling to 9.5 billion francs; this ceiling was extended through December 1970.

Discounts and advances

Access to central bank credit. Bank of France credit for the purpose of financing or refinancing the private sector may be extended in various forms. The techniques used include (1) discounts of Treasury securities and specified types of private short-term paper held by banks, other financial establishments, and public and semi-public financing institutions as well as by businesses; (2) purchases of short-term (up to 2 years) private and Treasury paper, with or without the seller's agreeing to repurchase; and (3) advances to the public as well as to banks against collateral in the form of certain long-term securities of Government agencies or certain Government-sponsored borrowers. From 1935 until the end of 1967, banks could obtain advances for up to 30 days, against certain short-term public securities as collateral. As already described, discounting by the banking system, including the public financial institutions, is subject to a system of ceilings and liquidity ratios and, in some cases, to a procedure requiring prior authorization.

The Bank of France may not discount paper directly for the Treasury, and it is forbidden to operate in the market "for the benefit of the Treasury." Central bank credit to the Government must take the form of book-entry, nonnegotiable loans, which require ratification by the legislature in the form of a convention, or treaty, between the Bank and the Government. But outstanding Government bonds may be used as collateral for advances, and Treasury bills may be purchased outright by the Bank of France.

Many of the legal provisions governing the extension of credit by the Bank of

France reflect the view, common at the beginning of the 19th century, that the bank of issue should also engage in regular commercial banking. Thus it is still technically possible for a member of the general public to discount commercial bills or securities at the Bank or to obtain an advance from the Bank, provided the paper presented for discount or as collateral meets eligibility requirements; however, as a practical matter, the Bank no longer accommodates private customers.

Except for a few private customers of long standing, the Bank of France grants credit only to banks, to certain public and semipublic financial institutions, and to a few registered financial establishments,[31] of which only the instalment credit establishments generate any appreciable amount of discountable paper. Furthermore, the Bank may refuse any request to discount or make advances—even when eligibility requirements are met—except when grain storage bills guaranteed by the National Cereals Office *(Office National Interprofessional des Céréales)* are presented for discount or when Treasury bills are presented by the nonbank public, even though banks consider access to the discount window, within the ceiling, to be a right rather than a privilege.

In addition to direct discounting for private business accounts (this volume is small) and discounting for banks and other financial institutions, the Bank of France makes secured advances, but these are at a rate higher than the discount rate. Until December 21, 1967, when the facility was withdrawn, the Bank also made advances to the banks for 30 days at a rate that was often below the discount rate; however, these advances were subject to very low ceilings.

[31] For a list of the specialized credit agencies, see the *19th Annual Report of the National Credit Council for 1964*, p. 190.

Eligibility requirements. To be eligible for discount at the Bank of France, commercial bills of exchange and other commercial paper must have a remaining maturity of 3 months or less and bear three good signatures (the third signature may be replaced by a pledge of securities or goods); the Bank also may require additional guarantees.[32] Bills corresponding to a loan of money or a line of credit without any immediate connection with the transfer of goods or services ("finance" bills) require prior authorization of the Bank in addition to the same guarantees as commercial bills.

Medium-term credits for specified purposes (housing, industrial equipment, and exports) become eligible by a process in which the originating bank obtains the required third signature from the appropriate intermediate financing agency. This procedure involves depositing the original documents with the intermediate financing agency and permitting the originating bank to draw short-term notes using the medium-term paper as collateral. These notes are then sold to the Bank of France under repurchase agreement. Effective January 1, 1966, the Bank of France extended to 7 years from 5 years the maximum original maturity of certain kinds of medium-term credit for equipment and construction that it would admit indirectly for discount, provided the remaining maturity was only 3 years. Repurchase agreements, on the other hand, are made on paper with periods to maturity ranging from 15 days to 2 years, and under present Bank policies they may be for as short a period as 2 days. Paper

[32] A decree issued in December 1966 authorizes banks to make short-term nonguaranteed loans based on the general credit standing of the borrower rather than on individual commercial transactions. Subsequently, legislation has been passed empowering the Bank of France to discount such two-name instruments. (Previously, discounting was limited to paper bearing three names—those of the debtor, the creditor, and the banker.)

that is not eligible for discounting because of maturity may be sold under a repurchase *(en pension)* arrangement and repossessed later by the borrowing bank and then discounted when it comes within the 90-day maturity range.

Cost of Bank of France credit. The cost of the marginal amount of central bank credit in use is reflected in the money market rate for day-to-day money secured by private bills and, since the abolition of the *plancher* and the *coefficient,* Treasury bills. The hierarchy of rates at the Bank of France determines the order in which the banks present different kinds of paper to the Bank (or to the intermediate financing agencies) to obtain cash.

The level of money market rates depends upon the degree of utilization of central bank credit facilities. At times when many banks have unused margins for discounting within the ceilings, the rate for day-to-day money secured by private bills tends to fluctuate close to the basic discount rate, since banks with surplus funds may employ them to reduce their discounts at the Bank of France or to lend in the money market. As rates become firmer, banks with unused margins within the ceilings will discount paper at the Bank of France to obtain funds to lend in the market. When all, or nearly all, banks are up to their discount ceilings at the Bank, rates for day-to-day money will tend to move up to the rate for discounting medium-term paper at the intermediate financing agencies; if market conditions tighten still further, day-to-day money rates will move toward the penalty rate.

During 1969 the Bank of France began to reduce the number of different rates it charges on discounts and advances. At the end of 1969 short-term export paper, which is accepted without limit outside the discount ceilings, and which used to benefit from a preferential 3 per cent rate, began to be discounted at the basic rate. Medium-term export paper, however, still benefited from a much lower rate; namely, 4 per cent (except that for exports to the countries in the European Economic Community the basic rate applied). Ordinary commercial paper (within applicable ceilings), grain storage bills guaranteed by the *Office National Interprofessional des Céréales* and equipment credits to nationalized industry guaranteed by the *Caisse Nationale des Marchés de l'État* were discounted at the basic rate. The preferential rate of 3½ per cent for special advances, which was intended to aid small and medium-sized enterprises, was abolished in October 1970.

Since the beginning of 1967, the Bank of France has intervened in the money market on the "buy" side to keep market rates from declining to levels that authorities consider inappropriate. In times of boom conditions, with high and rising interest rates, the Bank has raised the whole structure of its rates (except for export paper prior to the end of 1969) and has correspondingly lowered these rates when inflationary pressures have eased. On 26 occasions in the 14 years ending 1969 the Bank of France changed one or more of its rates for discounts or advances, but it changed the basic discount rate only 12 times during this period. Five of the seven increases were by 1 percentage point each, while four of the five reductions were for ½ of 1 percentage point each. On several occasions the size of the change and the timing were influenced by balance of payments considerations, which varied with the requirements of the domestic situation.

Bank of France credit practices. As a rule, routine discounting[33] takes place at the

[33] Local or regional banks normally discount with their Paris correspondents; thus a good deal of the paper originating throughout France is submitted for discount or repurchase operations in Paris.

Bank of France until 11 a.m. After that hour the Bank of France intervenes in the open market, either by selling or by buying eligible paper under *en pension* (repurchase) agreements, in order to achieve its rate objectives.

Early in the day banks inform the discount house, through which they ordinarily operate in the money market, whether they will have excess funds or whether they will need to borrow. First, each discount house conducts an internal operation that is comparable to intermediation in Federal funds in the United States. Then banks that are still short of funds will arrange through the discount houses to sell paper *en pension* to the Bank of France. If the market is firm, banks with margins under their discount ceilings will also borrow from the Bank in order to lend to other banks.

At the end of 1966, the French banking system had on its books approximately 156 billion francs ($36 billion) of short-term and discountable medium-term loans outstanding to businesses and individuals; about 84 per cent ($25 billion) of this total was backed by bills. The heavy reliance upon bill financing is due to the fact that Bank of France credit is available most cheaply and most readily on the security of short-term bills. Since the abolition of the *plancher* and the *coefficient* (see p. 226), credit operations of the Bank of France have been based upon private paper as well as Treasury bills. The examining and processing of private collateral to determine whether it meets eligibility requirements, and for other reasons, require the employment of a large staff.

The bulk of the paper discounted within ceilings is related to normal sales transactions and is always acceptable, as long as it fulfills the applicable maturity and signature conditions. Rejection of paper that fails to meet these conditions can have no effect upon monetary conditions because the right of each bank to discount up to its full quota is not questioned and because the supply of eligible paper is more than ample to make up for paper rejected for any reason.

The Bank of France requires that, in order to be eligible at the discount window, all finance bills (provided they fulfill the general requirement with regard to a 3-month maximum maturity and provided they have at least three signatures) be subject to the prior authorization procedure from which only short-term trade bills are exempt.

Prior to June 30, 1970, any extension of credit by a bank that would increase the indebtedness of any single borrower above 10 million francs required a prior authorization of the Bank of France. This last requirement made a considerable volume of ordinary commercial paper subject to the prior-authorization procedure, which was quite cumbersome.[34] It has been replaced by a procedure involving *ex post* control of all loans of 25 million francs or more to the same borrower.

For each credit sought under this procedure, the borrower must submit to its bank a file *(dossier)* that must include (1) balance sheets of the firm for the last 3 years; (2) an estimate of the value of trade credits, inventories, and investments; (3) a statement of all bank accommodations already obtained;[35] and (4) plans for use and repayment of the credit applied for, together with evidence showing that no alternative means are available for raising the

[34] The Bank of France and its branches examine about 43,000 credit *dossiers* a year, and the entire procedure usually requires considerable time for each *dossier*.

[35] The Central Risks Office (*Service Central des Risques*), which is attached to the General Discount Department of the Bank of France, collects and collates data on the total volume of credit furnished to any given borrower on the basis of monthly reports by banks and other financial institutions. The information is available to the Discount Committee for its decisions to grant central bank authorization. The

required funds. This *dossier* is studied by the Discount Department of the Bank of France (or one of its branches if the credit is small and presents no complications) not only to ascertain the quality of the loan but also to determine whether it conforms to current guidelines on the allocation of credit in accordance with the National Economic Plan.

Linkage of lending and deposit rates to central bank rates. Since 1966 neither the lending nor the deposit rates of the commercial banks have been formally linked to the lending rates of the Bank of France. The system of minimum lending rates for these banks was abandoned at the beginning of 1966 after several years in which the connection with the Bank of France discount rate was progressively loosened. Except for deposits of more than 500,000 francs (which have been freed from ceilings), the NCC does set maximum interest rates payable by banks and financial institutions on sight and time deposits and certificates of deposit *(bons de caisse),* but these rates have no fixed relationship to movements in the Bank's discount rate. In general, however, changes in maximum rates payable on deposits have followed with some lag changes in money market conditions. Similarly, the heavy reliance of the banks on Bank of France credit (at the end of 1969 the Bank financed about 25 per cent of all short- and medium-term credit to the economy) makes it inevitable that bank lending rates should reflect the cost of borrowing from the Bank of France.

over-all amount of credit outstanding to any borrower is also communicated each month to those banks and financial institutions that have reported a credit in the name of that borrower, although information as to the source of the borrower's other credit is not divulged. The Central Risks Office also tabulates the data according to the purpose of each credit in order to provide information on the extent to which the qualitative credit guidelines of the National Economic Plan have been followed.

FEDERAL REPUBLIC OF GERMANY

Introduction

In the Federal Republic of Germany (West Germany) the authorities have sought the means to maintain monetary control without resorting to direct restriction of international capital movements. To this end, they have modified the traditional monetary policy instruments and have introduced other tools. The principal monetary policy tools used by the German Federal Bank are variable reserve requirements and discount policy. Use of open market operations has not been feasible because the money market is narrow and because short-term securities (mobilization paper) can be easily converted into cash at the German Federal Bank. The central bank does influence the market for short-term paper by adjusting its posted selling and repurchase rates, but it does not undertake open market operations on its own initiative, except for a modest amount of transactions in long-term securities initiated in 1967.

In periods of monetary restraint since World War II, the Federal Bank has found it necessary to discourage net borrowing abroad. At such times variable reserve requirements have been employed; requirements against net liabilities of German banks to nonresidents have been set at substantially higher levels than those against gross domestic deposits.[36] The discount

[36] In addition, there is a 25 per cent withholding tax on interest earned by foreign holders of West German securities. In early 1970 a repeal of the tax was proposed in response to excessive net outflows of long-term capital, but no decision had been reached by the end of that year.

mechanism has been employed in a similar fashion. The maximum amount that each bank is permitted to discount at the central bank may be reduced, at the authorities' discretion, by an amount equal to the increase in a bank's foreign borrowing above a specified level. And at various times the authorities have employed swaps between the central bank and commercial banks to encourage the latter to hold balances abroad rather than to sell foreign exchange to the Federal Bank.

Reserve requirements may be varied only within a specified range. Moreover, when reserve requirements have been raised in an effort to curb credit expansion, the restrictive effects have sometimes been offset to a considerable extent by sales of open market paper to the Federal Bank—at the initiative of commercial banks—as well as by discounting. This has been true despite the fact that central bank purchases of open market paper are subject to an overall ceiling, and that ceilings on the volume of discounts apply to each credit institution.

Central bank credit is available through three avenues—by discounting eligible paper within the rediscount quota, by obtaining collateralized advances (Lombard credit) at a higher rate, and by selling Government securities at rates posted by the Federal Bank (referred to as open market operations). The granting of advances depends not only on the availability of acceptable collateral but also on the would-be borrower's financial condition, the purpose of the borrowing, and the general credit policy of the Federal Bank. During most of the postwar period the rate on the advances was 1 percentage point above the Bank's discount rate, but more recently it has been 2 and even 3 percentage points higher. Both discounting within ceilings and advances are regarded as a privilege, not a right, and both are permitted to remain outstanding for very short periods only.

The Bank's experience, especially in the last decade, indicates that by use of the policy tools available the best that can be achieved is only a gradual, indirect, and delayed effect on the lending activity of credit institutions. Consequently, since the early 1950's, the Bank has placed considerable reliance on discount ceilings to control bank lending to the nonbank sector, and it has also used at times reductions of such quotas as a means of achieving credit restraint.

The central bank has been among the strongest advocates of legislation under which expenditures and revenues of the Federal, state (*Land*), and local governments would be brought into a framework of coherent fiscal policy; considerable progress in this direction was achieved by the passage of the Stabilization Law of 1967. On the whole, however, the German experience since the shift to convertibility in the late 1950's reveals the limitations on use of monetary policy during periods of substantial trade surplus and unrestricted international capital flows.

Banking system

The Government owns the German Federal Bank *(Deutsche Bundesbank)* and appoints its Council. The Bank is an autonomous institution, and it can pursue a policy independent of the Federal Government. Nevertheless, it maintains a close relationship with the cabinet and, more specifically, with the Ministers of Finance and Economic Affairs.

The German Federal Bank succeeded in 1958 the *Bank Deutscher Laender,* which operated along very similar lines but had a more decentralized structure. It has a head office (in Frankfurt) and several regional central banks *(Landeszentralbanken)* located throughout the individual states that constitute the Federal Republic.[37]

[37] These regional banks serve as offices of the Federal Bank in each *Land* and carry out the policy

The Federal Bank is the fiscal agent of the Federal Government, while the central banks of the individual states hold the accounts of state governments, with minor exceptions. The Federal Bank is also in charge of all foreign exchange transactions and other transactions with foreign countries and organizations.

The banking system is very complex and extensive, with almost 40,000 banking offices at the end of 1969, operated by almost 10,000 separate institutions, including 8,000 credit cooperatives. Three main sectors may be distinguished in this structure: (1) commercial banks, including private banks; the latter outnumber other commercial banks but account for only about one-tenth of commercial bank lending to nonbanks; (2) a three-tier savings bank system, with regional "giro" institutions acting as intermediaries between local institutions (but also having a considerable volume of lending to nonbanks) and the *Girozentrale*, which is their central institution; and (3) cooperative banks.

One significant characteristic of the banking system is the importance of savings banks, which outnumber commercial banks and extend a considerably larger volume of credit to nonbanks than do commercial banks, and of specialized institutions, such as mortgage banks, whose volume of lending to nonbanks is about equal to that of commercial banks. Indeed, commercial banks account for only between one-fourth and one-fifth of the total volume of bank lending to nonbanks. The importance of savings banks reflects the wide range of assets that they can acquire, enabling them to compete effectively with commercial banks. While the six big commercial banks play an important role in the economic life of the country, local and regional commercial banks are quite significant.

Of the total balances held with the Federal Bank, commercial banks accounted for only about one-third—an amount considerably smaller than reserve balances held by the savings bank system. Industrial and agricultural credit cooperatives, as well as banks with special functions (such as the Reconstruction Loan Corporation), are also important as sources of credit and in meeting other banking needs. All these institutions, and some less important categories of financial institutions not specifically mentioned above, are subject to reserve requirements and are considered to be banking institutions for the purpose of regulation.

Discounts and advances

Central bank credit is available to all important categories of credit institutions, but commercial banks use it more extensively than other eligible institutions. In more recent years, savings and cooperative banks have made considerable use of central bank credit.

The normal avenue for obtaining central bank credit is to discount eligible paper. Lombard credit is more expensive and is more in the nature of "bridging credit" to be granted only for very short-term balancing-out purposes, usually to cover month-end needs arising from day-to-day cash flows.

In order to be eligible for rediscounting, commercial bills normally have to be endorsed by three parties "known to be solvent," and the bills must mature within 3 months of the central bank's purchase date. Discountable paper also includes bankers' prime acceptances that serve to finance foreign trade, promissory notes of import and storage agencies, exporters' bills endorsed

decisions reached by the Central Bank Council. Each *Land* central bank acts as the fiscal agent for its *Land* and carries out on its own responsibility central banking operations, such as establishing rediscount quotas and providing central bank credit at the stated rates for rediscounts and advances with all credit institutions within its geographical area.

by a bank and by the Export Credit Company, and bills used to finance certain categories of instalment sales for business purposes, as well as for the purchase of consumer durable goods, provided they mature within 3 months.[38]

Assets that may serve as collateral for Lombard loans include bills of exchange eligible for rediscount; Treasury bills; bonds of the Federal Government, state governments, or the Federal Special Funds that appear in the Debt Register; and equalization claims (bank claims on the Federal Government arising from the currency reform of 1948). Normally, securities are used as collateral.

Limitation on availability of central bank credit. West German credit institutions tend to accommodate their customers with loans as long as they are able to supplement their resources by using central bank credit—even if in the process they become increasingly sensitive to restrictive monetary policy. However, the access to the discount window is restricted by a quota system. This system was introduced to protect the central bank's exposure, but since about 1951 it has been increasingly used as an instrument of monetary control. The Central Bank Council has established "standard" quotas that are based on the credit institutions' equity capital and has differentiated these quotas according to types of institutions.

Within the framework of the "standard" quota guidelines, the rediscount quota of each credit institution is individually determined by the *Land* central bank in whose area the head office of the credit institution is located. These quotas are determined flexibly with consideration being given to the individual institution's record of compliance with the rules and regulations of the central bank and of the Federal Banking Supervisory office.[39] However, rediscount quotas that can be granted by the regional central banks (which currently number 11) are set directly by the directorate of the Federal Bank. Each credit institution may be granted by the Central Bank Council, usually for a 6 months' period, supplementary quotas for amounts up to 25 per cent of its regular quota to cover exceptional needs.

Since discount quotas increase automatically with the growth of bank equity funds, they have been reduced from time to time to avoid excessive credit expansion. The most recent across-the-board reduction in quotas was made effective in July 1969. Furthermore, since September 1964 the German Federal Bank has, at times, been using reductions in quotas to discourage credit institutions from borrowing abroad. Most recently—effective June 1970—the discount quota of each credit institution became subject to reductions by the amount of its foreign borrowing in excess of the amount outstanding at the end of March 1970. In effect, quotas of a considerable number of banks are subject to reduction at one time or another, with some reductions clearly amounting to sanctions.

Since credit institutions may not discount in excess of their quotas under any circumstances, there is a tendency among some institutions to maintain a substantial leeway. This is true principally of the larger institutions, although under extremely tight credit conditions—such as in 1965 and 1966 and again in 1970—they too tend to borrow very heavily. Smaller institutions, on the other hand, typically use their full quotas.

[38] Banks may also obtain funds by selling to the *Privatdiskont, A.G.* prime bankers' acceptances or instruments arising from the extension of medium- and long-term export credit; and the *Privatdiskont, A.G.* in turn rediscounts the acceptances with the central bank. Holdings of such assets constitute secondary liquidity because they may be immediately converted into cash.

[39] The latter prepares, in cooperation with the Federal Bank, draft banking legislation and establishes rules for bank operations.

Credit institutions of the Federal Republic have relied heavily on the credit facilities of the central bank. In order to provide a continuously expanding amount of credit to the private sector, these institutions have increased their rediscounting and other borrowing at the Bank whenever the balance of payments or the central bank's foreign exchange operations have restricted bank liquidity. This has occurred several times: for instance, in 1960 when the central bank offset the accumulation of its foreign assets, in 1964 and 1965 when restrictive monetary policy was reinforced by a decline in official holdings of foreign assets, as well as in 1970 when the central bank was striving to maintain the liquidity squeeze that had developed in the wake of the capital outflow following the revaluation of the German mark in October 1969.

The increasing importance of discounting in periods of reserve shortages is reflected in several ways: (1) the volume of central bank credit; (2) the relation of such credit to credit institutions' total reserves (which sometimes rises to one-fifth or possibly even to one-third); and (3) the rising proportions of such credit to loans granted to the private sector and to the foreign assets portfolio of the central bank.

Rate policy. The German Federal Bank charges a uniform rate for all rediscounts, whereas on advances its rate has been set as much as 3 percentage points above the discount rate. The two rates are not necessarily changed simultaneously. The rate on advances normally constitutes a ceiling on fluctuations in money market rates.

If credit conditions require it, the central bank changes the discount rate frequently. During 1959 and 1960, for instance, it raised the rate three times in a span of 9 months from 3 to 5 per cent. This was done to restrict the impact of a large foreign trade surplus on domestic liquidity. However, such a boost in domestic interest rates encouraged a massive inflow of capital, which in turn forced the authorities to reverse their monetary policy. As a consequence, between November 1960 and May 1961 the discount rate was reduced in three successive steps back to 3 per cent.

Balance of payments considerations prevented the Federal Bank from making any further changes in the discount rate until January 1965. By that time rising interest rates abroad had reduced the danger of inducing a further large inflow of foreign capital and after that rate changes were made more often. For example, during 4 months in 1967, the discount rate was lowered four times, each time by ½ percentage point. More recently, between April 1969 and March 1970, the central bank raised the discount rate in four steps from 3 to 7½ per cent in response to both external and domestic factors.

The repercussions of frequent changes in the discount rate on the capital market have complicated implementation of monetary policy. The effects of such changes are transmitted to the capital market through commercial banks, most of which are active in the securities markets as underwriters, brokers and dealers, and buyers for their own account—using their securities portfolios as buffers whenever changes in monetary policy occur. In order to offset the effects on the capital market of policies that are aimed essentially at the money market, the central bank has found it necessary from time to time to support the prices of bonds issued by Government agencies. Until August 1967 the central bank undertook support operations for the account of the various agencies whose securities were involved rather than for its own account. While such purchases did not add to the volume of central bank credit outstanding, but merely shifted balances at the central bank

from the Government agencies to the banking system, such operations tended to ease commercial bank reserve positions and thus to offset restrictive monetary policy. Since August 1967, however, the central bank has engaged in open market operations in long-term securities for its own account.

Relationships between central bank rates and market rates. Practically all market rates are linked, or were until recently, to the German Federal Bank's discount rate. Also, until April 1967 rates on loans and deposits of credit institutions were formally linked to the discount rate. The Federal Banking Supervisory Office set the ceiling rates on loans made by credit institutions, and these ceilings varied directly with the discount rate. Rates on business loans were 4½ percentage points above the discount rate, and those on bills discountable at the central bank were 3 percentage points above the discount rate. The linkage of deposit rates to the discount rate was less direct, however, and changes in rates on deposits usually lagged behind changes in the discount rate. On April 1, 1967, the legal ceiling rates on both loans and deposits were removed.

Other instruments of monetary policy

Minimum reserve ratios. The Federal Bank is authorized to set minimum reserve requirements against all sight (demand), time, and savings deposits. These ratios are variable, and they apply to all credit institutions that accept such deposits.

Reserve requirements can be satisfied only by holding nonearning balances with the central bank. These balances may be counted toward the liquid assets that must be maintained under other laws.[40] The upper limits for maximum reserve ratios against sight, time, and savings deposits are 30, 20, and 10 per cent, respectively. Actual reserve ratios may vary not only with the type of deposit but also with the type of depositor and the location and size of the credit institution, so the number of specific ratios applicable at any given point in time is quite large. Any reserve deficiency is subject to a fine of 3 percentage points above the rate on central bank advances.[41]

Reserve ratios are changed quite often. The changes that have been made in reserve ratios since November 1959 have been across-the-board, and the same percentage change (not the same number of percentage points) has been applied each time in order to maintain the same structure of reserve ratios. At various times additional minimum reserve requirements have been imposed on marginal increases in bank liabilities above the level prevailing at a given date or during a given period.[42] Changes in reserve ratios against nonresident deposits, separate from those in reserve ratios against other deposits (and allowing, at times, for bank borrowing abroad to be counted as an offset against such liabilites), have been used to regulate the liquidity of

[40] Credit institutions must also observe certain guidelines concerning their liquidity and solvency. These are expressed as ratios of prescribed assets to prescribed net worth and liabilities. These ratios are administered by the Federal Banking Supervisory Office and are not used as an instrument of monetary policy.

[41] Reserve requirements are computed on the basis of the monthly average of deposit liabilities on four statement days (the 23rd and the last business day of the preceding calendar month, and the 7th and 15th of the current calendar month). The reserve period, which is the current calendar month, permits individual credit institutions to average out sharp oscillations. This is especially important in Germany where there is no equivalent of the "tax and loan account" at the Federal Reserve Banks.

[42] For example, between December 1968 and November 1969, additions to external liabilities were subjected to 100 per cent reserve requirements.

the banking system in periods of large capital inflows. Another technique, introduced in 1970, was to subject to reserve requirements bank guarantees on certain types of direct business borrowing abroad.

Open market operations. For several reasons, the principal of which are mentioned in the introductory section, open market operations of the German Federal Bank are a passive element among the monetary policy tools. The level of bank reserves is affected only when the banks choose to buy securities from, or sell them to, the central bank. The Federal Bank does not initiate market sales or purchases, but rather restricts itself to making changes from time to time in the rates at which it will buy or sell Federal Treasury bills and bonds as well as short- and medium-term securities (of up to 2-year maturity) of certain Government agencies. The decision of how much to buy or sell at the posted rates—these are changed somewhat more often than the discount rate—is left to the credit institution.

Credit institutions as a whole have come to regard their holdings of open market paper as secondary liquidity. Most such paper was created by issuing securities to replace—"mobilize"—book claims of the Federal Bank against the Federal Government arising from the postwar currency reform. The amount of "mobilization paper" is limited to 8 billion German marks, which, once fully issued, was large enough to permit credit institutions to counteract, at least temporarily, the central bank's policy aiming at a specific level of free reserves. To put the central bank in a position to mop up additional bank liquidity once its holdings of mobilization paper were exhausted, the Federal Bank was authorized in 1967 to sell up to 8 billion marks of "liquidity paper" issued to it by the Treasury in the form of bills and bonds.

ITALY

Introduction

Discount policy plays an important role as a monetary policy tool of the Bank of Italy, even though there are no formal statements or regulations setting forth the Bank's objectives in this area. The Bank administers discount policy flexibly, and its day-to-day course depends to a large extent on how Treasury operations and balance of payments developments affect the monetary base. Moreover, until mid-1969, the emphasis appears to have been on changes in credit availability affected through rationing rather than on the discount rate, which had remained unchanged since 1958. Since August 1969, however, the discount rate has been raised in two steps from 3½ to 5½ per cent as part of a policy to bring the domestic rate structure closer into line with interest rates abroad. Accommodation is mostly in the form of advances rather than rediscounts.

The Bank has broad discretionary powers in implementing its discount policy with respect to both form of accommodation and type of asset accepted. These powers give the Bank considerable leverage in directly controlling the expansion of credit. The monetary authorities also maintain control over the volume of liquidity available to Italian banks from their foreign balances by regulating the banks' net foreign exchange positions vis-à-vis nonresidents and by making available, at their discretion, cost-free

forward exchange cover facilities. Before May 1969, when the amount being offered to the banks began to be limited to their actual required reserve needs, the Bank of Italy had substantial control over a third source of bank liquidity—the amount of Treasury bills held in excess of the banks' compulsory reserve requirements.

The central bank's commitment to support the Government's budget constitutes a major loophole in its control over liquidity. However, since World War II, successive governments have not abused their power to obtain credits from the central bank. There has been no serious slippage in monetary control as a result of Treasury operations, especially since the Bank of Italy is in a position to offset any disequilibrating influences emanating from that source.

Reserve requirements, introduced originally in 1926 as liquidity ratios to protect depositors, have been used as a tool of monetary policy since World War II. The use of this tool has proved cumbersome, however, because the reserve ratios are determined by a very complex formula (see pp. 244 and 245). Moreover, the effectiveness of this tool is limited by the fact that the reserve requirements can be satisfied in a way that provides the banks with a return, which until mid-1969 was fairly close to market rates.

Institutional framework

Over-all monetary policy in Italy is formulated by the Interministerial Committee for Credit and Savings. This Committee, which consists of the Minister of the Treasury (its chairman), seven other ministers, and the Governor of the Bank of Italy as a nonvoting member, meets seven or eight times a year. Its policy decisions are embodied in decrees signed by the Minister of the Treasury and in regulations issued by the Bank of Italy. For example, the discount rate is established by a decree of the Minister of the Treasury acting upon recommendation of the Governor of the Bank. Execution of monetary policy is entrusted to the Bank of Italy, which has a network of regional branches.

The outstanding stock of the Bank of Italy is owned by various types of financial institutions, all of which are publicly owned in whole or in part. Even though the Government itself holds none of the central bank's capital stock and does not participate in the activities of any of its governing bodies, the Treasury in effect has control over the Bank of Italy. However, the stature and prestige of the Bank's governors have given the Bank considerable autonomy and great weight in policy decisions in the whole area of Government financial policy.

In the international field the Bank of Italy's functions are complemented by the Exchange Office (*Ufficio Italiano dei Cambi*), which—though nominally an independent public body—is in effect an affiliate of the central bank. The Exchange Office carries out its domestic operations through the Bank of Italy's branches, which act as its agents. The Exchange Office obtains the lire it needs to acquire foreign exchange through an unlimited line of credit from the Bank of Italy.

The Italian banking system has grown over the years into a heterogeneous conglomerate of institutions (some of them nearly 500 years old and pioneers of banking) that are not easily fitted into precise classifications according to type of activity. All of these institutions engage to a greater or lesser extent in short-, medium-, or long-term lending. By the Banking Law of 1936, the Italian credit system was divided into two sectors. One consists of banking institutions that take most of their deposits as "short-term savings" (defined as demand deposits and savings and time deposits) and

that are forbidden to accept deposits with more than 18 months' maturity. The other consists of institutions that accept medium-term savings—with maturities of 18 to 60 months—but that, with one exception, raise most of their funds by issuing bonds in the capital market. The former are called "credit institutions" (*aziende di credito*) and the latter "special credit institutions" *(istituti speciali di credito).* Both groups are subject to supervision by the Bank of Italy.

The credit institutions number about 1,200 (with over 10,000 branches); about 350 larger institutions account for about 98 per cent of total deposits. The leading banking institutions include: (1) "public law banks"; directors of these banks are appointed by the Government (because they have no share capital, or because the capital is owned by the Government); and (2) "banks of national interest"; banks in this group have widespread networks of branches and most of their capital is publicly owned.

The scope of business of some of the savings banks is virtually indistinguishable from that of the commercial banks. Certain categories of credit institutions—Cooperative People's Banks, savings banks, and joint-stock banks and private banks—belong to "group institutes" that hold part of their liquid reserves and provide a variety of services—such as issuing bank drafts (*assegni circolari*),[43] providing clearing facilities and technical assistance, and representing the members in dealings with the Treasury and other branches of the Government.[44]

The special credit institutions number about 80, of which 21 are engaged in mortgage credit, 12 in agricultural credit, and the rest in industrial credit and miscellaneous activities.

Discounts and advances

Central bank credit is available to all the credit institutions and group institutes (all of which are generally referred to herein as banks), and in principle also to private industry and individuals.[45] In contrast to the central government, local governments do not have direct access to central bank credit. No type of paper, other than Storage Agency Bills (see footnote 46), is automatically eligible for rediscounting or as collateral for a loan. The Bank of Italy determines how much credit it wishes to extend in the light of prevailing monetary policy and then scrutinizes every credit appliction individually.

Accommodation to credit institutions and group institutes. Central bank accommodation of credit institutions and group institutes takes three forms: advances on collateral, rediscounts of commercial paper and Treasury bills, and "deferred payments" at the clearing house.[46] Commercial banks are

[43] *Assegno circolare* is an instrument very widely used by the public in Italy, where the practice of payment by check for general purposes is rather limited.

[44] On Dec. 31, 1969, total liabilities and net worth of the group institutes amounted to 2,132 billion lire ($3.4 billion equivalent); most of this total presumably represented claims of the member institutions.

[45] In principle, special credit institutions, except those extending credit to agriculture, have no direct access to central bank credit. However, under unusual circumstances they may obtain advances on collateral on the same terms as nonbank borrowers; the volume of such advances has been insignificant—less than 0.5 per cent of the Bank of Italy's total advances in recent years.

[46] A fourth type of central bank accommodation consists of the rediscounting of bills issued through the crop year 1963–64 to finance the Government's farm price-support program (particularly the price of wheat). These Storage Agency Bills are first discounted with the credit institutions at rates ranging from 5½ to 6½ per cent per annum; all such bills are automatically eligible for rediscount at the Bank of Italy and for the most part are passed on to the latter. Such rediscounts rose from 383 billion lire at the end of 1958 to 905 billion lire at the end of December 1969. In this instance, the Bank of Italy acts as agent for the Government, and discount policy is presumably adjusted to take account of the automatic rediscounting of Storage Agency Bills. Consequently, the discussion in the text is confined to "ordinary" rediscounting.

the main users of central bank credit. Italian banks as a group borrow continuously from the central bank, which is usually prepared to meet seasonal and local needs. Permanent financing of required reserves, however, is avoided.

Accommodation by the Bank of Italy is mainly in the form of advances on collateral. These advances are made on the basis of lines of credit that the central bank opens in favor of the individual banks against securities deposited with it when the line of credit is established. The paper eligible as collateral consists of Government and Government-guaranteed securities, mortgage bonds, and bonds of "equivalent rating."[47] The line remains open for 4 months and is renewable. The banks are not expected to draw the credit at once and to remain fully indebted for the duration of the credit period; rather, it is expected that drawings and repayments will be continuous. In 1967 the Bank of Italy introduced advances on collateral with a fixed maturity of 8, 15, or 22 days. Such advances, when granted, must be drawn in full, but in every other respect they resemble the line-of-credit advances.

The second type of accommodation consists of rediscounting of commercial paper and Treasury bills. In practice, the bulk of the paper discounted consists of commercial bills, since the banks prefer to keep Treasury bills for other operations. Commercial bills presented for rediscounting must have a maximum remaining maturity of not more than 4 months, and they must bear the signature of at least two persons or firms known to be solvent. In normal times rediscounting is a marginal item in the total of the banks' borrowing from the central bank. In case of tightness, banks will first use their credit lines for advances, and only when these lines are running short will banks resort to rediscounting.[48] In normal times, total central bank credit tends to be very small in proportion to the banks' lira loans to the private sector (less than 1 per cent) and relatively small in proportion to the banks' required reserves (3 to 6 per cent).

Collateralized advances as well as rediscounting are available as a privilege, subject to the discretion of the Bank of Italy. The Bank has established individual ceilings for lines of credit for each bank as well as for local branches of institutions with national networks of branches. As a rule of thumb, these ceilings are set at 5 per cent of the individual bank's total deposits, but they are occasionally reviewed and revised. Branch managers of the Bank of Italy, who are intimately acquainted with the needs of the local banks, have some discretion in increasing these ceilings, but they refer decisions concerning any substantial upward revisions to the main office. An individual bank does not know what its ceiling is, and the Bank of Italy does not discuss the 5 per cent figure publicly. Although there are no ceilings for rediscounting and fixed-maturity advances, it is worth noting that aggregate advances and rediscounts have seldom reached 5 per cent of the total deposits of all banks. At the end of 1969, however, the ratio was 6.8 per cent, and the central bank provided about one-fourth of bank reserves.

Large banks generally prefer to obtain central bank credit through collateralized

[47] This category comprises bonds issued by important official financial institutions, such as *Istituto per la Ricostruzione Industriale* and *Ente Nazionale Idrocarburi;* special credit institutions, such as *Istituto Mobiliare Italiano;* and the nationalized enterprises, such as *Ente Nazionale Elettricità.*

[48] Excluding rediscounts of Storage Agency Bills, ordinary rediscounting is relatively insignificant compared with advances on collateral; however, in times of liquidity pressures (for instance, during most of 1963 and in early 1964), the relative share of rediscounting has tended to increase.

advances rather than through rediscounting, for the most part because the former method is more flexible and less costly but also because the banks do not want their customers to know that they use central bank credit. The official rates for rediscounts and advances have been identical since 1950, but in the case of advances on current account, interest is charged only on outstanding balances and banks may repay the loan at any time, whereas rediscounts and fixed-maturity advances, even though repaid early, are considered as outstanding for the full period to maturity. Large banks resort to rediscounting at the central bank chiefly to meet unusually heavy withdrawals of funds and sharp increases in drawings under confirmed credit lines. The smaller banks resort to rediscounting more often.

Finally, a minor avenue of central bank credit open to banks has been a system of "deferred payments" (*prorogati pagamenti*) for meeting adverse clearing balances at the local clearinghouses operated by the Bank of Italy. Such accommodation is granted—normally for a single day but in exceptional instances for as many as 4 days—to clearinghouse members against collateral of the kind accepted by the Bank of Italy for regular advances.[49] Since the introduction of fixed-maturity advances, however, recourse to "deferred payments" as an additional source of funds has been officially discouraged, and since July 1967 an end-of-month balance outstanding has been a very rare phenomenon.

Accommodation to the central government and private individuals. Since 1948 the Bank of Italy has been required by law to grant the Treasury unsecured short-term overdraft facilities. The initial limit, set at 15 per cent of the original ordinary budget appropriations and of any supplementary expenditures approved by Parliament, was reduced to 14 per cent in 1964. Moreover, the Bank of Italy is authorized to subscribe without limit to securities issued or guaranteed by the Italian Government. It also rediscounts special paper issued in connection with the Government's agricultural price-support programs (see p. 241, footnote 46).

Discounts by the Bank of Italy for private individuals were forbidden by law in 1936. However, the law does not prevent the central bank from making advances to private customers on the following types of collateral: Treasury bills; bonds issued or guaranteed by the Government; bonds of mortgage credit institutions; Italian and foreign legal tender gold coins; gold bonds; foreign government securities payable in gold; and raw and processed silk. In 1958 advances to individuals represented 14 per cent of the total advances of the Bank; such advances have declined since then and in the last 3 years were a little over 1 per cent of the total. There are indications that the Bank of Italy intends to eliminate the remaining private accounts as quickly as feasible, but it wants to retain the legal authority to make direct loans for emergency purposes.

Relationship of bank deposit and lending rates to the discount rate. The volume of commercial bank borrowing at the central bank is influenced by availability of funds rather than by cost. In principle, there are no obstacles to large or frequent changes in the discount rate, but for several reasons— chiefly the lack of an organized and interest-sensitive money market—the central bank has relied until recently almost exclusively on tight controls of the volume of its credit. However, during the last year, partly under pressure of external factors, the Bank's emphasis on the cost of credit has

[49] In normal years these deferred-payment loans (year-end basis) have not amounted to more than 0.5 per cent of the banks' required reserves. During the 1963–64 "squeeze" they amounted to nearly 2 per cent.

greatly increased. After having remained unchanged at 3½ per cent since June 1958, between August 1969 and March 1970 the discount rate was raised in two steps to 5½ per cent. In March 1969, a new rule concerning the interest rate on fixed-term advances was introduced: banks that borrow at the Bank of Italy more than once in a 6-month period have to pay a penalty rate, which may exceed the official rate on advances by 1½ percentage points. Moreover, since July 1, 1969, the Bank of Italy has been charging a penalty rate of 1½ percentage points to banks whose average rediscounting in the preceding half year exceeded 5 per cent of their reserve requirements.

The structure of interest rates in Italy used to be regulated under a voluntary "Interbank Agreement" that set minimum rates on loans and maximum rates on deposits.[50] However, the Agreement, which had previously been renewed every year since its inception in 1954, was allowed to lapse at the end of 1969 under pressure of very tight conditions in the domestic money market and sharp competition for deposits.

After the lapse of the Agreement, banks began almost universally to pay interest well above the "cartel" rates.[51] Moreover, the lending rates actually charged by individual banks had exceeded the minimum "cartel" rates long before the lapse of the Agreement. Through most of the period since the 1964–65 recession, actual lending rates have, according to some reports, exceeded the cartel rates by as much as 3 to 4 percentage points. On the other hand, when Euro-dollar rates were still relatively low, the Italian banks—to meet competition of foreign banks—kept rates on foreign currency loans to their prime customers below the cartel rates on lira loans. Although in late 1970—with the Euro-dollar market losing much of its attractiveness and the liquidity of the domestic money market easing rapidly—the major banks were able to negotiate a new agreement covering interest payable on deposits, no new agreement concerning the lending rates was reached before the end of the year.

Other instruments of monetary policy

In recent years the most important of the other instruments of monetary policy have been controls over maximum expansion of bank credit and manipulation of commercial banks' net foreign assets positions. The monetary authorities also set and vary reserve requirements and engage in open market operations; and they may impose *ad hoc* direct and selective controls, such as those over securities issued by both the banking and the nonbanking sectors.

Relatively little use is made of the reserve requirement tool in policy management; changes in the rates are infrequent.[52]

[50] The Agreement linked the banks' minimum lending rates to the official discount rate, but with variations according to the type of lending. (In July 1969 this link was abandoned.) Thus, the banks' discount rate for commercial paper was usually set 1½ percentage points above the official discount rate; the "cartel" minimum rate for overdrafts was 3½ percentage points above the Bank of Italy's discount rate (and Lombard rate), plus a quarterly commission of ⅛ of a percentage point on the highest balance outstanding. The enforcement of the Agreement was entrusted to a special committee—chaired by the president of the Italian Bankers Association and including representatives of the major banking groups—that was able to impose penalties of up to a hundred times the amount paid to a depositor (or charged to a borrower) above (or below) the maximum (or minimum) agreed rate.

[51] The maximum rates payable under the Agreement were ½ per cent for current accounts (2 per cent where the average balance exceeded 5 million lire), 1¼ per cent for normal savings deposits, and 3¾ per cent for tied savings deposits. Yet, holders of sizable current accounts were able to obtain interest rates of 6 per cent or more.

[52] Reserve requirements for credit institutions have been changed only once (in 1962) after having been modified in 1947. However, from time to time the Bank of Italy has used this instrument as a countercyclical weapon by changing the types of financial assets that can be used to satisfy reserve requirements.

Different reserve requirements are applied to individual categories of credit institutions and types of liabilities, and the reserve coefficients are to some extent progressive. In general, the credit institutions must satisfy their reserve requirements by holding interest-bearing deposits with the Bank of Italy against the first 10 per cent of their total deposit liabilities in excess of net capital resources, and they may satisfy the balance, at the option of the Bank, by holding additional cash balances, Treasury bills, or certain types of long-term securities.

Thus far, open market operations are still only a potential instrument of monetary management, inasmuch as an important institutional reform in November 1962, aimed at establishing an organized money market, has been slow in producing significant results. Recently, however, the Bank of Italy has been dealing with banks in long-term securities on a fairly large scale. Moreover, the new Treasury bill issue system introduced in early 1969 has made it possible for the central bank ultimately to include short-term Government securities in its open market operations.[53]

Direct controls over private credit flows. Direct controls over the banks' loan expansion are implemented by both legal authority and moral suasion. The latter is particularly effective because of the wide discretionary powers that the Bank of Italy has in rejecting or accepting applications for rediscounts or advances and perhaps because of the state ownership or control of many leading banks.

The Bank of Italy must give prior authorization to a commercial or savings bank before such a bank can provide credit accommodation or renew a loan to any one customer if such accommodation would raise the customer's total liability to the bank above the so-called "legal limit on credit" (*limite legale di fido*), defined as one-fifth of the paid-up capital and reserves of the lending bank. Introduced in 1926 to safeguard depositors, the scope of this rule has been extended considerably in the postwar period as inflation has greatly reduced the capital/deposit ratio of banks.[54]

The exercise of this power has been useful, at least at certain times, as a tool of monetary policy. It enables the Bank of Italy to exert a selective and restrictive influence on the quantity and quality of bank credit, and it enables commercial banks to resist local political pressures to provide funds to support local government spending. For example, of all lira-denominated loans outstanding to the private sector at the end of 1962 and 1963, about 25 per cent had been approved by the Bank of Italy, and more than 70 per cent of these had been granted by the big banks. This control has been used to prevent speculative inventory building during boom periods and to limit the use of short-term credits for long-term financing of fixed investment.

The "legal limit on credit" varies greatly in amount of course from one institution to

[53] Under the present system, two types of Treasury bills are offered. One type, which remains eligible for the fulfillment of reserve requirements but is apparently offered only in limited amounts, carries a fixed interest rate of 3.75 per cent. If total bids exceed the total amount offered, allotments to banks are made on a pro rata basis. The second type of bill (not eligible to fulfill reserve requirements and not qualifying for central bank support) is offered for investment purposes at a "market" rate of interest, strictly to meet the Treasury's temporary need for cash. Any amount tendered and not purchased by commercial banks may or may not be taken up by the Bank of Italy, at its discretion. Once the amount of the new type of Treasury bill in the portfolios of both the commercial banks and the central bank reaches a sufficient volume, the latter should be able to engage in open market operations for monetary policy purposes and thus to contribute importantly to the development of a broadly based money market.

[54] Whereas the capital/deposit ratio was about 12 per cent in 1938, it dropped to less than 2 per cent in 1947 and was still not much more than 3 per cent in September 1969.

another and rises as a bank's capital resources increase. Therefore, while effective for small and medium-sized banks, this instrument has only limited usefulness with regard to the few giant banks. Limitation of lending by the large banks is achieved mainly through moral suasion. As a result of the close relationship of the central bank to these institutions—in most of which the Government owns a controlling interest, either directly or through holding companies —the Bank of Italy has obtained the cooperation of these institutions in applying more stringent "qualitative" criteria and in other ways slowing down loan expansion.

Finally, direct control over flows of credit in the economy is enhanced by the authority of the Bank of Italy to approve (concurrently with the Ministry of the Treasury and subject to approval by the Interministerial Committee), or to withhold approval of, all issues of bonds and stocks made through the intermediary of institutions subject to the Bank of Italy's supervision or to be listed on a stock exchange.[55] This requirement extends also to bonds issued (other than mortgage bonds) by credit institutions. Authorizations may be delayed or speeded up, depending on the current objectives of monetary policy.

Manipulation of commercial banks' net external position. Manipulation of the commercial banks' net foreign exchange position has been used vigorously since August 1960 and, during times of large balance of payments surpluses, had been one of the most significant tools of monetary management. The authorities can affect this position by instructing banks to adjust their net foreign exchange holdings vis-à-vis nonresidents to specified levels and thus bring about desired changes in the banks' domestic liquidity through inflows or outflows of funds.

[55] The power to authorize special credit institutions (see p. 241) to float bond issues is vested with the Governor of the Bank of Italy.

JAPAN

Introduction

The Japanese monetary authorities (the Bank of Japan and the Ministry of Finance) are well equipped to control external sources of liquidity and to maintain monetary control through their power to regulate the cost and availability of central bank credit. This is so in large part because the Japanese banking system, being chronically in need of liquidity, is heavily dependent on the central bank. Moreover, broad powers to control foreign exchange enable the authorities to exercise a significant influence over changes in the central bank's holdings of international assets and thus over changes in the cash base that result from movements in Japan's balance of payments. In borrowing abroad, the Japanese are "guided" by the central bank.

Discount policy plays a central role in Japanese monetary policy, although the Bank of Japan also employs to some extent open market operations and variable reserve requirements to achieve its aims. Since November 1962, when the Bank of Japan introduced discount ceilings after some lapse and began to buy and sell securities, open market operations have provided a rising proportion of the banking system's credit needs. Under the conditions that have existed since World War II, however, there has been only a very limited scope for use of reserve requirements. Deposits with the Bank of Japan to meet legal reserve re-

quirements—the present maximum being 1½ per cent of deposit liabilities—are of minor importance.

Access to the discount window is considered a privilege. A scale of rates is established that varies with the type of paper offered. Ceilings are set on the amounts that will be lent to individual banks at the basic discount rate, and penalty rates are applicable to borrowing in excess of the ceiling. The structure of discount rates, the types of paper acceptable, and the ceilings on borrowing are all subject to change—and indeed are frequently changed—in accordance with the authorities' monetary policy objectives. And these objectives in turn are closely geared to over-all economic policy.

The authorities' control is strengthened by the close links that exist between the structure of discount rates and the structure of market rates. Although rates on commercial bank loans are permitted to fluctuate, they may not exceed the maximum level set by the Bank of Japan. Moreover, there is an indirect tie between the bank prime rate, which is set by the Banking Association (a trade organization), and the discount rate. The bank prime rate, which is the minimum rate charged by commercial banks on commercial paper eligible for discount at the Bank of Japan, is at present set at a level no higher than the basic discount rate. In addition to controls over market rates, the authorities control the rate that banks may offer in the market for short-term deposits.

Other policy instruments include so-called "window guidance," under which the authorities have, from time to time, used moral suasion—which has developed into a system of close supervision of each bank's day-to-day activities—to influence the commercial banks' lending policies, and selective credit controls, such as those over the financing of securities and imports. No specific monetary controls are applied at present to consumer and housing credit.

Until fairly recently, the traditional instruments of monetary policy appear to have been considered adequate to deal with both domestic and external disequilibria. Since 1964, however, the authorities have placed increased reliance on fiscal measures for implementing over-all economic policy.

Institutional framework

The Bank of Japan is operated as part of the Government's economic administration in close liaison with the Ministry of Finance. Some 55 per cent of its capital is owned by the Ministry of Finance; the remainder by local authorities, financial institutions, and other private corporations and individuals. The Bank is managed by the Governor, the Vice Governor, and the board of directors; the directors are usually selected from the Bank's senior staff. Over-all policy is determined by a Policy Board consisting of (1) the Governor, (2) four outside members (required to be experienced, respectively, in banking, industry, commerce, and agriculture) appointed by the Cabinet and approved by both houses of Parliament, and (3) two direct representatives of the Government. The Policy Board is not concerned with the Bank's management on a current basis.

The banking system is dominated by 15 so-called "city banks," which operate branches throughout the country and account for almost 60 per cent of the assets of the banking system. In addition, there are some 60 local commercial banks and a variety of other credit institutions, including trust banks, long-term credit and other specialized banks, mutual savings and loan banks, credit associations, and agricultural credit cooperatives.

The outstanding features of Japan's financial structure are the extremely low ratio of

commercial banks' liquid assets to total assets and the heavy indebtedness of the banks to the Bank of Japan. This "overloaned" situation is the result of the inflationary aftermath of World War II, which led to high debt/equity ratios for Japanese industry generally; virtually all industry debt consists of short-term bank loans. While correction of this weakness in the banking system and in business has been a policy objective, the authorities have been reluctant to permit long-term interest rates to rise to a level that would promote development of an adequate supply of long-term capital and thus reduce the dependence on short-term bank loans; hence a large proportion of private investment continues to be financed through commercial bank credit, and the banks in turn replenish their cash reserves through credits from the central bank.

Liquid assets of the banking system as a whole consist of cash, deposits with the Bank of Japan and with other financial institutions, call loans, and credit extended to financial institutions. Treasury operations greatly affect the banking system's liquidity. The Japanese Government holds on deposit in the Bank of Japan all of its funds, including the proceeds of tax collections and of all Government borrowings. When the Government receives taxes or when it borrows, the liquidity of the commercial banks is adversely affected. There are similar effects when the public, which likes to hold currency, increases its demand for currency.

Commercial banks maintain such liquid asset ratios as they deem suitable; there are no required ratios. In recent years liquid assets, including deposits with the Bank of Japan to meet legal reserve requirements, have ranged between 3.0 and 3.8 per cent of the banking system's total assets, with the bulk accounted for by vault cash.[56] Although there are no formal liquidity ratios, window guidance includes guidelines on liquidity.

The reintroduction of ceilings on commercial bank rediscounts and advances in November 1962 stimulated the city banks to search aggressively for sources of investable funds, and they turned mostly to the call-loan market. During the next 2 years, when Japanese monetary policy was restrictive, the proportion of the city banks' resources obtained in that market expanded significantly.

On the average, during the period 1960–69, 53 per cent of the funds borrowed by the city banks came from the Bank of Japan, 32 per cent from the call-loan market, and 13 per cent from other financial institutions. The call-loan market is supplied almost entirely by local banks, trust banks, and mutual savings and loan banks. In the same period city banks supplied less than 2 per cent of the funds placed in the call-loan market, but they borrowed more than 70 per cent of the funds available in that market.

Discounts and advances

Discounts and advances are the main source of central bank credit in Japan. In accordance with Japanese monetary policy, the authorities make such changes as may be necessary in the discount rate structure, the types of instruments eligible for discounting and as collateral for advances, and the ceilings on borrowing from the central bank at the regular rates. As a matter of practice, the Bank of Japan has restricted discount facilities to commercial banks,

[56] During the 1960–69 period, liquid assets of the city banks averaged 2.1 per cent of their total assets, while local banks' holdings averaged 6.6 per cent. The city banks hold only small amounts of claims on the Government that are readily convertible into cash. At the end of December 1969, the equivalent of $1,040 million, or less than 2 per cent of total assets, was held in this form. However, since mid-1965 banks' holdings of long-term Government paper have increased.

even though the law does not limit extension of such facilities to any specific category of borrower. There has been a tendency lately to expand the range of financial institutions that are welcome to use central bank credit. Private corporations and individuals have not in practice used the Bank of Japan's facilities. Individual banks borrow from the central bank on a continuous basis. City banks are the main borrowers, in terms of both volume and duration of borrowing; local banks borrow less and for shorter periods.

Commercial bills,[57] including notes drawn by specified marketing organizations, and export trade bills are eligible for discount at the applicable rate. The following types of paper may be used as collateral for advances: Government bonds and bills, Government-guaranteed bonds, bank debentures, specified municipal and corporate bonds, rediscountable commercial bills, export trade bills, and other general bills considered suitable by the Bank of Japan.

Rate structure. The rate structure is fairly complex. The Bank of Japan presently maintains five "basic money rates," depending on the type of paper discounted or pledged as collateral.[58] Discounted commercial bills are charged the Bank of Japan's "basic discount rate," which is subject to frequent change, usually in conjunction with the whole range of rates. The rates applicable to export paper are lower than the basic rate, whereas the rates on advances secured by specified Government securities are higher. In September 1969 the Bank of Japan discontinued the preferential treatment of commercial bills, and on the occasion of the official discount rate change during that month the rate for commercial bills was equalized with that for loans secured by Government securities and designated paper, as shown in the accompanying table.

RECENT CHANGES IN RATES ON DISCOUNTS AND ADVANCES

Per cent per annum

Type	August 1968	September 1969	January 1971
Commercial bills	5.84	6.25	5.75
Government securities and specially designated securities	6.21		
Export trade bills:			
Usance bills in yen	4.02	4.25	5.00
Advance bills			5.25
Advances, secured by—			
Export trade bills	4.38	4.50	....
Export advance bills	....	....	5.50
Other bills and securities	6.57	6.75	6.00

Export financing is an important part of bank lending in Japan. About half of all export financing is through commercial bills, which are rediscountable provided the remaining maturity does not exceed 3 months and there is a supporting letter of credit. Although much foreign trade is financed abroad, goods for export are financed domestically until they are actually shipped, and discounts of and advances on these bills have been substantial.[59] Although the rate structure makes the discounting of export bills the preferred means of obtaining central bank credit, the banks borrow from the central bank mainly through advances, presumably because there is a shortage of export bills. In May 1970 the Bank of Japan introduced a differential of ¼ of a percentage point between the rates on "export usance bills in yen" (postshipment bills) and "export advance bills" (preshipment bills), which previously had always been discounted at the same rate.

Penalty rates. The Bank of Japan has used a system of ceilings on discounts and

[57] Two-name paper either drawn or accepted by a purchaser of goods for resale in settlement of the purchase and payable by the buyer.

[58] Prior to September 1967, when import trade bills and overdrafts ceased to be eligible for discounting, the structure consisted of seven basic money rates.

[59] Until September 1967 commercial banks could also obtain overdrafts at the Bank of Japan, but this facility was used little because the last rate was 1.09 percentage points above the basic rediscount rate.

advances and of "penalty" rates on borrowing above the ceilings more or less continuously since 1912. Since World War II, the system has involved three levels of rates: basic rates on discounts and advances, and two sets of higher rates on borrowing in excess of specified percentages of a (frequently revised) ceiling for each bank. Because of the heavy reliance by commercial banks on central bank credit, particularly during the early postwar reconstruction period, the maximum penalty rates, rather than the relatively low basic rates, determine the actual cost of borrowing.

The discount rate structure has been subject to several major changes in recent years. In March 1957 the complex penalty rate system was replaced by a single set of penalty rates. This arrangement was continued under the "New Monetary Adjustment Measures," which were introduced in November 1962. At that time the Bank of Japan began more active operations in Government securities in order to facilitate the adjustment of commercial banks' reserve positions (see p. 251).

Such open market operations, together with adjustments (so far, with one exception, downward) in the commercial banks' ceilings on discounts and advances, have for all practical purposes eliminated commercial bank borrowing from the Bank of Japan in excess of individual discount ceilings. Since the end of 1962, therefore, a rising proportion of central bank credit to the banking system has been provided through increases in the Bank of Japan's holdings of securities. Although discounts and advances have continued to expand in absolute terms, they have declined somewhat in relative importance.

Ceilings on discounts and advances. When ceilings for central bank credit (discounts and advances combined) were reintroduced in 1962, the total ceiling was set at the level of total borrowing at that time from the Bank of Japan by the 10 city banks subject to ceilings, and each bank's ceiling was fixed at the amount of its actual borrowing. After 1964, however, the ceilings of individual banks were determined as a percentage of the total ceiling—the percentage for a particular city bank being calculated on the basis of the relation of the bank's borrowing in the call-money market to the total of its capital and deposits.

Finally, since August 1967 a more complex formula has been in effect, and at present the ceiling for each bank is revised every 3 months. Under this system a fixed factor is applied to capital funds (including surplus and undivided profits), and from the resulting figure the amount of borrowing in the call-money market and from the Bank of Japan is subtracted. A certain percentage of this residual is assigned to the bank as its ceiling. The new method of calculating the ceiling gives an advantage to banks with large and increasing capital funds.

In determining credit ceilings, the Bank of Japan excludes export financing credits. It also excludes certain credits granted to the city banks that made loans in 1964 and 1965 to two companies for the purpose of stabilizing the stock market (see p. 252). The proceeds of such loans by the Bank of Japan were available to the borrowing banks to reduce their regular borrowing. Thereafter, the ceilings of these banks and the total over-all ceiling were cut by approximately the amount of such special loans.

Central bank discounts and advances are not formally limited in duration, nor are the rates charged by the central bank changed with the term or the frequency of such borrowing. However, in practice, individual loan agreements often specify a maximum and a minimum time to maturity. These maturities, which are determined by the central bank, vary from 2

days to 3 months, depending on the authorities' assessment of the projected cash needs of the individual bank.

Commercial bank interest rates

The Bank of Japan, in conjunction with the Ministry of Finance, has the authority (under the Temporary Rates Adjustment Law of 1947) to set maximum rates on loans and deposits for all banks.

Rates on loans are determined, within the Bank of Japan's maximum rates (which have not been changed since 1957), by interbank agreement through the Banking Association. Effective rates are currently lower than maximum rates; for instance, in December 1969 the rate for discountable prime bills—lowest in the rate range—was the same as the central bank's basic discount rate (6.25 per cent), while the maximum rate was 9.50 per cent. Changes in the "prime" or "standard" rate on loans follow changes in the discount rate almost automatically.

The rates payable by commercial banks on deposits are not linked to the discount rate. They tend to change infrequently; in fact, only two changes have been made in the last 10 years. At present the prevailing rates on deposits are at the ceiling set by the authorities.

Other instruments of monetary policy

An important change in implementing monetary policy in the postwar period has been the expansion of open market operations by the Bank of Japan. Although open market operations had been conducted for some time on a small scale for strictly limited purposes, it was not until 1958 that the Bank of Japan began to sell bills from its portfolio to banks in order to absorb surplus funds. Since 1960 open market purchases of Government-guaranteed bonds have been undertaken to offset the tightening effects of seasonal inflows of funds to the Treasury.

In November 1962 the Bank of Japan became more active in buying and selling securities, but these operations were still of limited significance for several years because of the shortage of Government securities.[60] However, large amounts of 7-year Government bonds have been issued since 1966, mainly to banks, and purchases of such bonds by the Bank of Japan in 1968 and 1969 equaled nearly two-thirds and one-fourth, respectively, of the increase in note circulation in those years.

Although authority to impose flexible reserve requirements was granted to the Bank of Japan in 1957, it was not used until 1959. The central bank has authority to impose separate ratios on time deposits and on all other deposits—for the latter category up to a maximum of 10 per cent. Since their introduction in 1959, reserve requirements have been changed seven times, mostly to reinforce the effects of changes in the discount rate. In September 1969 (after the most recent change) the required ratios ranged between ¼ and 1½ percentage points, the effective ratio for a particular commercial bank reflecting the amount of deposit liabilities in each category. There is a uniform penalty at a rate 3¾ percentage points above the basic discount rate on all reserve deficiencies.

Moral suasion in the form of window guidance is used by the Bank of Japan as

[60] In December 1965 the Bank of Japan, in addition, introduced a repurchase system for foreign exchange bills (denominated in U.S. dollars) against which previously the central bank had extended loans. Credit supplied to each bank under repurchase agreement is subject to a separate ceiling determined by the central bank. Reportedly this arrangement has so far not been used by the Bank of Japan, which considers it as a safety valve to give commercial banks access to foreign exchange, mainly dollars, to meet their external commitments.

a form of credit control, particularly in periods of monetary restraint. Window guidance may be applied to individual banks or through general directives to all commercial banks. The central bank advises the commercial banks regarding lending policies that the banks should follow and also regarding other uses of funds. The banks use this advice as a guide in dealing with their customers.

Until May 1963 the formal system of window guidance in use was based on a monthly review of commercial banks' lending, on which detailed reports were submitted to the central bank, and on projections of sources and uses of funds. Monetary policy was easy throughout the remainder of 1963, but was tightened in January 1964. Thereafter, window guidance was based on a 3-month—and after 1965 on a 6-month —review of commercial banks' lending and on guidelines that limited all banks to explicit and uniform rates of credit expansion.

In June 1965 the formal system of window guidance was discontinued, because at that point the Bank of Japan believed that the commercial banks' cautious attitude under conditions of domestic sluggishness would be adequate to curtail lending. But in September 1967 the Bank reinstated the system it had abandoned in 1965.

Then in October 1968 the Bank of Japan changed the nature of its window guidance. Almost uniform controls on the rates of increase of loans of all city banks were replaced by a procedure that determines individual banks' lending quotas on the basis of their liquidity positions as well as total loan volumes.

The authorities regard window guidance as a temporary and supplementary monetary tool to be applied especially when monetary restraint is indicated. The Bank of Japan believes that in ordinary circumstances the lending activities of commercial banks ought to be left to the banks' own judgment and discretion, and that the banks' knowledge of, and desire to cooperate with, over-all Government economic policies provides adequate guidance.

The banking system's high degree of reliance on central bank credit suggests that the importance of window guidance as a means of policy implementation should not be underestimated. Such guidance does not involve the use of formal penalties; it is carried out on the basis of the traditionally close relationship between the central bank and individual commercial banks, and the success of the system depends on the latter's cooperation and desire to avoid expression of official criticism, which in Japan is a major factor shaping business behavior.

Under the Securities Transactions Law, the Ministry of Finance has the power to impose margin requirements on securities transactions, and the Bank of Japan is authorized to control the conditions of lending by financial institutions to securities companies. The Ministry has acted under this authority, but the Bank of Japan has not. Other credit control instruments, such as pre-deposits for imports (suspended since May 1970), are administered by the Ministry of International Trade and Industry with the agreement of the Ministry of Finance.

Toward the end of 1964 the persistent weakness in the stock market prompted the Bank of Japan, together with other financial institutions, to undertake extensive support operations. This support took the form of central bank credit—on an unspecified emergency basis and reportedly amounting to about $1 billion equivalent—to quasi-governmental stock-buying and stock-holding agencies. The portfolios of these agencies have now been liquidated.

Quantitative role of central bank credit policy

The private sector's heavy reliance on central bank credit is a main feature of Japan's financial structure. In individual years since 1958 central bank loans and discounts have accounted for between 4.1 and 11.7 per cent of all bank loans to the private sector. However, open market operations have become gradually more important since November 1962; indeed, in the 4 years ended September 1966, the Bank of Japan's holdings of securities increased substantially more than its discounts and advances.

NETHERLANDS

Introduction

In its conduct of monetary policy the Netherlands has relied heavily in recent years on direct control of credit and on management of liquidity of external origin. The discount mechanism, as well as all other indirect instruments of monetary policy, has played a secondary role because until recently most of the banks had ample liquidity. The main focus of monetary policy in the Netherlands has been on the availability of credit rather than on interest rates.

In its efforts to achieve internal monetary stability, the Netherlands Bank has been hindered by the conflicting requirements of external policy. It is this conflict between domestic and external policy objectives that has caused the Bank to subordinate indirect means of monetary control in favor of direct controls over bank credit expansion. Variation of the cash reserve ratio was discontinued because, in the words of the Bank, if the ratio were raised "the resulting sterilization of liquidity would have led to sales of foreign exchange to it (the Bank) without effectively reducing the liquidity of the banks." [61] On the same grounds, open market operations have not been used restrictively to any significant degree.

[61] Netherlands Bank, *Report for the year 1964*, p. 104.

The discount mechanism performs essentially as a safety value. It serves to accommodate the banks in meeting seasonal swings in their cash needs caused by changes in circulation of bank notes, in the balance of payments, or in Government financial operations. Changes in the discount rate serve in the main to signal changes in the economic situation. In general, the Bank's discount rate is a ceiling for the rates on short-term Treasury bills and call money.

Structure of the banking system

The accompanying tabulation shows the number and total assets, as of the end of 1969, of the registered credit institutions supervised directly or indirectly by the Netherlands Bank.

Type of institution	*Number*	*Total assets (millions of guilders)*
Commercial banks	80	40,549
Central institutions of the agricultural credit banks [1]	2	16,576
Unaffiliated agricultural credit banks	11	336
Security credit institutions	45	166
General savings banks	205	8,370

[1] With 1,251 member credit banks and 1,272 member savings banks.

SOURCE.—Netherlands Bank, *Report for the year 1969.*

Although the Netherlands has many commercial banks, a very large proportion of commercial banking business is done by

a relatively few banks, and the concentration of banking has been considerably increased by mergers that have taken place since 1964. Branch banking is highly developed. In the spring of 1968 the three largest commercial banks in the Netherlands controlled about three-fourths of the assets of all commercial banks.

The money market in the Netherlands is probably less important, in terms of total volume relative to the size of the country, than the money markets of the United States and the United Kingdom. Commercial banks, the bill brokers (discount houses), and the two central institutions for agricultural banks participate on both sides of the market. The central government and the local authorities appear mainly as borrowers, and the two giro transfer services, institutional investors, savings banks, and large business firms appear mainly as lenders in the market. In the past the Netherlands Bank has intervened occasionally on one side of the money market or the other, but since the spring of 1964 it has not engaged in any open market operations.

Commercial banks may obtain funds from the money market, which is concentrated in Amsterdam, either by borrowing on call loans or by selling Treasury bills; in terms of quantity, borrowing is the more usual means. Since 1958, when the guilder was made fully convertible and the banks began to invest abroad on a large scale because of the interest incentive, repatriation of funds has been an important means by which the banks adjust their cash positions.

Mechanism through which monetary policy operates

The Netherlands Bank is charged (by an Act of 1948) with responsibility for regulating the value of the guilder in such a way as to promote the welfare of the country and (by an Act amended in 1956) for supervising the credit system.

Instruments of monetary policy. The instruments of monetary policy available to the Bank are: (1) control over the volume of central bank credit, both in the form of borrowing by the credit institutions and in the form of open market operations; (2) operations in the foreign exchange market; (3) control over borrowing from or lending to foreigners; (4) variation of cash reserve requirements; and (5) direct limitation of the volume of credit extended by banks and other credit institutions.

The Netherlands Bank uses discount policy mainly to signal a change in, or reinforcement of, its monetary policy and at times to influence the lending rates of commercial banks. Although there is no formal linkage between central bank and commercial bank rates, changes in the former tend to be reflected in the latter.

In its use of discount policy and in its open market and foreign exchange operations, the Bank is empowered to act without consulting either the Government or the credit institutions. Two other principal instruments of monetary policy—variation of cash reserve requirements and credit guidelines—may be employed only by securing the voluntary cooperation of the credit institutions. Although the Act for the Supervision of the Credit System (as amended in 1956) empowers the Bank to issue general directives to the credit institutions on cash reserve requirements and on lending policies for the purpose of regulating the value of the guilder, the Bank may issue such directives only after failing to secure voluntary cooperation. And in such case the Bank's directives must be approved by the Finance Minister and ratified by the legislature within 3 months, after which they may have a maximum validity of 2 years. However, the Bank has never found it necessary to exercise this authority.

Although the Netherlands Bank is authorized to undertake open market opera-

tions and to impose cash reserve requirements, it currently makes no use of these policy instruments. And whereas formerly the Bank eased temporary pressures in the money market by purchasing Treasury bills from bill brokers under repurchase agreement, its present policy is to employ operations in the foreign exchange market for that purpose.

The Bank is also empowered to issue general directives of unlimited duration to the banks and to other credit institutions for the purpose of ensuring their liquidity and solvency. These directives sometimes have an effect on the credit situation as, for example, in 1964. At that time the Netherlands Bank issued a directive increasing reserve requirements for savings banks. According to this directive, savings banks were required to hold in the form of primary liquid assets—that is, cash and sight deposits in other banks—10 per cent of all deposits that have a high rate of turnover.

An agreement between the credit institutions and the Netherlands Bank concerning maintenance of minimum cash reserves is still formally in effect although it is not in use. The agreement, concluded in 1954, provides that the commercial banks and the central institutions of the agricultural credit banks may be required to maintain reserves at the Netherlands Bank that may range as high as 15 per cent of their deposit liabilities, with the first 15 million guilders of deposits being exempt.

This required cash ratio has been zero since September 1963. At that time the Netherlands Bank established direct and specific limits on credit expansion and required the deposit of interest-free compensating balances at the Bank for noncompliance with these guidelines. The required cash reserve ratio was reduced to zero because, given the tightening effect of the increase in bank note circulation, maintenance of the ratio would have led to repatriation of funds from abroad rather than to an effective reduction in the domestic liquidity of the banks.

The higher levels of interest rates abroad have been the main factor inducing commercial banks to keep a substantial proportion of their liquid assets in foreign investments. During the early 1960's the Netherlands Bank discouraged the banks from repatriating funds to meet temporary tightness in the money market. In 1965, however, the Bank ceased to buy Treasury bills from the bill brokers under repurchase agreement and instead offered to sell dollars forward—often without charging a premium—while simultaneously making spot purchases. As explained in the 1965 annual report of the Netherlands Bank, "The banks were thus enabled to acquire guilders by temporarily repatriating funds from abroad instead of by temporarily parting with Treasury paper."

Under the Foreign Exchange Control Decree of 1945, the Netherlands Bank may also order the commercial banks to restrict their foreign borrowings. In 1964, for instance, it directed each bank authorized to deal in foreign exchange markets not to permit its foreign liabilities to exceed its foreign assets by more than 5 million guilders ($1.4 million). Under the same decree foreign capital issues and loans to nonresidents also require a license from the Netherlands Bank. The Bank thus regulates foreign issues in accordance with the requirements of domestic monetary policy —at times withholding approval for a long time or refusing it altogether.

The Netherlands Bank also uses administration of foreign exchange controls and its authority to operate in the foreign exchange markets to influence domestic monetary conditions. From time to time the Bank intervenes in the forward exchange market to encourage commercial banks to increase or decrease their holdings of foreign exchange

in order to influence the domestic liquidity of the banking system and conditions in the money market. The Netherlands Bank has also relied on direct control of commercial banks' net foreign asset positions. For example, when attractive rates in the Eurodollar market in 1969 induced commercial banks to increase substantially their net foreign asset positions and the banks financed this build-up largely through reliance on the discount window, the Netherlands Bank requested that commercial banks halt the growth of their net foreign assets and cut such assets back by 10 per cent during the second half of the year.

Control over credit expansion. Direct control over the rate of credit expansion was the principal instrument of monetary policy between 1960 and 1970. Agreement with the organizations representing the banks and agricultural credit institutions on a general formula for restricting credit expansion was reached by the Netherlands Bank in 1960. This formula was to be applied when necessary and the permitted rates of expansion altered as required.

The Netherlands Bank relied strongly on voluntary credit ceiling agreements in the 1960's: it allowed the agreements to lapse only briefly, once in 1963 and again in 1967 and 1968. Central bank consultations every 4 months with the bankers' organizations helped to make the system a flexible one. The permissible expansion of lending was expressed in terms of a formula restricting the growth of short-term credit to a certain percentage of the average credit outstanding in a previous base period. Variations in the permissible rates of credit expansion were made to allow for seasonal variation in lending.

Credit ceilings in the early 1960's applied only to short-term lending to the private sector, defined as loans with a maturity of less than 2 years. Due to frequent and excessive reliance of local government authorities on short-term bank credit, however, the monetary authorities in 1967 extended the credit guidelines to cover bank loans to local authorities as well.

Moreover, the Netherlands Bank acted to close the loophole for long-term lending on May 1, 1965. At that time, after consulting with the representative organizations, it requested that the banks not allow the increase in their long-term assets to exceed the increase in their long-term liabilities. The restriction on long-term lending was allowed to lapse in 1967 in line with a more expansionary monetary policy, but was invoked again in late 1968 (and was maintained throughout 1969) as the monetary authorities effected another policy reversal. In March 1969 the Netherlands Bank, recognizing a trend toward an increased turnover in savings deposits, extended the application of restrictions on long-term credit to include savings banks.

Each bank that exceeded its total credit ceiling was requested to hold at the Netherlands Bank for 1 month an interest-free deposit in the amount by which the ceiling was exceeded. The criterion for compliance with credit guidelines was determined on the basis of the bank's level of loans outstanding at the end of the month; if the average of the last three end-of-the-month positions was in excess of the credit guidelines, a penalty deposit was required. Each bank is penalized only if the aggregate of all types of bank lending has exceeded the credit ceiling. The enforcement of penalties was also modified on occasion to support policy goals. For example, in June 1966 the Bank required that under certain circumstances penalty deposits be maintained at the prescribed level at all times instead of allowing the banks to take the average of their positions over the period.

Discounts and advances

The Netherlands Bank establishes its rate of discount, the rates on certain other types of loans and advances, and the maturity of the paper it will accept. The types of borrowers to be accommodated and the types of collateral acceptable, however, are stipulated by law.

Eligible borrowers. All "registered" credit institutions, including savings banks as well as bill brokers, have access to central bank credit. However, the Bank accommodates savings banks only on the condition that they refrain from making new investments while they are indebted to the Bank. The Bank also has a small number of private customers, who occasionally take a secured advance from the Bank at a rate of 1 percentage point above the rate charged credit institutions for similar advances.

Local authorities have access to the discount window, but their access is subject to formal quantitative restrictions.[62] These restrictions appear to be directed more at restraining short-term borrowing by local authorities than at reducing the amount of such paper actually discounted or used as collateral for advances from the Bank.[63]

The Netherlands Bank regards access to its credit as a privilege, not a right, and credit institutions are expected not to use its facilities on a continuous basis. The Bank has no formal guidelines governing the amount of credit that the banks and bill brokers may take up; rather it relies upon moral suasion to keep use of its credit within bounds. Banks and other credit institutions have traditionally resorted to central bank credit only to a small extent.

Credit is made available through discounting of eligible paper as well as in the form of advances at a higher rate. The Bank may refuse credit to prospective borrowers, and at times it has made access to its resources dependent upon the conduct of the borrowers. As a general rule, banks try to manage their cash positions in such a way that they have no need to borrow from the Netherlands Bank. However, the tradition against such borrowing tends to break down when the banks are subject to very strong liquidity pressures. Except for the local authorities, there are no formal quotas or ceilings, nor is there an official maximum duration for advances. However, the Netherlands Bank does exert moral suasion on banks making excessive use of its credit facilities.

Eligible paper and collateral. The Netherlands Bank may discount (1) bills of exchange and promissory notes having two signatures and having a maturity in accordance with the customs of trade; (2) bills and notes of the Netherlands Treasury; and (3) debenture bonds redeemable within 6 months. By contrast, the range of assets that the Bank may accept as collateral for advances is quite broad, since it includes all discountable assets, plus other securities, merchandise, warehouse receipts, and coin and bullion.

The Bank has set a limit of 105 days on the maturity of short-term securities (Treasury paper, commercial bills, and bank acceptances) that it will accept for discount. Subsequent to an agreement in 1967, however, it has allowed export credits with maturities of 5 years or more to be considered discountable and eligible as collateral for loans. The purpose of this exception was to lower the interest rate for these bills.

[62] Only those local authorities whose floating debt does not exceed 25 per cent of their current revenues are allowed access to the Bank's credit facilities.

[63] The National Government has in general no direct access to the discount window. However, the Netherlands Bank may, on its own initiative, buy Treasury bills directly from the National Government, as it did for instance in the summer of 1968, to avoid seasonal pressures in the money market. The Bank is also authorized by statute to grant the National Government an interest-free line of credit up to 150 million guilders ($41 million).

Rates. In addition to the discount rate—its rate for discounting bills of exchange—the Bank specifies rates for three other kinds of transactions: discounts of promissory notes; loans and advances to private customers; and loans and advances to others. The principal effective rate is the rate on advances to others, the category that includes banks and bill brokers. This rate is regularly the same as the rate for discount of promissory notes, and both rates are generally 50 basis points higher than the discount rate. The rate for advances to private customers is regularly 1 percentage point higher than the rate for advances to banks and bill brokers.

Actual practices with respect to central bank credit. Borrowing from the Netherlands Bank by banks, bill brokers, and local authorities often takes the form of secured overdrafts (advances on current account). These advances are obtained mainly against the security of Treasury bills and notes that the banks have in safekeeping at the Netherlands Bank. Such overdrafts accounted for 62 per cent of the 273 million guilders of loans outstanding on the average to the Bank's nongovernmental customers in 1967; the remainder represented discounts of Treasury paper and bank acceptances.

Although commercial bills are legally eligible, in practice the Bank rarely discounts such bills or accepts them as collateral for advances as long as the borrower has short-term Treasury paper in its portfolio. The preference of banks for advances, despite the fact that the rate is 50 basis points higher than the Bank's discount rate, stems largely from the fact that an advance can be for as short a period as 1 day. The banks normally need recourse to the central bank only for short periods, and discounts at the Bank must be for a minimum of 10 days.

Banks having debit balances resulting from check clearings obtain almost automatic advances from the Bank to cover such balances; normally the banks repay within the same day, and there is no charge. Banks obtain funds for repaying advances from the Bank by borrowing in, or recalling funds from, the call-money market; by selling Treasury bills; or by converting foreign exchange.

Netherlands Bank credit in the form of open market transactions has been used infrequently in recent years. One reason for the negligible recourse to the Netherlands Bank through the mid-1960's was that whenever tightness in the money market threatened to induce banks to repatriate funds held abroad, the Netherlands Bank would temporarily lower the required cash ratio. Another deterrent was the fact that banks could average their balances at the Netherlands Bank over a reserve period in order to conform to the required cash ratio; in other words, they could draw down their large balances at the Netherlands Bank to meet temporary liquidity drains provided their balances met the required average over the reserve period as a whole. In 1963 the required reserve ratio was reduced in three steps to zero, and as of July 1970 it was still zero.

After the cash ratio became inoperative, banks were required to keep deposits at the Netherlands Bank only if they exceeded the prescribed limits on credit expansion. On the other hand, as a result of the decline in the banks' foreign assets and of the increase in bank note circulation, the average amount of borrowing from the Netherlands Bank has increased in the past few years; hence the ratio of bank borrowing to cash balances has risen sharply.

Because the major factors influencing the money market—such as the foreign balance, Treasury receipts and expenditures,

and seasonal cash drains—tend to affect the liquidity of banks and bill brokers in the same direction and at the same time, the volume of central bank credit often fluctuates sharply from week to week, and even from day to day.

Linkage of commercial bank rates to central bank rates. In setting the rates they charge on loans, banks are not restricted by either regulations or formal conventions. Neither are the banks required to inform anyone except their customers of these rates. According to unofficial reports, lending rates appear to run from 2 to 2½ percentage points higher than the discount rate of the Netherlands Bank. It is also reported that the banks usually do not lend at rates of less than 5 per cent; therefore, changes in the Netherlands Bank's discount rate below the 3 per cent level have little effect upon commercial bank lending rates. However, the discount rate of the Netherlands Bank has not been below this level since November 1959.

Similarly, no formal regulations govern rates paid on deposits. As a consequence of sharp competition in this field among the banks, especially in recent years, rates on deposits are relatively high.

Changes in the rates of the Netherlands Bank are often made in concert with changes in other monetary policy measures. The fact that commercial bank lending rates tend to follow changes in the Bank's discount rate reflects not a direct causal link between these rates, but rather the economic climate in which monetary policy is made.

SWEDEN

Introduction

Monetary policy in Sweden is the responsibility of the Bank of Sweden (*Riksbank*), but in implementing that policy the Bank is assisted considerably by the operation of the National Debt Office, which is responsible for management of the Government debt. Both are official agencies responsible to Parliament.

The Swedish discount mechanism, supported by a variety of other policy tools, is an effective instrument for influencing the cash base of the banking system. Furthermore, the Bank of Sweden has broad powers to restrict borrowing abroad by Swedish residents—although not commercial borrowing associated with the conduct of trade.

The central bank influences the over-all volume of bank credit in several ways: (1) by modifying the terms of its advances to commercial banks, (2) by open market operations and debt management policy (implemented in part through the borrowing and lending operations of the National Debt Office), (3) by required liquidity ratios (which are designed as much to secure a supply of bank credit to the Government and the housing sector as to control over-all bank credit), (4) by penalty rates for continued or excessive rediscounts, and (5) by bond-issue control. Cash ratios for, and ceilings on advances to, commercial banks and required portfolio ratios for other financial institutions have also been applied from time to time.

The discount mechanism in Sweden is used primarily to meet the extreme bimonthly squeeze on bank liquidity caused by the pattern of Government tax receipts and expenditures. Changes in the central bank's holdings of Government securities—

which reflect mainly transactions with the National Debt Office—are used to cushion swings in the bank's holdings of foreign currencies and in deposits of the Investment Reserve System. (See footnotes 64 and 65.) The results of the net change in all of the Bank's assets and liabilities (including advances and Government current-account deposits) affecting bank liquidity and of the operations of the other two accounts have been to expand the banking system's reserves each year. In general, the amount of funds supplied by all such Bank transactions has varied roughly with the posture of monetary policy.

On the whole, it appears that in recent years commercial bank credit has responded to monetary policy with considerable sensitivity, which suggests that the Swedish monetary authorities possess adequate tools to control the liquidity of commercial banks in the face of fairly wide fluctuations in Sweden's external positions.

Institutional framework

The Bank of Sweden is expected to implement the Government's economic policy as enunciated in the budget message and accepted by Parliament. It administers foreign exchange control and performs a number of banking and other functions for the Government. As the Government's banker, it makes funds available to the National Debt Office [64] and receives deposits from that office and from the central government—but not from business enterprises of the central government (which deal with a Government-owned commercial bank) or from local governments. It acts also as depositary for the Investment Reserve System.[65] In recent years fluctuations in the deposits of this system have accounted for the bulk of the movement in the funds of all depositors at the Bank of Sweden.

The Bank of Sweden works closely with the National Debt Office with a view to integrating debt management and general monetary policy. On the other hand, it maintains no direct working relationship with the administering board of the Investment Reserve System, and its role with respect to management of the funds of that system is passive.

The banking system in Sweden is highly concentrated. It consists of five large banks[66]—four with branches throughout the country and one that is active only in the Stockholm and Göteborg areas—and nine regional banks. In addition, two specialized central institutions serve as lenders of last resort, one for savings banks and the other for agricultural credit associations.

The banks adjust their liquidity first by buying and selling Government securities and foreign exchange and, if further adjustments are necessary on any day, by borrowing in the day-to-day market. The banks, the National Debt Office, and some other financial and nonfinancial institutions participate in that market. Borrowing against collateral at the central bank is used only as a last resort.

Discounts and advances

Central bank credit to the commercial banks is in the form of advances against collateral. This collateral may be Treasury bills, Government bonds, or other bonds quoted on the stock exchange, but the predominant part is in the form of Treasury bills and Government bonds.[67] The basic

[64] The National Debt Office administers the public debt and is responsible for managing the funding and borrowing operations of the central government.

[65] The Investment Reserve System, administered by the Labor Market Board, was established in the 1930's and expanded in 1955 as a means by which to foster, through the establishment of tax-favored reserves, countercyclical capital spending.

[66] One of the large banks is Government-owned.

[67] The central bank also grants discounts to nonfinancial business concerns, but the amount of such direct lending is not significant.

rate that the central bank charges on advances is a key determinant of the interest rate structure in Sweden. Until 1970, rates on loans and deposits of commercial banks customarily were geared to the discount rate.

Advances by the central bank to commercial banks are normally made at the discount rate, or at a rate that is 1 percentage point above the discount rate if the banking system, collectively, has been in debt for more than 5 days. An even higher penalty rate is imposed on banks that borrow excessively in relation to their capital accounts or that do not meet the liquidity ratio. The penalty rate is particularly effective in controlling the amounts that banks borrow to cover the large swings in liquidity that are associated with bimonthly swings in Government receipts and expenditures. (See below.)

Advances are normally made by the central bank only to meet temporary needs of the banking system. Such borrowing by the commercial banks is for a minimum period of 3 days. The borrowing bank pays the basic rate on funds borrowed for that period and for the next 2 days; for additional days the bank pays an additional 1 percentage point.[68]

In periods of tight monetary policy, however, the effective rates on advances are higher than the discount rate. Penalty rates were applied intermittently between 1961 and 1964. Such rates are usually levied against commercial banks whose borrowings from the central bank are high relative to their capital and/or against banks not observing recommended liquidity ratios (see below). At first, a rate double the discount rate was charged on borrowings that exceeded 50 per cent of a bank's share capital and reserves. Subsequently, during periods of tightness the conditions were made still more rigorous; under these circumstances a bank that failed to follow the liquidity recommendations of the central bank paid a penalty rate on all borrowing in excess of 25 per cent of its own funds. However, after 1964 the penalty rate was set uniformly at 3 percentage points above the discount rate. To make the penalty-rate system fully effective, borrowing for the purpose of re-lending to other banks is prohibited.

Funds may also be supplied to the banking system by the National Debt Office. This office, which as noted above has authority to borrow at the central bank, has been empowered since 1964 to lend in the day-to-day market. Such lending, undertaken after consultations with the central bank, has helped to even out the swings in reserves associated with the bimonthly tax collections. The National Debt Office also borrows extensively in the short-term market every other month between the 10th—when the central government makes large expenditures to the local governments, which deposit the funds with the banks—and the 20th—when the central government receives tax payments. The effect of these borrowings is to smooth out money market conditions because the banks have a surplus of funds during that period.

After the 20th of the month, tax collections cause a squeeze on the banks; this squeeze tightens until the end of the month and then gradually weakens. It is during this bimonthly squeeze that the banks are usually forced to seek advances from the Bank of Sweden, thus providing the central bank with its best opportunity to restrain commercial bank lending through the use of the penalty rate.

During the period 1959-69 average net borrowings (indebtedness minus sight deposits) of commercial banks from the Bank

[68] An additional condition is that in order to be able to borrow at the basic rate, a bank must have been free from debt to the central bank for at least 3 days.

of Sweden generally increased as monetary policy tightened (except in 1964, when there was a large external surplus) and decreased as policy eased. Nevertheless, for the period as a whole there was a strong upward trend in average gross borrowing by the banks.

Other instruments of monetary policy

Lending by the Bank of Sweden to commercial banks is integrated with other monetary policy tools, especially minimum liquidity ratios, open market operations, and control of bond issues. The central bank also operates in the foreign exchange market to maintain the external stability of the krona. To facilitate achieving the goals of domestic monetary policy, the Bank administers foreign exchange controls in such a way as to insulate the Swedish credit market to some degree from international influences.

Controls over the distribution of credit. The Bank of Sweden exercises considerable control over the distribution of long- and short-term credits—by setting liquidity ratios for commercial banks and by making recommendations to other financial institutions (such as insurance companies and savings banks) concerning the composition of their assets and the pattern of their lending (especially to the central government and the housing sectors). Moreover, the central bank exercises general control over issuance of bonds. The control of capital issues does not involve the choice of individual companies or qualitative examination of the issues offered. It assumes rather a form of rationing among the major categories of borrowers for which commercial banks act as underwriters. The participation of commercial banks in any issue—including timing, amount, interest, and repayment conditions—must be approved by the central bank.

Liquidity and cash ratios. Liquidity ratios have been designed to assure priority for Government borrowing and for the financing of residential construction. They have not been used as a flexible tool of monetary policy, but they do influence the cost of central bank credit because banks that do not observe the ratios are charged penalty rates on their borrowing from the central bank. Also, liquidity ratios reinforce the pressure on banks to curb any lending that is financed by open market sales of long-term securities. Although the central bank was given powers in 1962 to impose compulsory liquidity ratios on commercial banks and other credit institutions, it preferred to continue the voluntary approach until March 1969. At that time, the previous "recommendations" observed voluntarily by the banks became mandatory.

The liquidity ratio to be maintained varies with the size of the bank; the number of size groups has been reduced gradually over the years from five in 1952 (with ratios ranging from 15 to 33 per cent) to two (with ratios of 24 and 30 per cent, respectively).

The liquidity ratio for each bank—expressed as a percentage—relates total liquid assets to total liabilities. The numerator includes not only vault cash and the bank's net position with the central bank, with other Swedish banks, and with the National Debt Office, but also net foreign exchange holdings, Government securities, mortgage bonds, and certain other commercial bank assets. The denominator consists primarily of deposits, including bank drafts and acceptances.

Specification for the ratio remained virtually unchanged from 1952 until 1968. In 1968 the central bank stipulated (mainly as an incentive to the banks to keep funds in Sweden) that only one-half of the banks' net foreign assets were to be regarded as liquid in calculating the ratio. In 1969, the liquidity requirements were stiffened further

by the provision that bonds should be valued at current rather than at face value. Furthermore, the maximum amount of net foreign exchange assets that might be included in the liquid assets total was limited to 1½ per cent of a bank's liabilities.

In certain circumstances the liquidity ratio offers a partial substitute for reserve requirements; that is, under certain conditions the central bank may charge the penalty rate on advances if the borrower fails to observe the required liquidity ratio. On the other hand, use of the liquidity ratio as a tool is limited because the ratio is also designed to influence the distribution of credits in favor of securities of the Government and specified mortgage institutions.

In order to sterilize increases in bank liquidity, the central bank moved for the first time in December 1967 to implement the cash-ratio law of 1962. During the first 6 weeks of 1968 the five biggest banks were required to hold at least 2 per cent—and other banks to hold at least 1 per cent—of their liabilities, defined in the same way as those included in the denominator of the liquidity ratio, with the Bank of Sweden. The cash-ratio provisions were activated again effective August 1, 1969, with the ratios fixed at 1 per cent. A bank failing to fulfill the cash reserve requirements is subject to a penalty on any deficiency in its required reserves.

Operations in Government securities. Operations in Government securities are conducted by the Bank of Sweden and, more importantly, by the National Debt Office in consultation with the central bank. Sales of Treasury bills and of Government bonds are conducted primarily by the National Debt Office. Such transactions are an important instrument used to reinforce the impact of changes in the official discount rate. Nevertheless, the effectiveness of such operations as a restrictive device is limited because the market for short-term Government securities outside the banking sector is insignificant, and because in periods of very large demands for credit the banks would probably not be interested in buying securities unless yields were high.

Increases in the discount rate are often also accompanied by a refinancing of Treasury debt into longer-term Government bonds by the National Debt Office in order to put the banks' cash and liquidity positions under pressure. Changes in interest rates offered by the National Debt Office on new long-term Government security issues complement and reinforce the effect of changes in the discount rate on market rates of interest.

SWITZERLAND

Introduction

In Switzerland, perhaps more than in any other country surveyed, the inflow of international capital has vitiated monetary control through traditional instruments generally, particularly through the discount mechanism, and has led the authorities to rely mainly on direct controls over bank credit. The stability of the currency, combined with the country's international neutrality, has made Switzerland a major refuge for flight capital. Consequently, the Swiss banking system has become highly liquid. As a matter of fact, the banks' holdings of cash and liquid assets far exceed the minimum required ratios, which in any event are not employed for monetary policy purposes.

The Swiss National Bank has limited powers to conduct open market operations.

Such operations have been confined thus far largely to the placement of Treasury bills (*rescriptions*) with the banks. Practically no use has been made of medium- and long-term paper for purposes of open market policy, because the Bank's portfolio of marketable securities is tiny relative to the cash balances and other liquid assets of the banking system. In part because the banks are so liquid, but also for domestic political reasons, and above all to discourage further capital inflows, the Swiss National Bank has held its discount rate among the lowest in the world and has thus fostered an interest rate structure that is low relative to those of other money centers.

Hence, the major Swiss banks hold a substantial proportion of their assets abroad and adjust their cash positions mainly through exchange operations. Access to central bank discounts and advances is regarded as a privilege, and the authorities encourage the large banks, at least, to rely on their own resources rather than to resort to central bank credit. In practice, banks rely on such borrowing only to a minor extent for adjusting their cash positions. Of late, however, they have repeatedly had recourse to central bank credit for quarter-end reporting purposes. This is related to the fact that, in view of the favorable interest rates prevailing on the Euro-dollar market, the banks have generally abstained from increasing their domestic liquidity in step with the rise in their liabilities, but nevertheless have been anxious to restore temporarily the traditional relationship between liabilities and cash resources in preparing their quarter-end balance sheets and have borrowed for this purpose.

Monetary policy in Switzerland has been strongly reinforced by Federal Government budget surpluses that were partly sterilized. Although fiscal activities have been largely expansionary in recent years, the Federal budget accounts have continued in general to show surpluses.

The Swiss monetary authorities—having found that reliance on voluntary agreements with the banks (see p. 265) was not fully satisfactory—have been concerned about the insufficiency of the available instruments of monetary policy and have been pressing since at least 1964 for a substantial enlargement of the National Bank's powers. The procedure for the adoption of new monetary legislation is cumbersome: legislation must be submitted to the voters for ratification if a referendum is requested. After much delay, new legislation was proposed in September 1968 that sought the following: (1) imposition of minimum reserve requirements on the increase in deposits; (2) quantitative restrictions on credit expansion; (3) widening of the scope of open market operations; and (4) authorization to engage in foreign exchange operations. However, the proposed bill was shelved by Parliament in May 1969. This decision was made in anticipation of a basic agreement, concluded on September 1, 1969, between the National Bank and the banks on the imposition of minimum reserve requirements and restrictions on credit expansion (see p. 265).

Banking structure

The Swiss banking system is still considerably less centralized than those of other European countries surveyed, even though there has been some trend toward concentration in recent years. At the end of 1969, about one-half of the total assets of the banking system were held by the five biggest banks, with the other half being distributed among approximately 400 cantonal, local, mortgage, and savings banks, and loan associations, as well as about 90 banks engaged in international business.

The "big five" and certain "other" banks hold the bulk of the banking system's foreign assets. At the end of 1969 the total of these foreign assets was officially estimated at about $10 billion equivalent, an amount more than twice as large as the entire cash base (bank balances at the central bank plus currency in circulation) at the time.

The power to regulate Swiss monetary affairs is diffused, reflecting the country's constitutional arrangements. Although the Swiss National Bank has certain of the powers normally vested in the central bank, the Federal Government retains important regulatory powers.

The central bank is owned to the extent of 40 per cent by private stockholders; the rest is owned by the cantons, the cantonal banks, and other public law corporations. The influence of the stockholders is very limited because all senior officers of the Bank are appointed by the Federal Council. The National Bank advises the Federal authorities on monetary policy.

Instruments of monetary policy

Since many of the tools of monetary policy that are used to influence credit conditions indirectly are not available to the Swiss National Bank, chief reliance has been placed on direct controls on credit expansion and foreign capital flows.

The Swiss National Bank has the power to grant or deny access to its credit facilities, to set its rates, to buy and to sell foreign exchange spot and short-term securities, and to veto credits of 1 year or more to foreign borrowers in amounts of more than 10 million Swiss francs ($2.3 million). Except for the last one mentioned, these powers of the National Bank have been rendered ineffectual by a persistently high degree of money market liquidity, which results largely from Switzerland's position as a haven and as an intermediary for foreign funds. The liquidity of the market has prevented the National Bank from building up an open market portfolio and also has made it unnecessary for the banks to make much use of the discount window. Consequently, monetary policy in the postwar period has been put into effect primarily by means of voluntary "gentlemen's agreements" between the banks and the National Bank.

In 1955 and 1956, for instance, gentlemen's agreements provided that the banks would hold minimum balances at the National Bank. Other gentlemen's agreements have aimed at checking the inflow of foreign funds by prohibiting payment of interest on foreign deposits and by providing that several months' notice be given for withdrawal. In the spring of 1962 the National Bank concluded an agreement with the banks restricting the growth of bank credit. This agreement was renewed on a voluntary basis in 1963, but it became mandatory for a period of 3 years under emergency legislation approved by the Federal Assembly in 1964 and ratified by a referendum in 1965. In 1965 the banks also agreed not to assist the investment of foreign capital in Swiss real estate or mortgages, and they agreed to sell Swiss securities to foreigners only to the extent that Swiss securities had been sold by foreigners to the bank concerned. Following the refusal by Parliament in early 1969 to enlarge the National Bank's regulatory powers on a permanent basis—and by virtue of the basic agreement of September 1, 1969—an agreement restricting the growth of credit was concluded in September of that year and strengthened in February 1970.

Banks are required to maintain certain cash and liquidity ratios. These ratios, however, are intended primarily to set uniform standards of liquidity and to safeguard the individual bank's solvency. They are not

used as an instrument of monetary policy. The ratios are prescribed by a separate agency, the Banking Commission, which may waive the requirements for individual banks in appropriate circumstances.[69]

The Swiss domestic money market is extremely narrow. Other than borrowing from the National Bank, the principal source of short-term borrowing open to Swiss banks is the interbank market for call money. Usually, the large banks are lenders in this market, and the cantonal banks and other categories of banks are borrowers; the market is small. Until several years ago the large banks tended to adjust their cash positions mainly by liquidating short-term foreign investments in the foreign exchange markets. Because of seasonal patterns in cash payments—and also a desire on the part of both banks and other institutions to show a good cash position on their balance sheets at the end of June and December, and to a lesser extent at the end of the first and third quarters—the Swiss banks would repatriate several hundred million dollars just before these reporting dates.

But this process of window dressing and other end-of-the-year transactions had an unsettling effect on the foreign exchange markets that it seemed desirable to avoid. In the past few years, therefore, the Swiss National Bank has arranged short-term swap transactions with the banks and in turn has swapped the dollars it received from these banks with the Bank for International Settlements or foreign banks. Furthermore, in circumstances where foreigners (nonresidents) were shifting funds into Switzerland on their own initiative, the National Bank passed on to the banks for investment purposes, on a swap basis, rate-secured balances of foreign exchange that it had taken over from foreign central banks within the framework of the swap system.

The Swiss National Bank does not conduct open market operations in the sense of buying and selling securities in the market. In its endeavor to offset certain foreign flows, however, the National Bank has placed Treasury bills (*rescriptions*) of the Federal Government directly with the banks and has sterilized the proceeds—charging interest costs to its own account. To relieve itself of part of the cost of these sterilization transactions, the National Bank had purchased in 1962 franc-denominated U.S. Treasury securities. *Rescriptions* can be used as collateral for loans by the National Bank to tide the banks over short periods of stress, especially at the end of the month, the quarter, or the year; alternatively, when the maturities are within the range of 90 days, the National Bank may rediscount *rescriptions* for the same purpose. These open market operations have had the effect of smoothing money market rates, but they do not seem to have restricted bank liquidity significantly.

[69] The prescribed ratios are not very meaningful because the banks do not report the ratios on a continuous basis and, moreover, there are no penalties for noncompliance. Since most banks, however, tend to do a considerable amount of "window dressing" for balance sheet purposes, the actual ratios (based on year-end balance figures) tend to be significantly larger than the prescribed ratios, irrespective of actual liquidity conditions during the period. Thus, at the end of 1966, when Swiss banking conditions were characterized by a high degree of liquidity, the prescribed ratio of cash assets to total deposit liabilities, including medium-term bank bonds, averaged 2.4 per cent for all banks, whereas the actual ratio shown by the banks averaged 6.6 per cent. Similarly, the prescribed ratio of cash assets to short-term liabilities averaged 7.4 per cent, whereas the actual ratio was 20 per cent, and the prescribed ratio of cash and liquid assets combined to short-term liabilities was 44 per cent, and the actual ratio was 73 per cent. At the end of 1969 the actual ratios were still around 7.5, 20, and 78 per cent, respectively, even though, through most of the year, the banks tended to keep their domestic liquidity at the bare minimum while shifting the bulk of their liquid resources into more attractive Euro-currency assets.

Discounts and advances

Eligibility requirements. Paper eligible for rediscount by the Swiss National Bank includes Swiss commercial bills and checks bearing at least two independent signatures of known solvency, Federal Treasury bills, Swiss bonds, and Federal Debt Register claims. All discountable paper must have a maturity of not more than 3 months. Virtually the same items are acceptable as collateral for advances.

Access to central bank credit. According to the law, the Swiss National Bank may grant credit to any resident customer—whether business firm, bank, or government. Advances to the Federal Government are determined by fluctuations in the Treasury's cash position. As a carryover from earlier times, some business firms other than banks have accounts at the National Bank; and within individual limits, they may discount their bills with that Bank. The National Bank does not open new credit lines for business firms, except in special circumstances, and it is gradually reducing the list of the firms that have access to direct discounting.

About 20 agricultural cooperative organizations also have accounts at the Bank and can discount with it the paper of their members. Direct lending to these organizations is in line with the general Swiss policy of aiding agriculture.

In general, the National Bank is not obliged to grant credit to any customer. However, in response to a request from the Government, the Bank has undertaken to discount automatically bills financing the "compulsory stocks" of essential raw materials, foodstuffs, and fodder, which are held for emergency purposes.

Official rates. In the postwar period interest rates of the Swiss National Bank for discounts and advances have been changed six times—the first of these changes came in 1957. In general, the changes in rates followed trends in money market rates. Officials of the National Bank consider that the role of the discount rate is to "sanction" changes in market rates. Only in exceptional instances has the Bank changed the discount rate to lead the market. The National Bank's lending rates are always well below commercial bank rates for loans and advances, which constitute the bulk of the business of the average Swiss commercial bank.[70] Advances by the Bank are subject to call at 10 days' notice or less. The National Bank's rate for advances always exceeds the discount rate by at least one-half of a percentage point and generally by a full point.

Use of central bank credit. All banks have accounts at the National Bank, but except at month-end, only the smaller banks borrow in the form of discounts. The National Bank has fostered a tradition that the large banks should rely on their own funds and that they should not borrow from the central bank. However, in the face of a growing liquidity squeeze, the amount of total central bank credit has recently increased considerably.

The maximum level of National Bank discounts, although still quite moderate in relation to total bank credit, has increased about threefold in recent years from around ½ of 1 per cent to about 1½ per cent.[71]

[70] In addition to the official discount rate, the National Bank sets special rates for two kinds of compulsory stock bills—those financing storage of food and fodder and those financing the storage of other essential materials. The commercial banks discount the compulsory stock bills at the same rates as does the National Bank, which endeavors to set the rates at the lowest level that will still induce the banks to hold the bills. Since 1957, when compulsory stock bills were introduced, the rates for discounting these bills have sometimes been above, but most of the time have been below, the official discount rate.

[71] The amount of bills held by the Swiss National

Central bank credit tends to rise at the end of each calendar quarter because of window dressing, and the range of fluctuation is fairly large.[72] This, despite the fact that the banks have, especially in recent years, met their needs for cash assets for end-of-quarter purposes to a great extent through foreign currency swaps with the National Bank.[73]

Bank (monthly-statement-date basis) increased from 252 million Swiss francs on June 30, 1965, to 1,137 million francs on June 30, 1969.

[72] In 1969, for instance, end-of-month figures for National Bank discounts and advances outstanding averaged 665 million Swiss francs compared with a peak of 1,392 million francs in June 1969.

[73] These swaps, under which the National Bank buys foreign currency assets from the banks spot and sells such assets forward, lead to a temporary rise in foreign exchange holdings of the Bank.

Commercial bank lending and borrowing rates. Minimum lending rates of commercial banks are set by interbank agreement and are not published. Although there is no formal link between deposit rates and central bank lending rates, in any decision to change the discount rate the National Bank considers the trend and levels of rates on bank bonds and time deposits along with call-money rates. The rates that banks pay on time deposits, other than savings deposits, respond to market forces. Medium-term bank bonds, however, are sold at a given rate, and this rate may be changed only after 2 weeks' notice to the National Bank. Rates on these bonds therefore fluctuate less than those on time deposits, but they conform to the general trend of deposit rates.

UNITED KINGDOM

Introduction

In the United Kingdom monetary policy has been implemented traditionally by control of interest rates but, in more recent years, also by credit ceilings. The British authorities (a term used in the United Kingdom to convey the notion that the Bank of England acts as an agency of the Government) use the discount mechanism primarily to control interest rates in the London money market. Such control is regarded as necessary to achieve the broad objectives of national policy and to protect the international position of sterling. Since the British Treasury, in contrast to the U.S. Treasury, does not maintain large working balances, one important objective of monetary policy is to meet the day-to-day financing requirements of the Government.

Ordinarily, the discount mechanism is administered with a view to preventing sharp fluctuations in rates on U.K. Treasury bills because wide swings in such rates would be communicated to the bond market and would adversely affect endeavors to refund longer-term debt. The discount mechanism, which links the large commercial banks to the central bank through the discount houses, also provides a means for influencing the employment of short-term banking funds. This aspect of the discount mechanism too is a matter of considerable concern to the authorities.

The authorities have powerful tools that they can use to influence the interest rate structure. Conventions that have grown over the years and are now well established link many bank lending and money market rates to the central bank discount rate—thus providing the authorities with a lever for raising or lowering the entire spectrum of short-term money rates, as well as bank lending rates.

General background

Control of money market rates in Britain involves strict limitation on access to the Bank of England's discount window. Access is granted only to specialized intermediaries—11 recognized discount houses.[74] In return for this privilege, the discount houses submit a syndicated bid for, and undertake to cover, the weekly tender of U.K. Treasury bills, thus assuring the central government that its short-term financing requirements will be met. For its part, the Bank of England's strategy at the weekly Treasury bill tender is designed—by manipulation of the amount of bills offered and by means of open market operations—to keep the discount market initially "short" of cash. Under such circumstances the authorities have the option of providing assistance through open market purchases or through more costly rediscounts or loans from the Bank, on which the Bank may charge a rate above the discount rate, generally referred to as "Bank rate." (See p. 271.)

Enforced borrowing at the discount window is thus a device by which the Bank of England can, when necessary, make clear to the market that it would like to see that rates are firm or rising. To such signals, which are supplemented by frequent personal contacts of discount houses with representatives of the Bank of England, the discount houses normally respond by maintaining or raising the interest rate at which they will bid at the next tender. If its procedures achieve the desired result, the Bank of England can permit borrowing to disappear, because the amount of borrowing is not by itself an indicator of market conditions. On the other hand, if the expected response does not materialize, sustained or intensified pressure by the central bank and further costly borrowing at the central bank can be expected. Clearly the central bank discount rate is a penalty rate when compared with the rate on call loans that commercial banks normally charge to the discount houses.

Open market operations of the Bank of England are designed to reinforce the effectiveness of rate policy rather than to influence the cash position of banks and, thereby, the volume of credit outstanding. Through such operations the pressures on the banks' cash positions are passed on to the discount houses, whose liabilities consist largely of secured call loans from the banks. When the banks call these loans, the discount houses obtain relief by borrowing at the discount window—an accommodation that the central bank may not refuse—on terms established by the Bank. Thus, pressures on banks' cash positions tend to be offset by the provision of funds through the discount window, with the result that the Bank's interest rate policy is reinforced.

If used boldly, interest rate policy could exert a significant influence on credit flows. However, for a number of domestic and international reasons, the range within which the discount rate can be moved is limited. Therefore, since the end of World War II, the traditional *modus operandi* of British monetary policy has been supplemented by direct quantitative and qualitative controls. These controls, which have been operated in a very informal fashion, derive their main strength from the authority that the Bank of England and its Governor enjoy and from the willingness of banks and other financial institutions to cooperate—in part, to avoid formalization of the controls, with the attending rigidities and overt sanctions.

To supplement rate control, the authori-

[74] Except for London clearing banks seeking to rediscount export and shipbuilding paper, as discussed on p. 273.

ties have used various means to regulate the total liquidity of banks and nonbank institutions and ultimately the amount of credit supplied by the banking community. For example, to backstop their interest rate policy, the authorities require that the London clearing banks maintain specific liquid assets ratios and that both the London clearing and Scottish banks hold "special deposits" at the Bank of England. By requiring an increase in special deposits (or conversely by releasing such deposits) and by making purchases (or sales) of Treasury bills in the open market, the Bank of England forces the impact of a change in special deposits to spread to other categories of liquid assets.

Institutional framework

The Bank of England is the chief adviser to the Government on all domestic and international monetary matters, but at the same time the Government has considerable direct influence on the Bank's policies. This central bank is more deeply involved perhaps than most others in assuring day-to-day financing of Treasury operations and in the management of the public debt.

Until the end of World War II the linkages that made it possible to express official Government policy action through the central bank were largely informal. But in 1946 legislation was passed that transferred capital stock of the Bank of England to the Treasury and formalized the basic relationship linking the Bank with the Government. Since then the Governor, Deputy Governor, and the Court (equivalent to a board of directors), which consists of 16 members, have been appointed by the Crown. Some of the directors are full-time officers of the Bank ("executive directors").

Most importantly, the 1946 legislation gave the central government the statutory power to obtain central bank compliance with its policies by issuing directives to the Governor of the Bank of England, after due consultation with him—this despite the fact that long before the 1946 legislation it had been established that the Bank would make no change in the discount rate without prior approval of the Government. The Bank of England Act of 1946 also gave the central bank the power to issue general directives to any banker; the Bank has never found it necessary, however, to issue a formal directive in order to obtain compliance by the financial community.

In addition to official accounts and those for foreign central banks, the Bank of England maintains accounts for various types of banking institutions, among which the London clearing banks are the most important. The Bank also keeps a few accounts for employees, other individuals, and business firms; this practice, a holdover from the time when the Bank was engaged in commercial banking business, gives the Bank direct exposure to present-day banking problems.

The commercial banking structure of the United Kingdom is quite complex. It was formed when Great Britain was the most advanced industrial country of the world, the center of world trade, the leading financial power, and the center of the British Empire and when London was the most important and active financial market in the world. While the banking structure is still characterized by many traditional influences, it has been quite responsive to new challenges, and there have been numerous innovations since World War II.

The London clearing banks form the core of the commercial banking system. As recently as 1968 there were 11 such banks, but by 1970 a series of mergers had reduced their number to six. All of them have extensive networks of domestic branches; and most of them have foreign branches,

agencies, or subsidiaries, as well as domestic financial affiliates. The clearing banks also have substantial equity holdings in the overseas banks, described below, and in consumer finance houses. The clearing banks, which held about 80 per cent of all domestically owned deposits in 1969 and 1970 (but no significant amount of foreign currency deposits), extend about two-thirds of all domestic loans. Banks in Scotland and in Northern Ireland serve local needs for the most part, although they do place significant amounts of call money in the London money market.

In London there are also about 200 other "nonclearing" banks. Such banks are included in the following important categories: (1) merchant banks, (2) overseas banks (domestic banks whose main activities are in the Commonwealth and in foreign countries), and (3) foreign banks. All of these banks are active in taking foreign currency deposits (mainly dollars, but other convertible currencies also) and re-lending them abroad or swapping them into sterling assets. The nonclearing banks have grown very much more rapidly than the clearing banks in recent years and since 1968 their total deposits have exceeded those of the clearing banks. This greater growth is largely because London's rapidly increasing Euro-dollar business is virtually all concentrated in the nonclearing banks, but also because liquidity ratio restraints and interest rate conventions do not apply to either the foreign currency or sterling operations of those banks. In mid-1970 nonclearing banks accounted for about 15 per cent of the total banking sector's sterling deposit liabilities.

Discounts and advances

The discount rate establishes the pattern of rates for bank loans and deposits of London clearing banks and influences the entire spectrum of the money market rates. The rate is established by the Court of the Bank of England with approval of the Chancellor of the Exchequer. Changes in the discount rate, if any, are traditionally announced on a Thursday, shortly before noon; departure from this tradition has occurred only in crisis situations. Changes are made either to increase the authorities' room to maneuver in their day-to-day management of the money market or to give a lead to the financial community on general economic policy, or both.

Only the 11 houses that make up the London Discount Market Association have regular access to the Bank of England's discount window and thus are a key element in the rediscount mechanism. As specialists dealing in short-term money, they do business mainly with banks but they also do some with nonbank institutions; they have practically no business at all with the general public. The principal activities of these 11 houses are summarized as follows:

1. The discount houses undertake to underwrite the weekly tender of U.K. Treasury bills. With the concurrence of the authorities, they submit a syndicated bid that puts a floor under the market price at the auction. The price quoted in this bid must be calculated very carefully. The discount houses cannot afford to go without Treasury bills; and at the same time they must meet the competition from the outside. Such competition stems particularly from the nonclearing banks and bill brokers outside the Discount Market Association that bid for their own accounts and from the banks that offer bids for insurance companies, nonfinancial corporations, and overseas and other customers. Clearing banks do not submit bids for Treasury bills for their own account.

2. When the discount houses need funds, they borrow on a secured basis any

excess cash that the clearing banks may have; such loans provide the banks with a highly liquid asset in the form of call money. The discount houses obtain about two-thirds of their liquid resources in this manner. The remainder comes largely from other banks operating in the London money market; such "outside money" is borrowed at rates that fluctuate with money market conditions but that are slightly higher in general than the cost of funds obtained from the clearing banks. The clearing banks never borrow funds from each other but normally recall from the discount houses each day sufficient cash to meet their cash reserve requirements.[75]

3. The discount houses invest in Treasury bills, prime commercial bills, negotiable sterling certificates of deposit, other Government securities with maturities of up to 5 years, and local authority bonds and bills. Treasury bills are held by the discount houses primarily to meet anticipated purchases by the clearing banks, but also because they are immediately discountable at the Bank of England (although discount houses normally seek central bank assistance through advances against suitable collateral (see below)).

The discount houses make a market for Treasury bills, bank bills, and trade bills, as well as for Government bonds of up to 5 years to maturity, and they use these instruments as collateral when they borrow from the clearing banks or from the rest of the money market. In recent years the discount houses' holdings of commercial bills have grown relatively faster than their other assets—reversing a long-term trend.

[75] Nonclearing banks similarly may recall needed cash balances; in the last few years, however, an active interbank market has developed among the nonclearing banks. These banks, which keep accounts with and make settlements through the clearing banks, can adjust their cash positions by borrowing or lending sterling deposits among themselves on an unsecured basis, in addition to using the discount market.

When the discount houses seek central bank credit, they may either rediscount bills or borrow on collateral, normally at the discount rate. In either case rediscountable paper or acceptable loan collateral consists of Treasury bills, Government securities maturing within 5 years, bills issued by local authorities that comply with the Bank of England's requirements, and commercial bills carrying two established names; such names usually include a British bank and a discount house, one of which must be the primary acceptor.

To reinforce the penal nature of borrowing, Bank of England regulations require that rediscounts have an average maturity of at least 21 days; and until 1966, advances had normally been made for a minimum of 7 days but now some are shorter, as noted below. When bills are offered for rediscount, the Bank of England insists that no bill in the parcel have less than 15 days to maturity; and as noted above, it requires an average life of 21 days for the aggregation of the bills involved in each transaction. Rediscounts are treated by the discount houses in their balance sheets as sales of assets; there is no counterpart of repurchase agreements as practiced in the United States.

As a general rule, discount houses require assistance for much shorter periods than 21 days, and they try to obtain loans with the shortest possible maturity in order to minimize the total interest cost. Therefore, they prefer to borrow not by means of rediscounts but rather by advances, usually secured by "short" Government securities (bonds within 5 years of maturity), because the interest rate is uniform (usually the Bank of England discount rate) regardless of the maturity.

On June 30, 1966, the Bank of England informed the discount houses that it was prepared on occasions of its own choosing, and for purely technical money market pur-

poses, to assist them with overnight loans —thus reducing the actual cost of borrowing. Overnight lending has sometimes taken place when a large surplus was expected to follow an acute shortage of money. With the new accommodation, the Bank does not have to buy bills one day and sell the next. Overnight lending has also been used to push forward a shortage from day to day and thereby ensure the opportunity for taking penal action the following day, if desired.

So far, overnight lending has been at a rate below the Bank's discount rate, and usually at the highest effective market rate. However, the authorities have reserved the right to charge for overnight accommodation whatever rate seems appropriate in the light of policy objectives at the particular time.

The authorities' signals may be reinforced by charging on discounts or advances a rate above the regular discount rate if it seems inadvisable to raise that rate. But as of the middle of 1970, the super-penalty rate had been used only once—in March 1963.

Technically, there is no ceiling on the amount that a discount house may borrow, provided the house can present enough acceptable collateral and is willing to pay the rate set by the central bank. Nor are there limits on the total amount of commercial bills that may be rediscounted, although for business reasons the Bank of England does observe internal limits on the amounts representing individual acceptors and drawers. In periods of relative stringency, the Bank makes no attempt to hold new borrowing by any individual house to maturities that are shorter than the average for outstanding discounts. In fact, during such periods—as for example during the early part of 1965 when total borrowings were exceptionally large—there have been increases in the number of days on which such borrowing occurred, and the total time that loans were outstanding has lengthened. This use of central bank credit reflected the pressures imposed on the discount market by the Bank of England through its day-to-day open market operations.

The discount houses, however, seldom borrow or rediscount in excess of their short-term needs, for they cannot profitably finance investments in prime short-term assets on funds borrowed at a penalty rate. Excessive acquisitions of high-yield paper with considerable risk exposure would surely incur the disapproval of the Bank of England. Moreover, the clearing banks would not accept such assets as collateral for money market loans because such collateral in turn must be eligible as security at the Bank of England. Still, some leeway exists for "speculative" operations in short-term Government securities. For instance, if the discount houses anticipate that over the near term interest rates will decline (as for example, after a stringent official credit policy has been in force for some time and the market has reason to expect an easing of policy), they will increase their holdings of these types of assets.

Another refinancing device, but one that is not part of the mechanism whereby the Bank of England seeks to influence monetary conditions, relates to export and shipbuilding paper. Since 1969, the Bank has been prepared to refinance directly Government-guaranteed export and shipbuilding loans held by the London clearing and Scottish banks to the extent that such loans are not eligible to be counted as liquid assets [76] and are in excess of 5 per cent of gross deposits. The purpose of this facility is to relieve the clearing banks of the neces-

[76] The Bank also stands ready, subject to certain limits, to refinance fixed-rate loans that do count as liquid assets. This facility has apparently not been used.

sity of holding unduly large amounts of relatively low-yield paper. Until October 1970 the rate chargeable on such refinancing was 5½ per cent; at that time the rate was raised to 7 per cent.

Other instruments of monetary policy

In addition to the discount mechanism, other instruments employed by the Bank in its management of monetary policy are open market operations, debt management operations, and credit ceilings. Also there are the customary minimum cash and liquidity ratios which, in fact, have become mandatory. More recently, such ratios have been supplemented by a "special deposit" requirement and also by a cash deposit scheme, but as of the end of 1970, the latter had not been implemented.

Open market and debt management operations. Open market operations in the money market are designed to keep short-term rates within the desired range. In the long-term market—given the existing debt management arrangements—the authorities have considerable influence on interest rates, apart from the secondary effects that such operations may have on short-term rates. The Bank of England has control over both the supply and the terms of sale of medium- and long-term Government securities, some of which are almost always available to the public from the Issue Department's holdings. Moreover, debt management operations are continuous; the Bank usually purchases large maturing issues in advance of maturity and sells long-term issues whenever possible. The authorities' desire to avoid sharp swings in long-term interest rates has been an important factor affecting the volume of open market operations during any given period.

At times since 1969 debt management operations have been undertaken with a view to influencing the monetary aggregates even though this involved some sacrifice of short-term interest rate stability. To facilitate the new approach the authorities announced: (1) that they would no longer specify the price at which they were prepared to sell "tap stocks" (leaving it up to the market to bid for them instead); and (2) that the official buying price for Government securities within 3 months of maturity would no longer be tied to the Treasury bill rate.

In implementing debt management policies, the authorities automatically offset the effects of flows of foreign-currency-based liquidity. In fact, official purchases or sales of sterling through the Exchange Equalization Account are reflected in smaller or larger issues of Treasury bills, respectively, which are integrated into the Bank of England's daily management of the money market—thus returning to, or absorbing from, the market the cash equivalent of flows of foreign exchange.

Bank reserves and liquidity ratios. Requirements concerning cash reserves and liquid assets vary from one type of British financial institution to another, depending in large part on the type of institution and its function in the financial system.

The London clearing banks, by long-established tradition, maintain minimum cash as well as liquidity ratios. These ratios were originally adopted, and still are maintained, to protect the banks' customers, but they also have become a means of implementing monetary policy.

Indeed, the Bank of England expects the clearing banks to maintain ratios that have evolved as a matter of custom. As nearly as possible on a day-to-day basis, the clearing banks keep 8 per cent of their total deposits in the form of cash—that is, coin, notes, and balances with the central bank. In addition to their required cash reserves, the clearing banks currently

must keep an additional 20 per cent of their total deposits in the form of specified types of liquid assets—that is, call loans and money available on short notice (loans to the money market and loans to others with maturities up to 28 days), U.K. Treasury bills, commercial bills, or specified refinanceable export credits. The Bank of England has varied the liquidity ratio only once—in 1963—and the banks themselves determine in what proportion to hold each type of asset, depending on the type of business in which they are engaged.

Cash and liquidity ratios are applicable not only to the London clearing banks but also to the Scottish banks and the banks in Northern Ireland, whose balance sheets are broadly similar to those of the clearing banks. However, the standards of liquidity that the Bank of England expects these banks to maintain are somewhat more flexible and less explicit than those that apply to the clearing banks. This distinction reflects in part the greater emphasis on time deposits by the banks in those areas.

The Bank of England expects other banking institutions to maintain liquidity standards suitable to their particular pattern of business. It applies no formal liquidity ratios to the discount houses, the merchant banks, or the overseas and foreign banks. However, most of these institutions (especially those whose bills are bought by the Bank) submit to central bank judgment as to the adequacy of their capital resources, liquidity, and general standing.

The Bank of England has supplemented cash and liquidity ratios by intermittently requiring the London clearing and Scottish banks to make special deposits that ordinarily bear interest at the Treasury bill rate but are not included in liquidity ratios. (For example, in April 1970 these ratios were raised from 2 to 2½ per cent of gross deposits for the London clearing banks and from 1 to 1¼ per cent for the Scottish banks.) A cash deposit scheme for nonclearing banks was developed in 1967. The authorities plan to apply it at times when credit ceilings have been lifted or as a form of penalty when ceilings or other guidance "requests" of the Bank of England are breached.

In recent years, it may be noted, several developments have tended to reduce the potency of liquidity controls over the banking system. One, the clearing banks themselves have often been able to adjust their portfolios by selling Government securities to obtain needed liquid assets. The central bank's support of Government bond prices limited its ability to squeeze the cash position of the banks. Another development has been a resurgence of financing through issuance of commercial bills; this has provided the banks with a means of extending credit while at the same time improving their liquidity positions, because many commercial bills qualify as liquid assets. This growth in the banks' holdings of commercial bills has been the result of a number of factors. To some extent it reflects the growth of consumer instalment credit extended largely by finance houses, which rely on commercial paper to obtain funds.

Credit ceilings. To cope with the tendency of the clearing banks to augment their liquid asset holdings through transactions with the nonbank public, and with the tendency for peripheral institutions to expand into any credit gap left by curbs on the major banks, the authorities have issued credit ceiling requests to the clearing banks and to a gradually increasing list of other financial institutions. These requests have been used to impose both quantitative restrictions and to a certain extent qualitative guidance on lending (including financing through commercial bills) by almost all banking institutions.

Relationship of other interest rates to the discount rate

The pattern of interest rates and the relationships among the various rates are implemented in part through formal agreements. For example, the London clearing banks, by agreement, currently pay 2 percentage points less than "Bank rate" on their deposit accounts,[77] and they generally charge rates from ½ to 1 percentage point above that rate on prime loans, but no less than 5 per cent. Nonclearing banks, finance houses, and local authorities normally pay a rate close to Bank rate for 3-month time deposits, although in recent years when the official discount rate has not always fully reflected market stringency, the rate on such deposits has sometimes exceeded Bank rate by 1 percentage point, or even more.

The central bank rate establishes the minimum rate that clearing banks may charge the discount houses for call loans; this rate is normally 1⅝ points below the discount rate. It also establishes a ceiling for the Treasury bill rate and, by convention, a lower limit to the price that discount houses may bid for Treasury bills at the weekly tender and at the same time expect that official operations in the open market will keep the money market on an even keel. In the recent past, for instance, the authorities have usually been willing to allow the rate on Treasury bills to range from ¼ to ¾ of a percentage point below the discount rate. At the same time, such a spread has given the discount houses sufficient maneuvering room at the weekly tender to garner enough bills to meet the liquid asset needs of their main customers, the clearing banks.[78]

[77] Accounts not directly subject to check, but callable on 7 days' notice. The clearing banks do not offer longer maturities.

[78] At least once in the recent past the Bank of England has acted to move the Treasury bill rate unprecedentedly close to the current central bank discount rate in order to keep short-term interest rates internationally competitive. On one other occasion it used the exceptional technique of lending above the central bank discount rate to produce this result. Earlier, the Bank of England had used similar devices in its discount procedures in order to achieve specific objectives.