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FEDERAL RESERVE POLICY

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CONTENTS

THREE DECADES OF FEDERAL RESERVE POLICY

by

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If we can see farther than our forebears, surely it is not because our sight is keener but because we stand on their shoulders. By the same token we cannot see things exactly as they saw them, because our points of view are different. As one reads history, appropriate allowance must be made for the tendency of each generation to exaggerate the nature and magnitude of its own accomplishments. It is sobering to reflect that the complexity of the problems may have increased more rapidly than our ability to comprehend and solve them, though in this respect, too, contemporaries tend to exaggerate.

The first thesis of this paper is that gradually over the past three decades greater emphasis has been placed on a broader, more human approach and less on a formal, mechanistic approach to central bank policy. Central banking, of course, was not a routine operation when the Federal Reserve System was established; but the emphasis that was placed on such factors as the definition of eligibility and the reserve ratio indicates that judgment and management were circumscribed by the tenets of the original conception. As one simple formula after another has proved inadequate or inappropriate, judgment has become increasingly important.

The second thesis is that several issues on which judgment is needed have emerged as of permanent and crucial importance. These issues are (1) adequacy of powers to discharge responsibilities, (2) determination as to when a program should be reversed, (3) determination of the speed and scale of action, and (4) resolution of conflicting objectives. Although the powers of the System have been enlarged, some important monetary instruments have been placed in the hands of other agencies and the course of economic development seems, in certain directions at least, to be less and less subject to significant influence through strictly monetary devices. The importance of monetary policy arises from the fact that though an appropriate policy is not a sufficient condition for a healthy economy, it is a necessary condition and that an inappropriate policy can do much harm.

The third thesis is that these developments have increased greatly the difficulties confronting Federal Reserve authorities in discharging their responsibilities. They must resolve conflicts of objectives and be continuously prepared to take vigorous and timely action within the limits of their authority. Such action can be facilitated by utilizing the best tools of analysis in preparing plans to meet various possible developments. Adaptation of a plan to current conditions requires judgment, based on thorough information, as to the exact state of developments. Execution of the program thus requires comprehension and courage. Because it "is concerned, not merely with the relation of cause to effect, but with the relation of means to end," Ralph Hawtrey, an eminent authority, has classed central banking properly as an art and not as a science, though "it is not for that reason any the less scientific."[1]

EVOLUTION OF FEDERAL RESERVE POLICY

Crowded into the first three decades of the Federal Reserve System have been two world wars, a turbulent boom, and the Great Depression. Yet periods of rapid change were punctuated by periods in which the economy seemed lodged at dead center. It is easier to write the history of such a period than to have been currently responsible for policy. Yet the very difficulties of these trying times point to conclusions relevant to the formulation of future Federal Reserve policy.

Original Principles. The enumerated objectives of the Federal Reserve Act are: to establish Federal Reserve Banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, and to establish a more effective supervision of banking. The Reserve authorities were not given exclusive jurisdiction over bank supervision because of our pluralistic system of banking. The remaining purposes clearly reveal the limited initial conception of the System. The predominant view that found expression in the Act was that these purposes could be served almost automatically by giving the Reserve Banks authority to create deposits or issue notes in exchange for gold and "self-liquidating" commercial paper. Adjustment to regional needs was made possible by authorizing Reserve Banks to rediscount for one another, to receive checks and drafts on deposit at par, and through the establishment of a Gold Settlement Fund.

It was thought that any change in the volume of "actual commercial

[1] R. G. Hawtrey, *The Art of Central Banking* (London, 1932), p. vi.

transactions" would result in an appropriate change in the volume of eligible paper presented for discount to the Reserve Banks and would initiate automatically the required change in Reserve Bank credit. Some difficulties were anticipated in applying these principles to American conditions; but it was felt that they could be resolved by directing the Federal Reserve Board to "adjust the definition [of commercial paper] to the practices prevailing in different parts of the country."[2] The Board "felt that the regulations relating to discount operations and commercial paper in general were fundamental" and made sincere efforts to devise appropriate definitions and to develop trade practices that would create eligible paper. Nevertheless "the great release of reserves under the Federal Reserve Act produced an unusual ease of money the country over" and in the early years few member banks rediscounted paper except as a token of cooperation with the new system. To provide a smoother discount procedure and to reduce clerical operations, the Act was amended in 1916 to permit Reserve Banks to make 15-day advances to members on their notes secured by eligible paper or United States Government securities. In its report for that year the Board called attention to the need for control over the inflowing gold and proposed that it be given power to raise reserve requirements in emergencies to enable it "in prolonged periods of extreme ease in the money market to check any tendency toward excessive loans or other forms of undue extension of credit."

The First World War. With the entry of the United States into the war in April 1917, the objectives of the Federal Reserve System were enlarged to include aid in financing the Government. In recounting the efforts exerted by the System to maintain itself "in a strong and liquid condition," Governor Harding mentioned the creation of a general feeling of confidence, conservatism in acquiring earning assets and accumulation of as much gold as possible by the Reserve Banks, maintenance of adequate stocks of Federal Reserve notes, and aid in the distribution of Government securities.

The compelling objective was to enable the Treasury to secure whatever funds it needed. The policy of the System was directed toward selling as many bonds as possible to nonbank investors and at the same time toward assuring the banking community that needed reserves would be forthcoming without penalty. The Reserve System played an important role in

[2] Unless indicated otherwise, all quotations are from official sources or statements of System authorities.

selling bonds to the nonbanking public. The governors of the Reserve Banks were appointed heads of the regional loan organizations which were created along Reserve district lines. They organized and directed the Liberty Loan campaigns which reached every hamlet and village in the country.

The System recognized that "the commercial banks of the country . . . ought to act as distributors . . . rather than to absorb and hold the bonds." At the same time it established preferential rates of discount on notes secured by Government obligations to facilitate "the operations of the member banks in placing the bonds in the hands of actual investors who might not be in possession of the funds necessary to pay their subscriptions in full at the time of receiving the bonds." The preferential rate was established to make banks "feel free to assist would-be bond buyers, knowing that they could protect themselves if necessary by rediscounting the paper with the Reserve Bank." It has been estimated that on June 30, 1919, commercial banks had extended 2.5 billion dollars indirectly to the Government on the basis of this "Borrow and Buy" program. They also had extended 4 billion dollars directly through purchases for their own portfolios of Government war securities. Finally, unlike in the recent war, banks greatly increased their loans to business, especially to enterprises engaged in war production.

Postwar. The end of the war brought a sharp contraction, but after five or six months inflationary developments were resumed, bringing the Reserve officials difficult problems of choosing among conflicting objectives: consideration for the continuing needs of the Treasury would place emphasis upon holding discount rates at a level commensurate with the coupon rates on Government securities; consideration for the developing inflation would place emphasis upon raising discount rates to penalty levels. An attempt was made to resolve this dilemma through compromise. Rates were not advanced since "the Government had an unwieldy floating debt and Liberty bonds were largely unabsorbed" but banks and investment houses were urged to cooperate in "credit conservation" by restricting loans and investments to those needed by Government and industries engaged in essential work. This attempt at selective credit control did not accomplish its twofold objective. It satisfied the Treasury; but the Reserve System's warnings "were given only momentary attention by many banks," and inflationary pressures continued to accumulate.

Not until December 1919 did the Board feel that "the program of the

Treasury for the adjustment of the floating debt had advanced to a stage where it could no longer be seriously affected by the adoption of a more normal banking policy." Virtually every analyst who has viewed this period in retrospect agrees that it was a serious error to wait so long to bring credit "under effective control." There was no longer any question of seriously conflicting developments. The year or more preceding the summer of 1920 "was characterized by an unprecedented orgy of extravagance, a mania for speculation, over-extended business in nearly all lines and in every section of the country, and general demoralization of the agencies of production and distribution." In addition the reserve ratio was approaching its legal minimum. Without a change in the law—which was not considered—the System had very little more to lend.

At the close of 1919 it was the Board's conviction "that a substantial advance in all discount rates was necessary and that it should not be long delayed." It did not wish to accomplish "deflation . . . merely for the sake of deflation and a speedy return to 'normal' " and had no "intention to deny proper accommodation to agriculture, commerce, and industry, for any such limitation would defeat the very object of its policy." The intention in raising rates in May 1920 was "to discourage applications for rediscount for nonessential purposes," to accomplish "a sensible and gradual liquidation." Governor Harding expressed the opinion of the Reserve authorities when he said: "Here is an opportunity for wise discrimination, and this discrimination can be exercised more intelligently and effectively by the individual banker himself than by any governmental board."

The hope of the Reserve authorities was that "credit should do its part in bringing about the readjustment, and should be made sufficiently expensive to exert pressure and discourage unproductive and unnecessary uses. But the movement should be gradual and orderly; sudden credit or price deflation might lead to disaster."

Even after increases in Federal Reserve Bank rates they remained considerably below open market rates on commercial paper. Available business indicators were still rising, and the Reserve authorities could not have known in May 1920, when the decision was reached to raise rates again, that the postwar boom was at its peak. There ensued one of the most rapid and severe price declines in all history. The earlier stages of this reaction were viewed as an inevitable part of the process of "returning to normal" after the war. "The great economic reaction was not, however,

reflected immediately in the operations of the Federal Reserve System. . . . The expansion of the loans of the Federal Reserve Banks continued until early in November and of Federal Reserve note issues until December 23, 1920." The reserve ratio varied within the narrow limits of a few points above the legal minimum through the year 1920.

The authorities continued to exert pressure in the early part of 1921, although the reserve ratio improved rapidly and prices and production had fallen continuously and rapidly for considerable periods. They did not increase Reserve Bank rates; but existing rates, which were maintained, became more deterrent as market rates declined. In addition they maintained and even intensified their efforts to force member banks to repay their indebtedness and followed a rather rigid examination policy. One reason was the feeling among the authorities that the preceding inflation had not been completely "liquidated" and that premature lowering of rates would revive speculation. Another was the feeling that much of the incoming gold, which was primarily responsible for the increase in the reserve ratio, would remain only temporarily and that it would be a mistake to expand the credit superstructure on such a transitory base.

Finally there was the desire to maintain discount rate above market rate. This rule of thumb was a widely accepted principle of central banking tradition. Violation of the principle was blamed for the war and postwar inflationary developments. Many persons felt that the principle was universally applicable even to periods of severe credit contraction. This was the all but unanimous opinion of the Reserve officials, although they were unable to provide a definition of market rate appropriate for the application of the principle. Since according to this principle discount rate must remain above the market, any downward movement of discount rate had to be delayed until market rates had declined sufficiently to keep discount rate higher even after the change. In other words, discount rate had to follow market rate. Some efforts were made to reduce market rates by establishing comparatively lower rates on bills and by maintaining Treasury certificates at a premium, but no determined efforts were made to facilitate revival through deliberate adoption of an easy money policy.

The Middle Twenties. The volume of discounts had fallen from 2.75 billion dollars in the fall of 1920 to 1 billion at the end of 1921, and a number of Reserve Banks became concerned about their earnings. They followed the policy that authors of the Reserve Act had indicated as

appropriate for such circumstances; they began to purchase securities to maintain earnings. Initial purchases were spasmodic, but it soon became apparent that they had important monetary effects. In May 1922 a Conference of Governors of the Reserve Banks adopted "a policy of buying and selling Government obligations in an orderly, systematic way, not solely with regard to earnings, but with regard to the whole credit situation and to the interest of the Treasury" and appointed a Committee on Centralized Execution of Purchases and Sales of Government Securities by Federal Reserve Banks. This Committee was reorganized in the spring of 1923 and its policy was established "on the same basis as the discount policy." The Board established the following principle of operations: "That the time, manner, character, and volume of open market investments purchased by Federal Reserve Banks be governed with primary regard to the accommodation of commerce and business and to the effect of such purchases or sales on the general credit situation."

Open market operations and rate policy were thus made coordinate instruments of Federal Reserve policy. In some respects open market operations were given first place. Changes in direction of policy first became apparent in the security portfolio. Open market operations, together with such external factors as gold and currency movements, initiated changes in market rates. The New York Bank rate, on the other hand, was changed usually merely to restore its position—between the commercial paper and bankers' acceptance rates—in the structure. When one considers the rate structure alone, it is clear that discount rate followed market rates. The structure would have been quite different had an active rate policy been followed. Since the purpose of increasing the rate would have been to discourage borrowing positively, increases would have been sufficient in amount to place discount rate significantly higher in the whole structure of market rates—specifically, somewhat above the commercial paper rate. Similarly, since the purpose of decreasing the rate would have been positively to encourage borrowing, the decreases would have placed discount rate lower in the market rate structure—specifically, below the bankers' acceptance rate. The passive rate policy was a consequence of faith in the so-called tradition against rediscounting, discussed on pages 5 and 6.

Broadly speaking, viewing instruments as a whole, the policy of the System was "to exercise its influence toward restraint at times when business and speculative activity appeared excessive, and to remove

credit restraint at times of business depression in the hope that this policy might aid in avoiding the extremes of business expansion and contraction and encourage greater business stability."

In addition to contributing to reasonable stability in the 1920's the Reserve authorities perfected methods of virtually eliminating seasonal variations in interest rates, money market disturbances that originate in Treasury financial operations, and of providing a more elastic credit to meet sudden emergencies. It is difficult, perhaps, at this late date to appreciate adequately the importance that was once attached to these problems; yet not so long ago they were part of the very tissue of discussions of central banking policy. Stanley Jevons, Giffen, and Palgrave in England; Helfferich, Plenge, and Bendixen in Germany wrestled with the problems, and Kemmerer made an exhaustive study of them for the National Monetary Commission prior to the establishment of the Federal Reserve System. The remedy, developed in the 1920's, is to vary the amount of reserves provided to the market so as to maintain relatively stable rates over the seasons, at times of Treasury operations, and in emergencies. As C. O. Hardy concluded, "These cases are all excellent examples of the sort of service which a central banking system can render, for which it gets very little credit; for the potential disturbances which are prevented from occurring never come to the attention of the public."[8]

End of the "New Era." Some businessmen and analysts, however, made much more extravagant claims. They spoke glibly of a new era of perpetual prosperity and felt that the business cycle was a matter of historical interest only. But toward the end of the twenties various economic forces began to move seriously in different directions. For example, a peak was reached in commodity prices in 1925 and in awards of construction contracts in 1928, but security prices and brokers' loans continued to rise at an accelerated rate. As was the case during the war and postwar boom and again during the depression, the Reserve authorities were confronted with conflicting objectives, which the Board expressed as follows:

> The problem was to find suitable means by which the growing volume of security credit could be brought under orderly restraint without occasioning avoidable pressure on commercial credit and business. With the system portfolio of Government

[8] C. O. Hardy, *Credit Policies of the Federal Reserve System* (Washington, 1932), p. 71. See, however, p. 14 below for the policies in conflict with these principles followed in 1931 and 1933. The principles were followed in 1939 and 1941; see p. 17 below.

securities practically exhausted by the sales made in the first half of the year 1928, the main reliance in a further firming of money conditions must have been further marking up of Federal Reserve discount rates, unless some other expedient could be brought to bear in the situation.

The Board devised a method of "direct pressure" to meet the situation. In a public statement issued on February 7, 1929, it stated that "a member bank is not within its reasonable claims for rediscount facilities at its Federal Reserve Bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans." In the Board's Annual Report for 1929 it was noted that "for eight weeks following the issuance of the Board statement . . . security loans fluctuated irregularly without definite trend, but in the first part of April they turned definitely downward and continued to decline until the end of May. During June, July, and August, however, speculation in securities once more became active and the demand for security loans increased rapidly as stock prices advanced by about 25 per cent."

The policy of direct pressure was abandoned in the summer of 1929 partly because most of the increase in brokers' loans was not for the account of banks but for the accounts "of others"—corporations, investment trusts, and so on—and was thus beyond direct control of the System. In August a new technique was devised with the hope of exerting pressure on the speculative situation without harm to business. On August 9 the discount rate of the New York Bank was raised from 5 to 6 per cent and at the same time the Bank's buying rate for bankers' acceptances was reduced from $5\frac{1}{4}$ to $5\frac{1}{8}$ per cent.

A series of bearish events culminated in the last week of October 1929 in a break in the stock market which by the middle of November carried average quotations down 40 per cent from the high point that had been reached early in September. Within a week lenders outside the New York banks withdrew over 2 billion dollars of loans to brokers and dealers. Since the restrictive policy of the Federal Reserve System was occasioned exclusively by credit developments in the securities market, the liquidation was accompanied by an immediate reversal in that policy, although apparently on the spur of the moment. During the first week the Reserve Banks bought 150 million dollars of Government securities to provide reserves for New York banks, which took over 1,400 million dollars of the loans withdrawn by outsiders. The New York Bank reduced its discount rate from 6 to 5 per cent on November 1 and to $4\frac{1}{2}$ per cent on November 15.

The Great Depression. After the collapse voices were raised again to urge that steps be taken in the public interest to prevent a recurrence of speculative excesses. It had become increasingly apparent during the twenties that the self-liquidating commercial paper theory, on which the original Reserve Act had been based, was an inappropriate method of regulating credit. As the Board stated in its Annual Report for 1923:

> There are no automatic devices or detectors for determining, when credit is granted by a Federal Reserve Bank in response to a rediscount demand, whether the occasion of the rediscount was an extension of credit by the member bank for nonproductive use. . . . The technical administrative problem presented to each Reserve Bank is that of finding the ways and means best suited to the circumstances in which it operates of informing itself of when and to what extent the extension of credit for speculative uses is the real occasion of member bank rediscounting.

These conclusions, on which the direct action policy of early 1929 was based, were reflected in the Banking Act of 1933. This Act envisioned exercise of powers through control over the uses to which Reserve Bank credit was put by member banks directly or indirectly and dealt exclusively with operations to which banks were a party. It established explicitly the right of a Reserve Bank to refuse for cause credit accommodation to a member that presented eligible and acceptable paper.

The Reserve System was directed and empowered to prevent undue use "of bank credit for the speculative carrying of or trading in securities, real estate, or commodities, or for any other purpose inconsistent with the maintenance of sound credit conditions." The instruments of administration were authorization to the Reserve Banks to refuse credit accommodation to offending members and authorization to the Reserve Board "to fix . . . the percentage of individual bank capital and surplus which may be represented by loans secured by stock or bond collateral." The Act also prohibited member banks from acting as agents of nonbanking lenders in making security loans to brokers and dealers.

The next step in the regulation of speculation was to deal directly with credit on securities rather than with the operations of banks alone or with all types of speculative credit. The Securities Exchange Act of 1934 supplemented the Banking Act of 1933 and empowered the Board to prescribe minimum margin requirements for purchasing or carrying securities or selling them short.

This was a significant departure in method of control. It singled out a particular field of credit and directed the Reserve Board to regulate that

field directly rather than indirectly through denial of access to the Reserve Banks. It was an attempt to meet the difficult problem of adapting policies to conflicting developments in different fields. It was the first specific legal instrument of selective control of credit.

Whereas the speculative excesses of the 1920's indicated that member banks might not be entitled to Reserve Bank credit merely because they were able to offer paper that met the formal standards of eligibility and acceptability, the depression demonstrated that the public interest might require that a bank be able to secure Reserve credit even though it had no such paper. Although faith in eligibility rules as a control device wavered from time to time, as in 1923, such rules were not abandoned immediately with the onset of the depression. The principle underlying the original Act was still evident in the proposal of the President on October 7, 1931, that a national institution be formed to rediscount "banking assets not now eligible for rediscount at the Federal Reserve Banks in order to assure our banks, being sound, that they may attain liquidity in case of necessity, and thereby enable them to continue their business without the restriction of credits or the sacrifice of their assets." A limited departure from the original principle was contained in the proposal of the President to the Congress "that the eligibility provisions of the Federal Reserve Act should be broadened in order to give greater liquidity to the assets of the banks, and thus a greater assurance to the bankers in the granting of credits by enabling them to obtain legitimate accommodation on sound security in times of stress."

The Congress was not disposed to abandon the principle of control through eligibility requirements. The Glass-Steagall Act of February 27, 1932, empowered the Reserve Banks to make advances to member banks that did not have adequate eligible and acceptable paper, but only "until March 3, 1933, and in exceptional and exigent circumstances" and subject to penalty rates and other restrictions. Subsequent legislation extended eligibility provisions to meet particular situations. Meanwhile the Board restated its position as follows: "Experience shows that the particular instrument on which Federal Reserve credit is obtained is not an adequate test of the use to be made by the member bank of the proceeds of the credit."

Finally the original *principle* was abandoned in the Banking Act of 1935 which provides that "any Federal Reserve Bank . . . may make advances to any member bank on its time or demand notes . . . which are secured to

the satisfaction of such Federal Reserve Bank." The provision applied only to advances; yet the change is fundamental. The Board issued a new regulation in keeping with it. In effect this regulation made "all sound assets of member banks a potential basis of advances by the Federal Reserve Banks." The Board reiterated the view that "under the law a bank is not entitled to credit from a Federal Reserve Bank merely because it has eligible and acceptable paper." These new principles "mark a definite recognition of the fact that the lending function of the Federal Reserve Banks is not automatic but is an instrumentality of the System's general credit policy."

The depression produced a similar change in law and practice as to collateral eligible for Federal Reserve notes. Originally Reserve Banks were permitted to issue Federal Reserve notes only against eligible discounts and acceptances and were required, in addition, to maintain a reserve of at least 40 per cent in gold against them. Acting upon a suggestion of the Board, the Congress modified this provision in 1917 to permit issuance of notes against either gold or discounted paper, provided the combined coverage was at least 100 per cent and the gold reserve at least 40 per cent. Although discounts of member banks secured by United States Government obligations were eligible collateral for Federal Reserve notes, Government obligations themselves were not eligible. This limitation seriously restricted the power of the System to cope with the outflow of gold and the hoarding of currency that accompanied the departure of the United Kingdom from the gold standard in 1931. Money that the Reserve Banks might have put into the market through purchases of Government securities would have been used by member banks primarily to repay their borrowings from the Reserve Banks. The shift in earning assets from discounts, which were eligible collateral for notes, to Government securities, which were not, would have forced the Reserve Banks to use additional amounts of their declining gold reserves as collateral. The System was slow in proposing legislation to overcome this difficulty. Not until February 1932 was the law changed to permit Government securities to serve as collateral for notes. Initially the change was viewed as an emergency measure and a limit was placed on the period for which it was to be effective. The limit was extended a number of times before the original principles of note collateral were abandoned when the authority was made permanent in June 1945.

After the passage of the Glass-Steagall Act the System began to purchase Government securities, slowly at first and then more vigorously

than ever before, and increased its holdings from 740 million dollars at the end of February 1932 to 1,800 million at the end of June. The portfolio remained at approximately this figure until May of 1933 when, two months after the banking holiday, further purchases were begun which carried the portfolio to 2,400 million dollars in October.

The so-called easy money policy of the Reserve System early in the depression can be analyzed more fruitfully with reference to the background against which it developed rather than by comparison with more recent actions. Some considered the depression necessary and inevitable to purge the economy of the extravagances of the new-era prosperity. This feeling was accompanied by an unwillingness to do anything that might involve a return of what were considered the artificial conditions of that period. For a time there was both a return to traditional theories and principles and a hesitancy to devise or employ vigorously new techniques of monetary management. These developments are illustrated in the caution with which the Reserve officials pressed for extension of the discount facilities of the System and the collateral provisions for Federal Reserve notes. Furthermore, the magnitudes to which the Reserve officials were accustomed in 1930 were very small compared with those that have become current lately. To illustrate, for only two short periods prior to 1930 had the System's portfolio of Government securities exceeded 500 million dollars; recently it has acquired more than 1,000 million in a single month. In 1932, 120 million was a "considerable volume" of excess reserves; in 1940 excess reserves, largely as a result of gold imports, approached 7,000 million. As a consequence, even those actions which were considered bold at the time may now appear to have been timorous.

The first limited goal of the System in its efforts to create easy money was to provide member banks with sufficient funds to repay their indebtedness to the Reserve Banks. This goal was indicated by the importance the Reserve officials attached to the volume of such indebtedness in influencing member banks. "Their lending and investing policy is very closely related indeed to the amount of such indebtedness. . . . The principle of open market operations may be summarized by saying that purchases of securities by Reserve Banks tend to relieve member banks from debt to the Reserve Banks, and lead them to adopt a more liberal lending and investing policy. Money rates become easier; bank deposits increase. Such purchases tend to create a borrower's market."[4]

The assumption was that member banks would not hold reserves sub-

[4] W. R. Burgess, *The Reserve Banks and the Money Market* (New York, 1936), pp. 238–39.

stantially in excess of legal requirements but would utilize newly acquired reserves first to repay borrowings from the Reserve Banks and then to increase earning assets. This assumption seemed to be justified by experience during most of the period prior to 1932. The first objective of Reserve policy was to eliminate indebtedness of member banks so as to put them in position to expand freely. Reduction of indebtedness was interrupted by the international crisis in 1931 and the banking holiday of 1933, when the System followed the traditional policy, enunciated by Walter Bagehot over half a century before, of making funds available though expensive. The System did not obviate the need to borrow additional sums by placing funds in the market on its own initiative through purchases of Government securities in significant volume in either of these periods; but it did lend and buy roughly 1 billion to 1.5 billion dollars in each instance at the initiative of the market, though at higher rates than were charged before the crises.

Purchases of Government securities in the summer of 1933 virtually eliminated member bank indebtedness. As member banks got out of debt, however, they did not utilize fully additional reserves to expand but allowed their actual reserves to increase beyond legal requirements. As a consequence, by the time indebtedness had been reduced to a small amount on the part of a few banks, members as a whole had acquired several hundred million dollars of excess reserves.

A new principle, that of direct lending, was introduced in June 1934 to assure that recovery would not be impeded by inability of an established industrial or commercial business to obtain requisite financial assistance on a reasonable basis from the usual sources. The Reserve Banks were authorized to "make loans to, or purchase obligations of, such business, or make commitments with respect thereto."

The problem of reserves, however, remained of crucial importance. It is a subject that receives continuous study and periodic reappraisal. For example, the Board had called attention to it in 1916 when it requested power to raise reserve requirements. Again, on December 12, 1929, the Conference of Governors adopted a resolution recommending "the most careful scientific study by experts devoting their entire time to the matter with a view . . . to establish bank reserves throughout the country on a more logical or effective basis." In its report made public in November 1931 the Committee on Bank Reserves of the Federal Reserve System pointed out that "the most important function served by member bank

reserve requirements is the control of credit" and recommended that requirements be based on "the activity as well as the volume of deposits held by each individual member bank." Other reserve proposals were brought forward but none was enacted into law until the so-called Thomas Amendment of May 1933 empowered the Reserve Board "with the approval of the President" to change reserve requirements "during emergencies by reason of credit expansion." The Banking Act of 1935 gave the Board exclusive power over reserve requirements of member banks but only between one and two times the ratios stated in the law.

Thereafter the Reserve authorities could influence excess reserves either through changes in total reserve balances or through changes in required reserves. After the official revaluation of gold, which coincided with the virtual elimination of member bank indebtedness, the Reserve authorities took no actions designed to influence total reserve balances until after our entry into the war. Purchases of securities to relieve pressure on individual banks resulting from the increase in requirements in 1937 and the decision not to acquire Treasury bills on a no-yield basis in 1939, however, had incidental effects on total reserves.

The chief influence on total reserve balances was the large and persistent increase in gold which greatly exceeded the flow of money into circulation. A related factor, important at times, was the policy of the Treasury with respect to the size of its deposits at the Reserve Banks and with respect to sterilization of gold imports. The importance of external forces in total reserve balances created a new dilemma for the Reserve authorities which they expressed in 1935 as follows: "The country is still short of a full recovery" but the "volume of member bank reserves . . . continues to be excessive, far beyond the present or prospective requirements of credit for sound business expansion." The problem of the System was "to lend its efforts to a furtherance of recovery" without initiating uncontrollable inflationary developments.

As an aid to recovery the System reduced its rates on discounts and advances as well as maximum rates allowable by member banks on time deposits. As a preventive of inflationary developments the Board announced that it was giving "frequent consideration to probable future changes in the volume of excess reserves, to possibilities of excessive credit expansion on the basis of these reserves, to methods of reducing the reserves and controlling credit expansion, and to the proper timing of such action."

In 1936 and again in 1937 when the Board increased requirements it was careful to point out that "it was not the intention to reverse the policy of monetary ease which has been pursued by the System since the beginning of the depression. Rather it was an adjustment to a changed reserve situation brought about through the extraordinary inflow of gold from abroad. While there was no evidence of actual excessive expansion in bank loans, the excess reserves provided the basis for such an expansion, and it was considered far better to sterilize a part of the superfluous reserves while they were still unused than to permit a credit structure to be erected upon them and then to withdraw the foundation of the structure. At the time of taking action to increase reserve requirements the Board announced that the Federal Reserve System proposed to continue its policy of exerting its influence toward the maintenance of easy money conditions for the encouragement of full economic recovery. Analysis indicated that reserves were not only large but well distributed so that all but a relatively small number of member banks were in a position to meet the increased requirements either by utilizing their excess reserve balances with the Reserve Banks or by drawing upon their excess balances with correspondent banks."

When some banks sold Government securities in March 1937 to meet the increases in requirements or for other reasons, the System bought bonds and reduced its holdings of notes and bills. On April 4 the Federal Open Market Committee issued the following statement: "With a view (1) to exerting its influence toward orderly conditions in the money market and (2) to facilitating the orderly adjustment of member banks to the increased reserve requirements effective May 1, 1937, the Open Market Committee of the Federal Reserve System is prepared to make open market purchases of United States Government securities for the account of the Federal Reserve Banks in such amounts and at such times as may be desirable."

The "shift in emphasis in the use of open market operations from their influence on member bank reserves to their direct influence on conditions in the capital market" was reflected in the operations of 1939. Beginning in June the System decided that "no useful purpose would be served by continuing to replace maturing bills for which there was a strong demand in the market." The reduction in portfolio, which was incidental to this policy, did not reflect a change in the general policy of monetary ease.

The Second World War. The System prepared well in advance to meet

the serious disturbances to the securities markets in this country that might be expected from an outbreak of armed conflict in Europe. On April 19, 1939, the Federal Open Market Committee unanimously authorized the executive committee to make large purchases of securities so that the System would "be prepared to exercise its influence toward preventing disorderly conditions in the market for Government securities" and "for the purpose of exercising an influence toward the maintenance of orderly market conditions."

With the outbreak of war in Europe the System "deemed it to be in the public interest to exert its influence in a positive way toward maintaining orderly conditions in the market for United States Government securities." Instead of leaving it to banks to borrow and increasing rates, as central banks had formerly done in crises, the Reserve System purchased over 470 million dollars of securities from timid holders and announced that "all the Federal Reserve Banks stood ready to make advances on Government securities to member and nonmember banks at par and at the discount rate." This application to crises of the technique devised to deal with disturbances arising from seasonal needs and Treasury operations represents a forward step in central bank administration. The effectiveness of the new procedure was demonstrated when relatively modest purchases quickly steadied the market for Government bonds after the entry of the United States into the Second World War.

Increased war production and employment expanded civilian purchasing power beyond the expansion in available civilian goods. The resulting inflationary pressures called for anticipatory restraint and on September 23, 1941, the Board increased reserve requirements to the maximum permitted by law. This act reversed the reduction that had been made in requirements in 1938 as part of the national program for arresting declines in business and employment and encouraging economic recovery.

Meanwhile the President, under his emergency powers, authorized and directed the Board "to exercise a measure of control over consumer credit." This was the second selective instrument of credit control to be placed in the hands of the Reserve authorities. The technique devised was to prescribe minimum down payments and maximum maturities applicable to consumer credit extended through instalment sales of certain listed articles and instalment loans for the purchase of these articles. In addition limits were placed on the maximum maturity of miscellaneous cash loans of $1,000 or less repayable in instalments.

A frequently reiterated desire throughout the financing of the Second World War was that as large an amount of funds as possible be secured from nonbank sources and especially from current income. This general statement, of course, still leaves undetermined the amount of funds desired from banks. In reviewing Federal Reserve policy during the period of United States participation, it is helpful to recall that until about the time of the Second War Loan Drive in April 1943 it was necessary to encourage banks to take even the "residual" amount of securities not taken by others. It is easy to forget that banks were called upon at the last minute virtually to underwrite two new issues of securities in October 1942. To those who recall those days, however, it will not be necessary to demonstrate that the initial problem was to encourage bank participation. Commitments made and programs adopted in this early period became increasingly serious obstacles when the problem, after the middle of 1943, became that of discouraging unnecessary bank acquisition of Government securities.

The two primary objectives of the System were (1) to maintain relative stability in the Government security market, thereby assuring to the Treasury availability at low rates of whatever funds it needed, and (2) to restrict the creation of purchasing power to the minimum consistent with the achievement of the first objective. The initial objective was to assure adequate funds, and maintenance of stability was viewed as a means of accomplishing it. With the passage of time, however, stability became the actual objective with the result that more funds were created than it was necessary to create.

As a contribution to achievement of the first objective the System issued the following statement when the United States entered the war in December 1941:

> The financial and banking mechanism of the country is today in a stronger position to meet any emergency than ever before.
>
> The existing supply of funds and of bank reserves is fully adequate to meet all present and prospective needs of the Government and of private activity. The Federal Reserve System has powers to add to these resources to whatever extent may be required in the future.
>
> The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the Government's requirements.
>
> Continuing the policy which was announced following the outbreak of war in

Europe, Federal Reserve Banks stand ready to advance funds on United States Government securities at par to all banks.

The most important single decision was, by agreement with the Treasury, to establish a structure or pattern of rates that the System would maintain. The decision to stabilize yields was based on the desire to keep down the cost of borrowing to the Treasury and to remove any incentive that might exist for delaying purchases in the expectation of higher yields. The structure agreed upon involved a slight modification of the pattern that had developed during the prewar years when excess reserves were abundant, demand for loans was slow, and the supply of desirable securities was small. It ranged from $\frac{3}{8}$ per cent on 90-day bills, through $\frac{7}{8}$ per cent on certificates of indebtedness and 2 per cent on eight- to ten-year bonds, to $2\frac{1}{2}$ per cent on the longest bonds.

The $\frac{3}{8}$ per cent rate was maintained by means of the policy adopted with respect to Treasury bills. On April 30, 1942, the Reserve Banks announced their readiness to purchase unlimited amounts of bills at $\frac{3}{8}$ per cent. In August 1942 they agreed also to grant the seller a repurchase option at the same rate. These commitments, in addition to pegging the bill rate at $\frac{3}{8}$ per cent, were an inducement to banks to invest their excess reserves in bills. Bills became as liquid as cash and the policy in effect enabled banks to secure $\frac{3}{8}$ per cent on their excess reserves. The System maintained ready availability of credit through this policy on bills rather than by maintaining a large volume of excess reserves as some proposed. The absorption of excess reserves was desired both because pools of excess reserves are available for credit expansion at any time at the initiative of the holder and are therefore beyond control, and because utilization of excess reserves would reduce the amount of additional Reserve Bank credit it would be necessary to create to finance the war.

Rates for other Treasury securities were prevented from rising above the pattern by open market purchases of individual issues of certificates, notes, and bonds.

The market was reinforced also by means of low discount rates. The standard rate was set at one per cent; and the short end was bolstered by the introduction in October 1942 of a preferential rate of one-half per cent on advances to member banks secured by United States Government obligations maturing or callable in one year or less, with a view to encouraging banks to invest in short-term securities.

The relative importance of these methods of extending Reserve Bank

credit changed significantly as the war progressed, especially after the summer of 1942 when the volume of Reserve Bank credit began to increase. These changes reflected primarily the availability of various issues and market opinion. In the second half of 1942, and especially after the new issues in October, the entire market was weak and the System acquired a billion dollars each of bonds, certificates, and bills as well as half a billion of notes.

Maintenance of the pattern of rates, however, provided a strong and continued inducement to investors to lengthen maturities. What was happening was not always understood. Many bankers observed that their deposits were rising, giving them more funds to invest. Tradition and conservatism led them to buy various maturities in order to maintain what they considered a proper balance in their portfolios. The higher rates and persistent opportunities for appreciation, however, tempted them to increase the proportion of longer issues. Whenever they needed reserves, they tended to sell the shorter issues, which they viewed as secondary reserves.

Other investors, including some banks, consciously adopted a policy of increasing maturities. Their reasoning was that if a rate pattern is being maintained, all issues are equally liquid irrespective of maturities. Although the pattern was not maintained rigidly, only small variations in yields were permitted and the risk could be minimized by buying new offerings and careful selection of individual issues. In other words, even short-term funds could be invested in long-term issues, with little or no risk of loss, with the certainty of a higher nominal rate. In addition, longer issues were certain to go to a premium with the passage of time because they would be priced to yield lower rates as they moved into the shorter end of the pattern. The process of selling short issues and buying long became known as playing the pattern of rates.

As long as the Reserve System maintained the pattern, the Reserve Banks of necessity became heavy purchasers of short maturities. The fact that the Treasury issued large volumes of short-term securities of itself gave the market great power over reserves. The holder of an issue can demand cash at maturity. As long as the market held large volumes of short issues, it was in position to force the monetary authorities either to meet its terms or to create new money. A consequence of maintaining the established terms was that the monetary authorities lost control over the volume of money. The power of the market, which would have been

great if issues had been necessary only for new money, was reinforced by the continuous need to meet maturities. At first the Reserve Banks bought mostly Treasury bills; but after they had acquired most of the outstanding bills it became necessary to purchase large amounts of certificates and short notes. The purchases were made not only from banks but also from nonbank investors. Some banks, after they had exhausted their bill holdings, also borrowed at the preferential rate on their short-term Governments. The System's holdings of bonds, on the other hand, declined from the beginning of 1943 despite frequent offerings of long-term issues during war loan drives. The average maturity of securities taken tended to increase in the later war loan drives. After the Treasury ceased to offer long-term issues, the process produced downward pressure on yields of long-term issues. The importance of this process in monetary policy arises from the fact that purchases of securities by the Federal Reserve System—to maintain the pattern of rates at the short end—create additional bank reserves. A large volume of additional reserves was needed to supply additional currency. Each dollar of reserves not needed for this purpose, however, enabled member banks to expand their loans and investments because it is capable of supporting about six dollars of deposits.

The decision to stabilize rates was basic, but other elements of policy were important. One of these was policy with respect to the use of war loan accounts. A bank that qualified as a special depositary of public monies could pay for new issues of Government securities purchased for its own account or for the account of its customers by crediting the war loan account of the Treasury instead of transferring funds to the Federal Reserve Banks. The use of war loan accounts diminished the effects of Treasury borrowings on the money market. In the early days when it was desired to encourage bank participation in war loan drives banks were urged to use such accounts to the fullest possible extent. As an added inducement to their use they were made exempt from reserve requirements and assessment for deposit insurance. Prior to the change a bank had to secure additional reserves to meet the requirements against war loan deposits created by the purchase of securities for its own account—though not, of course, as a result of a shift from balances of customers to war loan account. The resulting pressure on reserves during war loan drives was an additional reason for recommending the change. After the change, a bank no longer needed additional reserves against deposits

resulting from its own purchases, while transfers from balances of customers to war loan accounts freed reserves. As a result war loan drives tended to produce a temporary excess of reserves. This factor became especially important after banks were virtually excluded from direct purchases in war loan drives. Banks used these excess reserves, created during the drives, to purchase additional securities in the market. As the Treasury spent funds, deposits were shifted from war loan accounts, which did not require reserves, to private demand deposits, which did. Banks met such increases in reserve requirements by selling securities, especially those of short term. The Reserve Banks bought the securities to maintain the pattern of rates and thus created new reserves to meet increasing requirements as well as the steady growth of currency in circulation.

Another element of policy was to direct periodic war loan drives toward nonbank investors. Banks were officially excluded, except to a limited extent, from the last six drives and from acquisition of securities with maturities longer than ten years. On the other hand, local sales committees were zealous of reaching high totals and the results of their efforts tended to be measured both locally and nationally by the amounts sold and not by the sources of funds. "Roll-over" operations became common, especially during drives. Banks, excluded from direct participation in drives, were persistent buyers of securities that they were eligible to hold. The securities were sold at premiums by savings institutions and other corporations who used the proceeds to subscribe for new issues at par. In other words, the large totals reached in war loan drives were to a considerable extent a result of expansion in bank credit even though banks were excluded from direct purchases from the Treasury.

Among the more important of the remaining policy acts were (1) reduction of reserve requirements in central reserve cities when local stringencies developed in New York and Chicago; (2) joining with other supervisory agencies in November 1942 in announcing that "banks will not be criticized for utilizing their idle funds as far as possible in making such investments and loans [in and on Government securities] and availing themselves of the privilege of temporary borrowing from or selling Treasury bills to the Federal Reserve Banks when necessary to restore their required reserve positions"; (3) advising banks against extending credit not related to the war effort and after the Third Drive discouraging banks from participating unnecessarily in the absorption of Government securities; (4) tightening margin requirements for purchasing or carrying securi-

ties; and (5) tightening the terms of Regulation W with respect to consumer credit.

In addition, the System aided in the smooth operation of the complex war economy. The largest job in terms of manpower employed was the work performed as fiscal agent for the Treasury in the issuance, exchange, and redemption of Government securities. Next in terms of volume of work was the maintenance of an efficient clearing system for checks. The System also was the clearing agent for the ration banking system of the Office of Price Administration. It administered control of foreign funds for the Treasury. It represented the War Department, the Navy Department, and the Maritime Commission in the guarantee of certain loans for war production purposes. It participated in the formulation of borrowing policies and in the organization of war bond drives.

In devising policies and programs for financing the war, attention was devoted primarily to the nominal interest charge on the public debt. The desire to keep creation of bank credit to a minimum was expressed frequently, but the maintenance of the pattern of rates made expansion of bank credit profitable. It is not surprising that many accepted the inherent invitation to profit rather than heed the warnings against inflation.

At the conclusion of the Second World War the same basic forces were at work as those operating in 1918–19. The development of these forces in the postwar period is analyzed in other papers in this series. Many of the magnitudes involved, of course, are much larger. But the authorities have to combine or choose between the same conflicting objectives.

THE EXPERIENCE OF THE 30 YEARS AS A WHOLE*

The Federal Reserve System was born at the end of an era. As a result, the Reserve authorities have had to slough off many rationalizations and rules of thumb of central banking widely accepted during that era but not appropriate, at least, to the Reserve System.

One of the most persistent rationalizations was that central bank credit can be regulated adequately through properly administered eligibility regulations and rules. Experience has demonstrated that such rules permit the extension of excessive credit in periods of prosperity; and that they may unduly restrict credit in periods of depression. Experience has demonstrated also that it is impossible to control through eligibility rules the uses to which Federal Reserve credit is put; and that if selective controls are to be exercised, they must be developed on another basis.

* The remaining pages in this article were written in 1944.

The exceptional character and volume of international gold movements demonstrated that the reserve ratio is an unreliable guide to central banking policy. The undesirability of expanding even though or merely because the ratio was above the legal minimum became apparent during the First World War. The error of restricting credit merely because the ratio was declining or near the legal minimum was demonstrated in the early 1920's. Thereafter the ratio ceased to be used as a guide to policy. The Great Depression demonstrated further that collateral requirements for central bank notes can become unduly restrictive. Once redemption in gold for internal use was suspended, the only function that gold reserves performed was to make international payments. To the extent that the Reserve Banks are required to maintain their gold certificate holdings as reserves the gold cannot be used for this purpose. Another lesson learned early is that earnings are an inappropriate guide or objective of Federal Reserve policy. This was demonstrated by the purchases of Government securities to increase earnings in 1921 when, fortunately, purchases should have been undertaken anyway because of existing general credit conditions.

From this historical analysis four related problems emerge as of crucial and continuing importance in Federal Reserve policy. They are (1) adequacy of power to discharge responsibilities, (2) reversing direction, (3) speed and scale of action, and (4) reconciliation of conflicting objectives.

Adequacy of Power to Discharge Responsibilities. The degree of faith in monetary powers varies not unlike the alternating movements of the business cycle itself. A high point of confidence was reached in the twenties; doubts arose in the early thirties; a new theory of fiscal policy, developed to buttress and renew the old faith, soon became a new religion, virtually replacing the old by the late thirties. As John Williams expressed it: "One of the most striking facts about the development of fiscal policy in the past decade is that, while it grew out of monetary policy and was designed to supplement and strengthen it, fiscal policy has ended up by threatening to supplant monetary policy altogether."[5]

Failure to assess the role of monetary policy objectively has had serious consequences. It accounts both for the insistence in the middle twenties that the Reserve System should not be too much concerned with developments in the securities market and for the later use of general credit instruments to control speculative developments in the stock market. It

[5] *American Economic Review,* Supplement, March 1942, p. 234.

also accounts in part for the indifference of the Reserve authorities in the early thirties to the diffusion of monetary powers among governmental agencies. The thirties demonstrated that Federal Reserve policy is not so powerful as some had supposed in the twenties; but the twenties demonstrated that it is not so impotent as some currently believe. One need only consider what would follow if the Reserve System disposed of a substantial portion of its Government securities to realize that recent skepticism has been carried too far.

A proposition, confirmed by experience, is that the terms and conditions under which reserves and money are created and destroyed influence the willingness and ability of the public to acquire, hold, spend, borrow, and repay money. Yet if this is the case, monetary policy is a necessary and important ingredient in any effective over-all policy.

The effectiveness of Federal Reserve policy appears to depend largely on the stage of the business cycle. This is true because there are two sides to the credit market. Broadly speaking, the Reserve authorities can control within limits the supply of credit, but they can influence the demand only indirectly. When the core of the problem is to restrict supply, System policy can be reasonably effective, because access to money is a necessary condition for a boom and the System can usually make money both scarce and expensive. Power over reserves and selective controls over security loans enable the System to play an important role in such periods, especially if the limitations on these powers, primarily over reserve requirements, are removed. Experience during the middle twenties indicates that Federal Reserve policy can be effective also in periods of relative stability at high levels of productive employment. Policy was directed toward stability and helped to moderate both booms and depressions during that period.

When the problem is to stimulate demand, the effectiveness of Federal Reserve policy is much less certain. In depressions the System can make money both cheap and plentiful by purchasing securities, lowering reserve requirements, reducing rates, lowering margin requirements on security purchases, and easing examination policies. Such measures have proved powerful enough to stimulate demand and initiate revival. In severe depressions, however, they may be inadequate by themselves. In the middle thirties, for example, large excess reserves did not stimulate credit demands sufficiently to produce a high level of employment. Although the excess reserves were a result primarily of gold imports, they were no

less effective than they would have been had they been created by action taken at the initiative of the Reserve authorities. Access to money is not a sufficient condition to create prosperity. Nevertheless it is a necessary condition, and the power of the System to create reserves and currency should not be permitted to become unduly restricted as it was in the Great Depression.

Putting the matter crudely, monetary authorities can prevent credit expansion by making credit sufficiently expensive; they cannot force expansion if business will not borrow. The Federal Reserve System is not the only agency with monetary powers. Coordination of the monetary aspects of policies being followed by other agencies is necessary to secure a responsible, consistent national policy.

Reversing Direction. Another difficult problem that confronts Reserve officials is to determine when to change the direction of its program. Both technical and human factors tend to produce delayed rather than premature action. On the purely technical side strictly current data are available to the authorities only in selected fields. At times major decisions must be based on estimates that apply to a recent rather than to the current situation, and even then the estimates may be preliminary. Yet future critics are apt to assume that all the information that is available to them was available when the authorities made their decision. The problem of imperfect knowledge can never be solved completely, but persistent and vigilant efforts can reduce errors to a practical minimum.

A similar difficulty arises from the fact that monetary analysis cannot be either static or perfect. Great strides have been made since formal rules of eligibility were considered adequate and appropriate guides to policy; yet much remains to be learned, as the rise of analysis based on the relationship between "saving and investment" amply demonstrates. As more powerful tools of analysis are developed, certain past actions may appear to have been inappropriate. The central banker cannot permit this probability to disturb him unduly. On the other hand, he can discharge his responsibility fully only if he comprehends and evaluates new developments in principles.

The human factor also tends to prevent timely, vigorous actions. A change in direction indicates a major change in program, and responsible officials naturally wish to be sure before they go ahead. Central bankers must expect popular and uninformed criticisms even when they pursue proper policies. Unlike their critics—most of whom, incidentally,

deal with past events—they are held publicly responsible. This is all to the good, but one cannot expect them to lay themselves open to attack unless they are fully convinced of the correctness of their position. Such conviction is not likely to appear in incipient phases of a new development when a change of direction is first indicated and when it would be most timely.

A number of techniques can be employed as partial offsets to this factor. One is to prepare appropriate programs of action in advance of need. If it were possible to predict the precise course of events, a single program could be developed and followed. Since this is not possible, the best alternative is to devise a series of programs appropriate to various possible conditions. The purpose of preparing such plans is analogous to that of a general staff when in peace it prepares and revises strategy and tactics for use in possible areas of conflict. An excellent example of the wisdom of such foresight is the policy prepared in April 1939 to meet a possible outbreak of war in Europe. Preparation for the eventuality of war is quite different than predicting an outbreak of war.

Another technique to facilitate timely action is to use the less spectacular instruments in the interval between first feeling that a change of direction may be called for and full determination that clear-cut action should be taken. The first upward or downward change in the rate or in reserve requirements is a dramatic act. It is not apt to be undertaken until there is strong evidence of its necessity, and conviction that it will not require early reversal. This may be some time after there is reasonable assurance that a change in policy is needed. One of the advantages of open market operations in such periods is that they are less dramatic than changes in the rate and can be reversed more readily. Even though these operations are now thoroughly understood, they remain less spectacular than changes in the rate, especially if the investment account has not remained stationary for a considerable period.

Similarly, since weaker instruments are more apt to be used in such periods, emphasis could be shifted to them as a matter of policy. Selective instruments are more likely to be used precisely because they can do less harm if an error is made. Use of a combination of general instruments operating in opposite directions, such as an increase in reserve requirements coupled with open market purchases, is another device to induce prompt action.

Speed and Scale of Actions. Once the direction of a program has been

reversed, the major question becomes that of the speed with which the authorities should move. Adequate timely action is peculiarly important because of the cumulative nature of the forces operating in the business cycle. The same factors that tend to delay a change in direction also tend to limit the aggressiveness with which the new program is pursued. A tendency to follow rather than to lead is illustrated clearly, for example, in the rate policy of the twenties.

Events during the Great Depression have created an environment in which it will be peculiarly difficult to take adequate action to stop an inflationary development. The whole emphasis was to promote expansion; the only fear was that of contraction, both cyclical and secular. Recent experiences always tend to be accorded undue weight in arriving at decisions. It will be emotionally and intellectually difficult to apply restrictive measures until another experience demonstrates again the evils and injustices of inflation. Another recent development that may make adequate action humanly difficult in the future is the rapid increase in the sheer magnitudes involved. It is not easy to become fully adjusted to changes of the size we have experienced.

Resolution of Conflicting Objectives. The original Act was based on the principle that the Reserve authorities should adapt their policies to the economic situation as a whole. The general powers of the System proved inadequate to meet special situations requiring a degree of restraint in some areas that was inappropriate for the business situation generally. The authorities experienced difficulties in determining how to employ general instruments to meet diverse developments.

The new principle of selective credit control was developed to meet this situation. The Reserve authorities were directed to regulate a particular field of credit. Selective instruments can be used to reinforce the general instruments. More important, although experience with such tools is limited, there is reason to believe that some former conflicts of objectives can be reconciled by adapting selective instruments to diverse developments in different fields. Ideally, separate instruments should be available for each field of credit important in the business cycle. At present only credit on securities is covered. Regulation of consumer credit, which was established during the war on an emergency basis, was not made permanent by legislative action.[6]

[6] The administration of selective controls is discussed by Mr. Parry in pp. 65–87 of this pamphlet.

Some have objected to selective instruments because they clearly require the authorities to form value judgments as to the desirability of developments in individual fields. Careful appraisal indicates that this always has been necessary. The difference is not in the need for judgment but in whether policy shall be restricted to influencing the entire situation which is appraised by combining judgments on many fields or whether policy shall be flexible enough to deal with individual situations.

Selective instruments, however, are only a partial solution to the problem of conflicting objectives. Officials responsible for policy must still determine the relative order of importance in the general situation of such basic factors and indicators as employment, commodity prices, and yields on Government securities.

EXPERIENCE AND THE FUTURE

Most of the rationalizations that have proved erroneous have one thing in common. They are based on the supposition that wise credit administration can be secured by law or formula. Experience has demonstrated that—to use the words of the Baruch-Hancock report—"no formula or law can supplant—or supply—good judgment and ability."

Even Hawtrey, who once wrote "the trade cycle is a purely monetary phenomenon," admitted that "regulating credit, in fact, is an exceedingly delicate operation."[7] It is also a thankless task, calling for courage to remain calm and objective under constant attack. When a developing boom auto-intoxicates the economy, the central banker must discharge the thankless responsibility of a warning Cassandra and must apply restrictive measures that are unpopular. When a boom collapses he will be blamed both for having permitted it to develop and for causing its collapse. In depressions some will blame him for making the money market too easy and others for not making money easy and plentiful enough.

Courage is not enough. Central bankers can keep errors of policy to a minimum only by keeping abreast of developments in the economy and in principles of dealing with economic forces. This does not mean the forthright acceptance of each "new" theory, for many new theories are but revitalized versions of exploded dogmas. It does require the central banker to subject his thinking to continuous reappraisal. The developmental nature of monetary analysis is disconcerting, but it provides the challenge that lifts central banking from a routine occupation to an art.

[7] R. G. Hawtrey, *Monetary Reconstruction* (London, 1923), pp. 63 and 141.

IMPACT OF THE WAR ON THE MEMBER BANKS, 1939–1946

by

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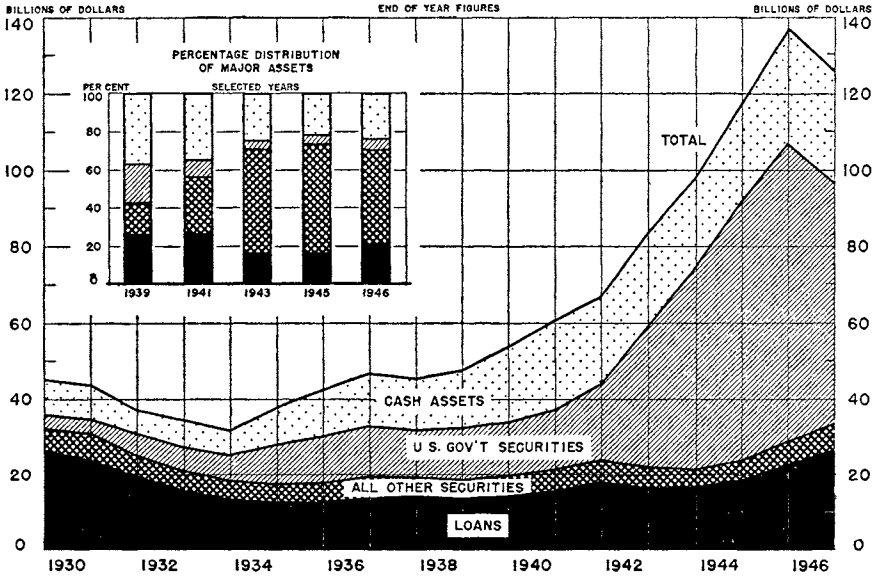
Total deposits of all member banks were slightly less than 50 billion dollars at the end of 1939. By the end of 1945 they had risen to 130 billion. This increase of 80 billion was more than eight times the reserve base available to member banks for credit creation during the six war years. Nearly all of this multiple expansion had been produced by bank purchases of Government securities. Government expenditures had been so enormous, and the share of national income passing through Government accounts had been so large, that the commercial banks served primarily as direct suppliers of Government funds rather than as suppliers of private credit. Member bank holdings of the public debt rose by 64 billion dollars from 1939 to 1945. Loans increased 9 billion, but half of this increase was in loans for purchasing and carrying Government securities.

During the fiscal years from July 1940 to June 1946, Government expenditures reached a cumulative total of about 385 billion dollars; including additions to cash balances, nearly 400 billion entered Government accounts in these six years. Despite impressive increases in taxes, the Government operating receipts yielded only about 175 billion dollars, or less than half the required amount. The remainder was borrowed from investors, from Government agencies and trust funds, and from the banks. The share of all commercial banks, including the member banks, was 68 billion dollars; acquisitions of the Federal Reserve Banks provided 21 billion more. In all, additional holdings of public debt by the commercial banking system furnished slightly more than one-fifth of the Government's cash income during the war period.

With the end of the Government's war borrowing program in December 1945, over-all member bank expansion reached a peak. Bank deposits were approximately 150 per cent larger than they had been in 1939. During 1946, as it appeared that the proceeds of the Victory Loan had far exceeded Treasury requirements, the wartime process was reversed and the Treasury war loan deposits with banks were drawn upon to retire debt. Retirements of bank-held debt, offset in part by further loan ex-

pansion, resulted in a reduction of more than 11 billion dollars in total member bank deposits in 1946. But the deposits held by the public continued to grow. It was clearly impossible to expect that the great wartime growth in the public's deposits could be erased by a simple reversible process of rapid retirements. Commercial bank deposits, exclusive of the Treasury's war loan account, had attained a volume which was certain to be maintained for some time to come at more than double the prewar level.

MAJOR ASSETS OF ALL MEMBER BANKS



The rise in the public's bank deposits to more than double prewar size was only one of several fundamental changes in commercial banking brought about by the war. A second was the one-sided growth in assets. Government securities had seemingly been grafted on to the prewar banking system, and it was the grafted additions which accounted for practically all of the 150 per cent expansion in assets. The accompanying chart shows that member bank loans, and holdings of other securities, had no more than returned to the level of 1929 by the end of 1946. Cash had increased considerably, but much of it was tied up in legal reserves against the deposits created in acquiring Government securities.

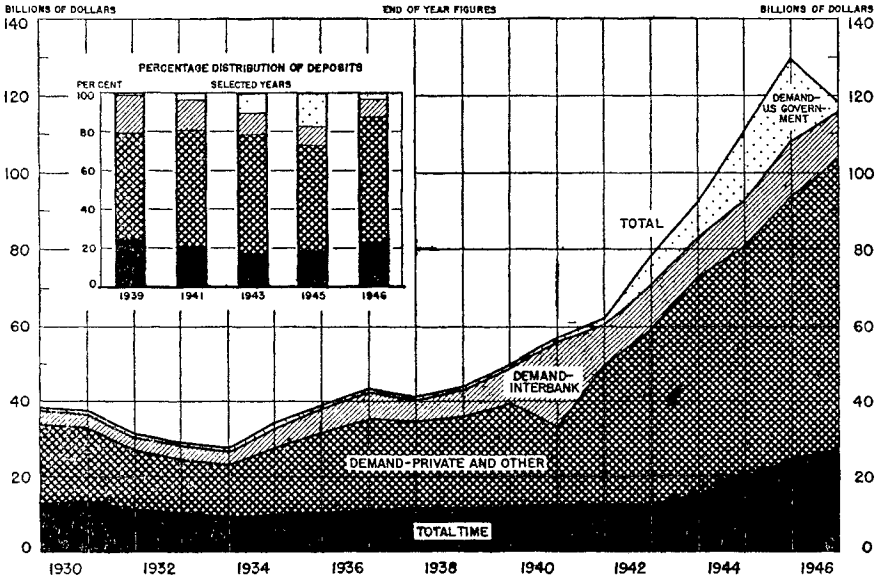
New deposits, originally created through Government borrowing, had

Errata, Page 31

The percentage distributions of "United States Government Securities" and "All Other Securities" shown on the grid in the upper left-hand corner of the chart on this page should be reversed. A revised copy of the chart will be supplied upon request to the Board of Governors.

found their way into private hands. The distribution of these deposits among classes of holders represented a third basic change for banking. The accompanying chart indicates that most of the increases had entered the demand deposit accounts of businesses and individuals. There was not the same concentration upon a single class of liabilities as had appeared among the assets, however. Time deposits had increased by 14 billion dollars from 1940 to 1946, after remaining at a total lower than that amount for a decade. Private demand deposits, on the other hand, rose from 25 billion dollars at the end of 1939 to 69 billion at the end of 1946.

DEPOSITS OF ALL MEMBER BANKS



Changes apparent in the combined data for the entire system were experienced in different ways by individual banks. All banks experienced some expansion. But there were many, and these included most of the very large banks, which expanded proportionately less than aggregate data would suggest.[1] At the other extreme, there were hundreds of banks which grew by 500 per cent or more. A large proportion of the latter were small banks in the South and West.

Some redistribution of banking concentration accompanied the great growth of the system. In 1939 there were, for example, only 81 banks in

[1] Measurement of the size and deposit growth of individual banks is described further in the section beginning on p. 34.

the country whose total deposits exceeded 100 million dollars; 25 of these were clustered together in the two central reserve cities. At the end of 1946 there were 180 banks of this size, of which 34 were in New York or Chicago. The proportion of the extremely large banks located in these two centers had fallen from one-third to one-fifth.

The pattern of asset and deposit change within individual banks also varied considerably from that suggested by system-wide aggregates. To take one example, the largest banks and some of the most rapidly expanded small banks materially increased their loans as well as their holdings of Government securities during the war years. As another example, the great growth of private demand deposits did not materially alter the deposit composition of the large banks; they had always dealt primarily with demand depositors. But deposit composition in the small banks was turned upside down, as their business and individual demand deposits became larger than their time deposits.

These are a few leading instances of structural change that took place in the banking system during the war years. Structural change also affected the methods and principles of bank operation. While the system as a whole expanded one and one-half times, a number of banks passed from small to medium size, and from medium to large. They had to face much more than the traditional problems of stepping up to larger-scale operations; for the character of their operations had also changed with the peculiar wartime nature of the growth. Most of the deposit growth had occurred in deposits of less stability, or generally greater likelihood of withdrawal. Most of the asset growth had been in Government securities; but the typical bank of the prewar period had had very little experience in the Government securities markets. The new size and the new deposit composition were certain to evoke new problems of portfolio management.

But the problems of the banking system at the end of the war were not merely those of getting accustomed to a new scale of operations, and a new kind of asset and deposit composition. There were also new dynamic factors, capable of producing still further complications. The machinery provided by the Federal Reserve System during the war years to reinforce the market for Government securities, thus incidentally protecting the banks against major portfolio risks during their rapid growth, left the way open to continued expansion after the war. Federal Reserve credit, the base for such expansion, was freely available to the banks through the direct exchange of Treasury bills for a deposit at the Reserve Banks,

and through bank sale of Treasury certificates in a market supported by the Federal Reserve System.[2]

Another paper in this volume reviews the development of Reserve System support for the Government securities market, and discusses the problems of monetary policy involved. This paper is intended as a summary of the accompanying changes in banking structure and operating performance. Some of these changes have already been suggested. They are examined further in the following sections:

Differences among Banks in Deposit Growth;

Changes in Composition of Government Securities Portfolio;

The Loan Portfolio; and

Profits and Capital Accounts.

Most of the findings have been taken from two unpublished studies prepared at the Federal Reserve Bank of New York as part of the research program of the Federal Reserve System.[3]

DIFFERENCES AMONG BANKS IN DEPOSIT GROWTH

Although deposit volume increased at all banks during the war, the incidence of the increase varied so widely among them that the problems created were by no means uniform. Data for 6,155 identical member banks from 1939 to the end of 1945, gathered by a Reserve System research committee,[4] describe some of these differences.[5] This identical sample provides a useful summary of the differences in deposit growth by region, and by size of bank. To some extent the sample also reveals the

[2] The Federal Open Market Committee announced the "unpegging" of the bill rate on July 3, 1947, after this paper had been completed. The change has no material effect on the contents of this paper.

[3] In 1944, Norris O. Johnson, at that time Manager of the Research Department at the Federal Reserve Bank of New York, prepared an unpublished manuscript entitled *The Impact of the War on Banking*. The methods and suggestions of that study were developed in cooperation with the Joint Subcommittee on Banking and Credit Policy of the System Research Advisory Committee and the Subcommittee of the Presidents' Conference on Research and Statistics. The analysis was carried forward in 1946 by the present writer, with the same committee cooperation, in a study entitled *The Wartime Expansion in Commercial Banking*. This second study concentrated on a cross-section analysis of differences among individual banks at the end of 1945.

[4] The Joint Subcommittee on Banking and Credit Policy of the System Research Advisory Committee and the Subcommittee of the Presidents' Conference on Research and Statistics.

[5] There were 6,362 member banks at the end of 1939. New memberships exceeded departures and consolidations during the war years so that the total at the end of 1945 was 6,884. The 6,155 members represent that group whose membership was constant, or for whom past records were available if they entered the System during this period. The total assets and deposits of this identical set of banks accounted for more than 95 per cent of those of the total membership at all times.

characteristic variations in the composition of deposits among banks of different size and rate of wartime growth.

Regional Growth in Deposits. The distribution of wartime Government contracts, the placing of new plants, and the increases in farm income caused the center of gravity of the American economy to shift toward the West and South during the war years. This shift was mirrored in bank deposit expansion, even though a disproportionately large share of Treas-

GROWTH IN DEPOSITS OF 6,155 MEMBER BANKS, BY FEDERAL RESERVE DISTRICT, 1939–1945
(Year-end data, dollar items in millions)

District	Demand deposits of individuals, partnerships, and corporations			Total deposits		
	1939	1945	Percentage increase, 1939–45	1939	1945	Percentage increase, 1939–45
Boston	$ 1,518	$ 3,161	108	$ 2,725	$ 6,288	131
New York	10,609	18,756	77	18,178	37,696	107
Philadelphia	1,359	3,123	130	3,011	6,236	107
Cleveland	1,810	4,618	155	3,956	9,815	148
Richmond	859	2,745	220	1,946	5,478	182
Atlanta	728	2,787	283	1,726	5,930	244
Chicago	3,290	8,072	145	6,919	17,916	159
St. Louis	755	2,184	189	1,703	4,578	169
Minneapolis	462	1,442	212	1,101	3,305	200
Kansas City	829	2,942	255	1,845	5,765	213
Dallas	794	3,031	282	1,534	5,321	247
San Francisco	1,845	7,887	328	4,861	16,676	243
All districts	24,858	60,748	144	49,505	125,004	153

ury borrowing was carried out in the eastern financial districts until 1944. In 1942, for example, the New York Reserve District lost more than 2 billion dollars of reserves to banks in the rest of the country as a result of Treasury disbursements outside the district. In 1943 the New York District losses were nearly 5 billion.[6]

The accompanying table summarizes the growth of total deposits in each of the Federal Reserve districts from the end of 1939 to the end of 1945. While the total deposits of the entire 6,155 member banks increased

[6] The drain out of the New York District because of Treasury operations was less than 2 billion dollars in 1944, and fell below 0.5 billion in 1945. During the four years 1942–45, a further 3.5 billion of reserves passed to other sections of the country as a result of withdrawals by correspondent banks and by corporate depositors.

153 per cent over the six years, the gain of those banks which were located in the Dallas District was 247 per cent. Atlanta and San Francisco banks showed aggregate increases of 244 and 243 per cent, respectively. At the other extreme, the New York and Philadelphia Districts each grew but 107 per cent.

The table also shows the growth in private demand deposits. Deposits of this type continued to grow another 6 billion during 1946, while total deposits fell off more than 11 billion. In the long run, changes in private demand deposits are more likely to represent basic developments than are total deposits, which were inflated by the Government deposits resulting from the Victory Loan of November–December 1945. While there were some sizable differences between the percentage increases shown by total and by private demand deposits, the general pattern was the same. Extreme growth occurred in the South and West; growth was much slower in the older industrialized sections of the country.

Evidence of percentage growth is slightly misleading, however, without comparison of the initial magnitudes in each of the districts. In dollar volume, the Dallas growth, from 1.5 billion dollars of total deposits at the end of 1939 to 5.3 billion at the end of 1945, was still small alongside the New York increase from 18.2 billion to 37.7 billion. As a share in the national total, the deposits of banks in the Dallas District rose from about 3 per cent to about 4 per cent, while those of banks in the New York District dropped from 37 per cent to 30. In private demand deposits, the Dallas banks rose from 3 per cent to 5 per cent of the aggregate, while New York dropped from 43 down to 31 per cent.

Treasury use of accumulated war loan deposits (available largely as a result of the Victory Loan) to retire bank-held debt during 1946, and the widespread retirement of security loans, did not narrow the wartime disparity of deposit distribution among the districts. Data for all member banks, used in the absence of 1946 data for the identical sample, indicate that the principal deposit contraction during the year occurred in the eastern Reserve districts. Partly because of a further substantial rise in farm prices, the assets and deposits of banks in the South and West continued on balance to increase relative to the rest of the country. There was a general feeling at the end of 1946, however, that this furthering of wartime regional differences was the result of temporary causes, following the end of the war, and that eventually there might still be a return flow

of some deposits to the eastern districts, similar to that which occurred during the second and third years following World War I.[7]

Whatever might develop, the regions which experienced the greatest growth were uncertain that their rapid deposit gains would remain stable. Their portfolio management could not immediately be adapted to the practices normally appropriate for banks of their size. The section beginning on page 41 describes the resulting policies which most of them have followed.

Deposit Growth among Banks of Different Sizes. While regional differences dominated the wartime pattern of bank deposit growth, it was

DISTRIBUTION OF 6,155 MEMBER BANKS, BY SIZE AND RATE OF GROWTH, 1939–1945

Size of bank[1] (Total deposits, in millions of dollars)	Number of banks	Rate of Growth[2] (Per cent)				
		0–150	150–300	300–500	Over 500	All rates of growth
		Percentage distribution of banks within each size group				
Under 1	1,250	2.8	26.4	49.5	21.3	100.0
1– 2	1,628	2.6	34.0	45.6	17.8	100.0
2– 5	1,708	5.2	44.6	37.9	12.3	100.0
5–50	1,345	14.6	55.8	23.9	5.7	100.0
50 and over	224	45.1	40.6	13.4	0.9	100.0
All sizes	6,155	7.5	40.4	38.3	13.8	100.0

[1] As of Dec. 31, 1943.

[2] Measured by increase of demand deposits of individuals, partnerships, and corporations from Dec. 31, 1939 to Dec. 31, 1945.

generally true in all of the districts that small banks grew proportionately much more than large banks. The spread between the growth rates of large and small banks was considerably greater than the spread among districts. The table above summarizes the growth characteristics by size of bank. It shows that large numbers of the smaller banks grew by more than 500 per cent over the six war years. Fully one-half of the smaller banks grew by at least 300 per cent. The method of measuring size and growth represents a compromise among alternatives, and illustrates some limitations of the special tabulations.[8]

The unequal rates of expansion of large and small banks reduced the relative deposit position of the largest banks. The 224 banks shown in the

[7] During the first half of 1947 the adjusted demand deposits of central reserve city banks rose 0.4 billion, while those of country banks dropped 0.8 billion.

[8] Spot testing suggests, however, that the principles of classification used yield results closely resembling those found by other methods. Bank size has consistently been measured by

largest size group in the table held total deposits of 36 billion dollars at the end of 1939, representing 73 per cent of the total deposits held by the 6,155 member banks. At the end of 1945 these same banks held 84 billion in deposits, or 67 per cent of the combined deposits of the 6,155 banks. As a corollary, the banks in the four other size groups increased their relative shares in the nation-wide total. Banks in the group whose total deposits ranged from 5 to 50 million dollars rose from 18 to 22 per cent of the aggregate; and the combined deposits of the three smallest groups increased from 9 up to 11 per cent of the total.

Apart from its evidence that the smaller banks have not been edged out by the larger during the war period, the table shows that the smaller banks generally had the greatest adjustments to make in the scale of their operations. These adjustments were further complicated by the fact that the smaller banks experienced proportionately greater shifts in the composition of their deposits.

Shifts in Composition of Deposits by Size of Bank and Region. The chart on page 32 indicated that demand deposits had increased considerably more than time deposits during the war years, and in discussing the chart it was suggested that this rise in the proportion of deposits subject to immediate withdrawal had occurred at most banks. The largest item among these demand deposits, and the one least likely to decline appreciably in the aggregate after the war, was the demand deposits of individuals, partnerships, and corporations. Data have been compiled showing the volume of these deposits compared to all other types of deposits at the 6,155 banks at the end of 1939 and of 1945. Less extensive data suggest that the pattern of relationship between time and private demand deposits shown at the end of 1945 continued in 1946.

All types of deposits held by the banks in each of the five size groups at the end of 1939 and of 1945 are shown in the next table. In each of the three lower size groups, time deposits exceeded demand deposits of businesses and individuals at the beginning of the war. Six years later at these

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the total deposits of the individual bank at the end of 1943, the midpoint of the war expansion. Use of total assets instead of total deposits as a measure of bank size would not have caused any noticeable change in the results. Deposit growth was not measured by the change in total deposits from 1939 to 1945, but by the change in the demand deposits of individuals, partnerships, and corporations. Thus, temporarily large Government balances were excluded from the measurement of growth, as well as highly fluctuating interbank deposits. The omission of time deposits is, perhaps, unfortunate, because of the rapid growth in such deposits during 1944 and 1945.

same banks, demand deposits of this type were about twice the volume of time deposits. The proportionate change was not as great in the 5–50 million dollar size group, where private demand deposits had exceeded time deposits even in 1939. At the largest banks the relation between private demand deposits and time deposits remained almost the same through the war period, with more than $3 of these demand deposits for

DEPOSIT COMPOSITION OF 6,155 MEMBER BANKS, BY SIZE OF BANK, DECEMBER 31, 1939 AND 1945

(Dollar items in millions)

Size of bank[1] (Total deposits, in millions of dollars)	Total deposits	Time deposits	Demand deposits				Ratio of time deposits to private demand deposits (Per cent)
			Private[2]	U. S. Govt.	Inter-bank	Other	
	December 31, 1939						
Under 1	$ 425	$ 191	$ 187	$ 2	$ 2	$ 43	102
1– 2	1,195	573	494	7	8	113	116
2– 5	2,713	1,309	1,110	21	34	239	118
5–50	9,018	3,623	3,951	130	600	714	92
50 and over	36,154	6,021	19,116	578	8,676	1,763	31
All sizes	49,505	11,717	24,858	738	9,320	2,872	47
	December 31, 1945						
Under 1	$ 1,384	$ 355	$ 874	$ 74	$ 4	$ 77	41
1– 2	3,826	1,101	2,221	266	19	219	50
2– 5	8,570	2,613	4,538	865	94	460	58
5–50	26,908	7,308	12,982	3,858	1,454	1,306	56
50 and over	84,316	11,476	40,133	16,504	11,764	4,439	29
All sizes	125,004	22,853	60,748	21,567	13,335	6,501	38

[1] As of Dec. 31, 1943.
[2] Individuals, partnerships, and corporations.

each $1 of time deposits. Of course, during 1946 there was probably a greater shift of Government deposits into private accounts at large banks than at the smaller banks. But the basic difference between the wartime changes of small and of large banks could not have been altered by this readjustment. The disproportionate growth of individual and business demand deposits represented a fundamental change in the deposit composition of the smaller banks.

The table presents deposit totals for all of the banks in each size group.

Not all of the individual banks in each group could be expected to show the same proportions among their deposit items. But frequency distributions of the banks within each class confirm the broad conclusions suggested by the table. At the end of 1945 the typical small bank (under 5 million dollars of total deposits as of 1943) had roughly $2 of private demand deposits for each $1 of time deposits. While 1939 data were not available bank by bank, there is little doubt that such a ratio for the typical small bank in that year would have been $1 or less of private demand deposits for each $1 of time deposits.

The effect of regional differences on deposit composition is also shown by the individual bank data for 1945. In the Dallas District, for example, where over-all deposit growth was greater than in any other district, individual and business demand deposits had always greatly exceeded time deposits, at both large and small banks. But the ratio rose to $25 of private demand deposits for $1 of time deposits at the smaller banks by the end of 1945. Among the smaller banks in the New York and Philadelphia Districts, individual and business demand deposits had traditionally been well below half the amount of time deposits. At the end of 1945 the two types of deposits were usually about equal. These two were the only districts, however, where time deposits of smaller banks had not fallen far behind their private demand deposits. In addition to Dallas, there were six districts in which the ratio of private demand deposits to time deposits had more than doubled at the typical small bank. With the exception of Cleveland, these were the districts which had experienced the greatest expansion in total deposits—Atlanta, St. Louis, Minneapolis, Kansas City, and San Francisco.

It is difficult to carry the inquiry further, relating this shift in deposit composition to the rate of growth at individual banks, because their growth was itself measured (in the available data) by the increase in their private demand deposits. The relation between regional deposit growth and high proportions of private demand deposits, however, supports the inference that individual banks of rapid growth generally experienced greater shifts in the composition of their deposits—characterized primarily by a rising fraction of demand obligations. There is no doubt that the most pronounced of these deposit shifts, those which fundamentally altered prewar relationships, occurred among the banks of the three smallest size groups.

CHANGES IN COMPOSITION OF GOVERNMENT SECURITIES PORTFOLIO

The wartime growth of 64 billion dollars in member bank holdings of public debt was followed by a decrease of 15 billion in those holdings during 1946, as has been shown in the chart on page 31. This section reviews some significant changes in the composition of the Government portfolios held by the banks during these years. The over-all pattern of member bank holdings was influenced primarily by considerations of eligibility and yield. Further variations among the individual banks were associated with differences in bank size and with changes in deposit composition.

Over-all Changes in Member Bank Portfolios of Government Securities. At the end of 1939, before the impact of war had been felt by the banking system, the member banks held slightly less than 40 per cent of the Government securities outstanding. All types of marketable issues were equally eligible for bank purchase, and the distribution of total member bank holdings roughly reflected the relative amounts of each type outstanding. Bills, for instance, were less than 5 per cent of total member bank holdings of Government securities, and they were also less than 5 per cent of outstanding marketable issues. Similarly, bonds were 75 per cent of total holdings as well as 75 per cent of all outstanding issues. The subsequent changes in total member bank holdings, and in the amount of outstanding issues eligible for bank purchase, are shown in the table on page 42.

During 1940 and 1941 the banks increased their holdings slowly. The bank-held portion of each of the three types of debt form then existing—bills, notes, and bonds—rose to about one-half. In 1942, with the Treasury's shift to all-out war financing, the banks added 18 billion dollars of Government securities to their holdings, the largest annual increase of the war years.

Certificates of indebtedness were reintroduced during 1942, for the first time since 1934. In the same year, the rate on Treasury bills was pegged, and a preferential discount rate was established on borrowing secured by Government obligations.[9] The effectiveness of these measures in transforming bank reserve policy, by increasing bank reliance upon the reserve convertibility of short-term Governments, is clearly shown by the data in the following table. Prior to 1942, bills had never been more than one-

[9] For discussion, see pp. 17–23 of the paper by Karl R. Bopp, and pp. 90–101 of the paper by Woodlief Thomas and Ralph A. Young.

PUBLIC DEBT HOLDINGS OF ALL MEMBER BANKS COMPARED WITH OUTSTANDING MARKETABLE PUBLIC DEBT ELIGIBLE FOR BANK PURCHASE, 1939–1946

(Dollar items in billions)

End of year	Total[1]	Bills	Certificates	Notes	Bonds
	Eligible issues outstanding[2]				
1939	$ 37.5	$ 1.5	$ —	$ 6.2	$29.9
1940	35.4	1.3	—	6.2	28.0
1941	41.4	2.0	—	6.0	33.4
1942	75.5	6.6	10.5	9.9	48.5
1943	106.5	13.1	22.8	11.2	59.4
1944	138.2	16.4	30.4	23.0	68.3
1945	147.9	17.0	38.2	23.0	69.8
1946	125.5	17.0	30.0	10.1	68.4
	Member bank holdings[3]				
1939	$ 14.3	$ 0.6	$ —	$ 2.2	$11.5
1940	15.8	0.7	—	2.6	12.6
1941	19.5	1.0	—	3.0	15.6
1942	37.5	4.4	6.3	5.4	21.5
1943	52.9	4.4	12.1	6.9	29.6
1944	67.7	3.7	14.0	14.1	35.8
1945	78.3	2.3	17.0	14.3	44.8
1946	63.0	1.2	10.0	5.6	46.2
	Member bank holdings as a percentage of eligible issues outstanding				
1939	38	39	—	36	39
1940	45	50	—	42	45
1941	47	49	—	50	47
1942	50	66	60	55	44
1943	50	33	53	62	50
1944	49	23	46	61	52
1945	53	13	45	62	64
1946	50	7	34	56	68

[1] Owing to rounding, details may not add to totals.

[2] Includes all guaranteed issues, and the amount of restricted issues reported held by commercial banks in the "Summary of Ownership of Government Securities," *Treasury Bulletin*. Savings bonds are not included.

[3] Includes the fully guaranteed securities of Government agencies, and also a small amount of the restricted issues that came out after 1943 (the result of subscriptions permitted as a limited fraction of time and savings deposits). A negligible amount of savings bonds is also included.

twentieth of the aggregate member bank portfolios of Government securities. Even taken together with notes, the combined amount of customarily shorter-term issues had never been much above one-fifth of total holdings. But during 1942, bills and certificates alone accounted for over one-half the member bank acquisitions; including notes, the fraction of shorter-term acquisitions was two-thirds. The average term of combined bank portfolios of Government securities, which had been approximately seven years at the end of 1941, fell to less than five years by the end of 1942.[10]

Large acquisitions of short-term issues were also fostered by uncertainty over the Treasury's interest-rate policy on longer-term issues. An October issue of nearly 2 billion dollars in eight- to ten-year bonds, at 2 per cent, almost ran into difficulty because the market was hoping for a rate of $2\frac{1}{4}$ per cent. Subsequent announcements by Treasury spokesmen made it clear, however, that direct issues to banks would not henceforth exceed 2 per cent, regardless of term, and the unsettling anticipations of higher rates were put to rest for the remainder of the war period.

During 1943 the Treasury issued an additional 19 billion dollars of bills and certificates. The banks, however, permitted all of the new bills they acquired during the year to pass into the Federal Reserve Banks, as frequent short-run needs for reserves occurred, and by the end of the year their total bill holdings remained at the level of a year earlier. Bill holdings of the Federal Reserve Banks increased 6 billion dollars as a result of the support policy. Member bank holdings of the higher-yielding certificates increased another 6 billion. Bond acquisitions of 8 billion, however, exceeded the combined amount of additional certificates and notes held by the banks.

The shift into certificates, as a basic instrument of reserve adjustments, continued in 1944, but the major change shown by the year-end data was a rise of more than 7 billion dollars in notes. No change in principle was involved, however, for during 1944 the Treasury had begun issuing 13-month notes to fill gaps in the maturity schedules, and the notes were considered virtually equivalent to certificates as secondary reserves.

Meanwhile, after the completion of the Third War Loan Drive in October 1943, the banks had been excluded from direct Treasury allotments, except for bills and a small fraction of longer-term issues deter-

[10] Data for the 5,751 commercial banks included in the "Summary of Ownership of Government Securities," reported in the *Treasury Bulletin*.

mined by a fraction of their time and savings deposits. The Treasury banned further bank purchase of new issues carrying an initial term of more than ten years; such issues would not become eligible for bank purchase in the market until the passage of time had brought them to within five to twelve years of call date—the limit varied from issue to issue. Consequently, although there was an increase of over 40 billion dollars in marketable bonds outstanding during 1943 and 1944, there was an increase of less than 20 billion in those eligible for bank purchase.

The pressure by the Treasury and Reserve authorities to hold bank purchases of longer-term items in check was followed, paradoxically, by a growing realization on the part of the banks that their holdings of shorter-term issues, which had reached a combined total of 23 billion dollars at the end of 1943, were probably becoming adequate for all probable reserve adjustments, and that future acquisitions could fruitfully be concentrated in bonds.[11] The growth of note holdings was still substantial in 1944, exceeding bond acquisitions by 1 billion dollars. But in 1945, out of a total increase of 10.6 billion dollars in member bank holdings of all Government securities, 9 billion were bonds. In that same year, the total increase in eligible bonds outstanding was only 1.5 billion.

Of course this very factor of a large demand, pressing on a smaller supply, removed the danger of capital loss through a sudden drop in bond prices. Consequently, the larger banks, followed later by many of the smaller institutions, became increasingly anxious to obtain bonds. The more anxious they became, the higher went the prices of eligible issues. The stability in bond yields, which had been maintained throughout 1943 and 1944, collapsed. Bank-eligible issues in the seven- to nine-year class, which had been nearly constant at 1.9 per cent, dropped steadily throughout the year, reaching 1.3 per cent in the first quarter of 1946—the lowest level in history.

In the end, the combined effect of further war loan drives, restricted eligibility, and the rising bond prices, prevented banks in the aggregate from making a decided shift in the term distribution of their Government securities portfolio. The passage of time brought the entire portfolio forward, and even the sizable new bank purchases of the longer-term bonds

[11] This description of aggregate behavior conceals the time lag between large and small banks in acquiring short-term Government securities, and subsequently in reaching out for longer-term issues. The smaller banks continued to build their short-term holdings through 1944 and most of 1945. The differences among banks by size, as well as by rate of growth and region, are discussed further below, pp. 47–51.

were not always sufficient to offset the decrease in average term resulting from this lapse of time. At the end of 1943 the average term of total bank holdings of Government securities had been 4.1 years; it continued at that level, and slightly lower, through 1944 and 1945.

Eligibility was not the only limitation on the supply of bonds available for bank purchase. Another arose from the unwillingness of nonbank holders to dispose of longer-term issues. While nonbank investors were anxious to obtain bank funds to use in their war loan subscriptions, they generally chose to pass on to the banks only low-yielding "tax-exempts," or shorter-term bonds, in order to maximize their own return on the new subscriptions. The "bull market" further gave them a profitable opportunity to ride up with the rising prices on their holdings, and a motive for acquiring even more of the bank eligibles on which profits might later be taken. Consequently, the average rate of yield on bank portfolios of Government securities declined, even though the average term remained relatively constant. The bank which wanted to "go long" in June 1945 had to debate such choices, for example, as the purchase of an issue with five years to call date, yielding 1.35 per cent, or one running ten years, yielding 1.77 per cent. The margin between these narrowed as the level of longer-term rates fell further throughout the year.

In 1946, after borrowing for war purposes was completed, the Federal Reserve authorities discontinued the preferential discount rate as a means of supporting bank reserve positions. The Treasury's use of its swollen balances to retire debt dominated member bank policies during the year. There was a continual drain on bank reserves as holdings of the Federal Reserve Banks were retired; and retirement of nonbank holdings caused a rise in private demand deposits, against which reserves were required. Consequently member bank reserves were under moderate pressure most of the year. And because of the strong demand for loans, particularly during the last half of the year, member banks sold some Government securities in order to meet the demand. Thus there was not the same freedom as in 1945 to continue shifting into longer-term Government securities. And partly because of lessened bank participation in the Government securities market, interest rates recovered slightly in the last three quarters of the year, although with considerable irregularity owing to the thinness of the market.

Because most of the Treasury retirement was in certificates and notes, and because such bank-held bonds as were retired were replaceable by

newly eligible issues, the term distribution of outstanding issues available for bank holding actually seemed to encourage a lengthening of bank portfolios during 1946. And on balance over the year, despite the reserve pressure, there was actually a small exchange between bank and nonbank investors in this direction, permitting banks to increase their longer holdings as nonbank investors accepted more of the short-term items.[12] However, there was no heavy exchange of certificates for new reserves to support a multiple expansion of deposits through bank acquisition of longer-term issues. The rise in the average term of bank-held Government securities to 4.5 years by the end of 1946 was, instead, largely caused by the retirement of bank-held debt, which by definition consisted of the shortest-term securities.[13]

Looking ahead, at the beginning of 1947, the banks faced a steady decline until 1952 in the volume of eligible bonds outstanding. From 1950 onward, the total amount of eligible outstanding bonds would be less than the total amount of bonds held by the banks at the end of 1946. For the three intervening years it seemed likely that the premiums on a shrinking volume of bonds outside the banks would discourage bank purchase. The maximum deposit expansion potential in further acquisitions of bonds

[12] During 1946, the 7,341 commercial banks included in the Treasury Survey of Ownership made net purchases of 2.3 billion dollars in bonds callable in more than five years. Their holdings of all other Government securities were reduced further by substantial sales (see footnote 13 following). Nonbank investors (with the exception of insurance companies) provided these bonds and purchased short-term issues in exchange—apparently anticipating a rise in longer-term interest rates.

Analysis of the usual Call Report classifications of member banks, at the end of 1946, suggested that more than half of the very long-term purchasing during the year had been done by New York City banks. Increases in Government securities maturing in more than ten years were relatively small in most districts. They remained the same, or decreased, in the St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco Districts. Holdings of bonds in the zero– to five-year class, however, increased in all districts, largely through the effect of the passage of time. No districts were able fully to replace the amount of five– to ten-year issues which had passed forward into this shorter-term class.

[13] The net reduction of 15 billion dollars in member bank holdings of Government securities consisted of direct cash retirements plus bank sales for cash to the Federal Reserve Banks and other investors. The data do not permit a breakdown between direct retirements and sales for the member banks, but a general picture of what happened is available from the records of the 7,341 commercial banks which report to the Treasury Survey of Ownership. These banks showed a net decline in their total holdings of Government securities of 18.2 billion dollars from Mar. 1, 1946 through Dec. 31, 1946. Of this total, 11.3 billion represented actual cash retirements by the Treasury. The remaining decrease of 6.9 billion was accounted for by bank sales of securities. In all, these banks sold 9.0 billion dollars of bills, certificates, and notes; and purchased 2.1 billion of additional bonds. Thus, net sales of Government securities on balance were 6.9 billion dollars. Of the 9.0 billion of gross sales, approximately 5.0 billion were made directly or indirectly to the Federal Reserve Banks.

over these three years was still, however, about 20 billion dollars. From then on, even if the banks were to hold all outstanding eligible bonds, their total holdings would be steadily reduced as issues ran off. The initiative would then pass fully to the Treasury. Its decision on the type of refunding issues could determine the future direction of bank holdings.

Differences among Banks in the Composition of the Government Securities Portfolio. It is the term rather than the type of Government securities which banks ordinarily consider in dividing their holdings among various alternatives. The foregoing review was limited to types of securities because comparable data were not available for the entire war period on a term basis. It has only been possible to prepare detailed estimates of the call-date distribution of holdings by the 6,155 member banks for 1943 and 1945. These data form the basis for most of the comparisons among individual banks which follow.

Up to the end of 1943, the banks were in the process of becoming adjusted to a "fully invested" position. The central reserve city banks in New York and Chicago had led the way, and were fully invested almost continuously after the early part of 1943. Other banks gradually followed, the larger banks generally preceding the smaller. By the end of 1943 the banks in the largest size group had acquired two-thirds of the Government securities which they were to obtain during the war period; those in the next largest group had acquired about half; and the smaller banks, considerably less than half. As a counterpart of their leading position, the largest banks at the end of 1943 held much larger proportions of their Government securities in the shorter-term issues suitable for reserve adjustments; nearly one-half of their holdings had terms of less than one year. The smaller banks generally held about half of their Governments in bonds running five years or more to call date.

The great movement of reserves from the large eastern banks out into the West and South was largely completed by the end of 1943. The Treasury was able thereafter to distribute its new issues more closely in relation to its regional pattern of disbursements. The flow of bank funds to nonbank investors, in exchange for marketable issues, became common among the banks of all regions, and of practically all sizes. Consequently, from 1943 on, the smaller banks built up their total holdings of Governments more rapidly, and acquired relatively more of the shorter-term issues, than they had up to that time. The large banks stabilized their short holdings and concentrated on market purchases in the one- to five-year class. The

table below summarizes the holdings of the 6,155 banks by size groups in 1943 and 1945.

HOLDINGS OF ALL GOVERNMENT SECURITIES AT 6,155 MEMBER BANKS, BY SIZE OF BANK AND TERM TO CALL DATE, 1943 AND 1945

[Year-end data]

Size of bank[1] (Total deposits, in millions of dollars)	Total	Years to call date as of 1943				Total	Years to call date as of 1945			
		0–1[2]	1–5	5–10	10 and over		0–1[2]	1–5	5–10	10 and over
	In billions of dollars									
Under 1	0.4	0.1	0.1	0.2	0.0	0.8	0.3	0.2	0.2	0.1
1– 2	1.1	0.4	0.2	0.4	0.1	2.2	0.9	0.6	0.5	0.2
2– 5	2.7	1.0	0.4	1.1	0.2	5.2	1.8	1.6	1.2	0.6
5–50	9.9	4.1	1.9	3.3	0.6	16.7	5.7	5.6	4.1	1.3
50 and over	37.6	18.3	7.7	10.5	1.1	50.6	19.2	16.4	12.4	2.6
All sizes	51.7	23.9	10.3	15.5	2.0	75.5	27.9	24.4	18.4	4.8
	Percentage distribution within each size group									
Under 1	100	36	14	44	6	100	40	28	22	10
1– 2	100	37	17	40	6	100	39	29	22	10
2– 5	100	38	16	40	6	100	36	30	23	11
5–50	100	42	19	33	6	100	34	33	25	8
50 and over	100	48	21	28	3	100	38	32	25	5
All sizes	100	46	20	30	4	100	37	32	25	6

[1] As of Dec. 31, 1943.

[2] Includes bills, certificates, savings bonds (redeemable on demand), and an estimate of the notes and bonds becoming callable within one year. The estimated amounts were computed for each of the 6,155 member banks, after consultation with the 12 Federal Reserve Banks concerning the banks falling within the jurisdiction of each.

But this later growth in the short-term holdings of the smaller banks reflected more than an adjustment to the reserve policy pioneered by the larger banks. The larger banks did not differ widely among themselves in the ratio of their short-term holdings to their total deposits.[14] But among

[14] Some large banks, along with a number of smaller banks whose growth had been relatively very slow, did have low ratios of cash and short Government securities to total deposits at the end of 1945. Of all ratios below 30 per cent, more than one-half were in the New York and Philadelphia Districts. Special study of the low-ratio banks in these two districts indicates that they had come to rely on Government securities in the one- to five-year class to serve the secondary reserve purposes for which the issues running less than one year were ordinarily used.

the smaller banks there was a decided difference, a difference closely correlated with the rate of growth in private demand deposits. This was the outcome of the fundamental shift in deposit composition which affected many of the small, and only a few of the large, banks during the war. The smaller banks apparently found it increasingly expedient, during 1944 and 1945, to adjust to the rapid rise in their private demand deposits by doubling or trebling their holdings of short-term issues, as a precaution against possible deposit withdrawals at some future time. As a corollary, the small banks which grew slowly accounted for a disproportionately small share of the short-term Governments held by the first three groups of banks indicated in the preceding table.

Combined holdings of cash and all Government securities due or redeemable in one year as fractions of total deposits at the smaller banks at the end of 1945 are shown in the accompanying table. The ratios are presented in frequency distributions for smaller banks of various rates of growth. Among the smaller banks whose private demand deposits grew less than 150 per cent, the great majority held relatively low proportions of cash and short-term Government securities. The ratio of cash and short Governments to total deposits was below one-half at two out

RELATION BETWEEN LIQUIDITY AND RATE OF GROWTH OF SMALL BANKS[1]

Liquidity ratio[2] (Per cent)	Rate of growth (Per cent)[3]							
	0 to 150	150 to 300	300 to 500	Over 500	0 to 150	150 to 300	300 to 500	Over 500
	Number of small banks				Percentage distribution of small banks within each rate-of-growth group			
Under 20	7	12	13	1	4.2	0.7	0.6	0.1
20–30	27	182	135	19	16.3	11.1	6.7	2.5
30–40	38	418	347	62	22.9	25.4	17.3	8.1
40–50	42	442	431	126	25.3	26.9	21.5	16.4
50–60	28	312	446	185	16.9	19.0	22.2	24.1
60–70	11	168	345	164	6.6	10.2	17.2	21.4
70–80	9	69	212	140	5.4	4.2	10.6	18.3
80 and over	4	42	79	70	2.4	2.5	3.9	9.1
All ratios	166	1,645	2,008	767	100.0	100.0	100.0	100.0

[1] These small banks are the 4,586 from the identical sample, whose total deposits were below 5 million dollars as of Dec. 31, 1943.

[2] Percentage ratio of cash and Government securities due in one year to total deposits as of Dec. 31, 1945. In each ratio class the lower limit is inclusive.

[3] Increase of demand deposits of individuals, partnerships, and corporations from Dec. 31, 1939 to Dec. 31, 1945.

of every three such banks. At the other extreme, of the 767 smaller banks whose private demand deposits grew more than 500 per cent during the war years, nearly three-quarters had ratios above one-half.

The tendency for rapidly expanded banks to hold higher proportions of cash and short-term Governments is also reflected in the regional data. The Dallas District, where the growth of total deposits was greatest, and where the proportion of private demand deposits in the total was highest, also was distinguished by a high proportion of cash plus short-term Government securities to total deposits. The proportion was 62 per cent at the median bank in the Dallas District at the end of 1945. It was 63 per cent in the Kansas City District, and over 50 per cent in all other districts of rapid growth—Richmond, Atlanta, St. Louis, Minneapolis, and San Francisco. The remaining five districts, those of proportionately less wartime growth, all fell below 50 per cent. The median bank in the New York District was lowest, with cash and short-term Government securities equal to 35 per cent of total deposits.

It is, of course, possible that the relatively high holdings of short-term Government securities and cash by the banks of most rapid growth were a temporary phenomenon at the end of 1945. A sizable proportion of the shorter-term issues was retired during 1946, while private demand deposits continued to grow at most banks. Undoubtedly, if the holdings of all Government securities due within a year were known for individual banks for 1946, they would show that the average holdings of short-term Governments and cash among member banks had fallen below 40 per cent of total deposits by the end of the year, although they had been 50 per cent at the beginning. But there is good reason to infer from the 1945 data, without another nation-wide tabulation for individual member banks as of the end of 1946, that the smaller banks of rapid growth maintained their relative position in holdings of short-term securities. Comparison of such holdings with the amount of Government deposits at individual banks, at the end of 1945, showed that only the small banks of rapid growth consistently held short-term Governments well in excess of their Government deposits. Study of war loan accounts outstanding at the end of 1945 indicated a disproportionately high volume held in the largest banks. Since the major development of 1946 was a drawing down of Government deposits, the impact of that process apparently fell heaviest on the short-term holdings of the largest banks. In general, then, those

banks in which private demand deposits had expanded most, in relation to time deposits, during the war period, apparently continued to hold comparatively high proportions of cash and short-term Government securities throughout 1946.[15]

There was evidence, too, that the relative amplitude of week-to-week fluctuations in private demand deposits had increased since 1939. Actual study was limited to a very few banks in the New York District, whose records were readily available, but growing comment from other sections of the country indicated that what might be called the "volatility" of business and personal demand deposits had increased somewhat at individual banks since the prewar period.[16] If there had actually been an increase in the volatility of the deposits that had increased most in volume, the banks would have found it necessary to make greater provision for reserve shifts among themselves than they had made before the war. To the extent that increased volatility continues to characterize the behavior of demand deposits for individual banks, they will desire to retain sizable holdings of shorter-term Government securities. Because these securities have narrow price fluctuations, which minimize the danger of capital loss at the time of sale, they will likely remain the most attractive earning asset for use in reserve adjustments.

THE LOAN PORTFOLIO

The loan portfolio of the combined member banks passed through three distinct phases during the war years, and a fourth in 1946. From the end of 1939 to the end of 1941, while the Federal Reserve authorities followed first a policy of reserve ease and later one of tightening, there was a general advance in all types of business and consumer loans. Total loans of the 6,155 identical member banks increased from 13.8 billion dollars to

[15] Even without a study of individual bank portfolios and deposit composition for the end of 1946, there is ample evidence in the Call Report totals by districts and by reserve classifications to confirm this hypothesis.

[16] Volatility was defined, for purposes of an unpublished exploratory study of the weekly reporting banks in the New York District, as the frequency and the relative amplitude of weekly reductions in the volume of each major type of deposit held by an individual bank. Dr. Helen Mellon Cooke, who made the study, found that weekly reductions in private demand deposits at a single bank occurred with very nearly the same regularity in 1946 as in 1939; but as a percentage of initial balance, the reductions occurring at individual banks were considerably higher in 1946. In 1939, one reduction out of twelve ordinarily exceeded 5 per cent of the initial amount of private demand deposits held by an individual bank. During the first six months of 1946, one out of every four instances of decline (in the sum of all private demand deposits held by a given bank) exceeded 5 per cent of the initial total at that bank.

17.8 billion.[17] The shift in policy back to monetary ease, after our entry into the war, however, was not accompanied by further increases in total loans. The period from the end of 1941 to the autumn of 1943 marked the second phase, one of general decline. Total loans at the 6,155 banks fell back to 15.9 billion dollars.

About four-fifths of the increases of the first phase were canceled during the second. So-called nonwar loans to business declined under the pressure of production controls, which diverted more and more of the economy into war channels. Businesses engaged in producing for or servicing the Government met a major portion of their new working capital requirements through advance or progress payments on their Government contracts. Their borrowing requirements were also pared down through taking advantage of the accelerated depreciation rates permitted on plant and equipment acquired on private account. New plant requirements were frequently met by direct Government creation of production facilities.

This pattern of Government participation increased the share of financing activities passing through Government accounts, and sharply altered the role of commercial banking from that of World War I. During the comparable period of expanding production in the other war, 70 per cent of the increase in commercial bank assets had arisen through nongovernmental loans and investments; and only about one-seventh of this amount had represented borrowing for the purpose of purchasing Government securities. The rapid expansion of industrial production in World War II, however, was accompanied by a reduction in total member bank loans.

An effort was made, after our entry into World War II, to encourage direct bank financing of working capital requirements through war production loans guaranteed by the Government (V-loans), which were introduced early in 1942. These reached a peak of 2 billion dollars by the end of 1943, but were not sufficient to offset the decline in nonwar business loans. Total commercial and industrial loans of the 6,155 banks fell from 8.6 billion dollars at the end of 1941 to 7.2 billion at the end of 1943. Consumer and real estate loans also declined; agricultural loans remained nearly constant. There was an increase, however, in loans for the purchasing or carrying of securities. Continuation of this increase was the dominant characteristic of the third phase in wartime bank lending.

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[17] Total holdings of Government securities by these banks rose from 14.6 billion to 19.6 billion dollars during the same two years.

From the end of 1943 to the end of 1945 the volume of total loans moved upward, reaching 22.1 billion dollars in the 6,155 identical member banks at the end of the period. The reduction in commercial and industrial loans during the second period was replaced in the third; agricultural loans, however, declined, while real estate loans remained steady and consumer loans rose slightly. But the major impetus was provided by securities loans, particularly loans on Government securities, which grew rapidly after the banks were excluded from direct subscriptions to Treasury issues. Loans on securities increased sharply during the war loan drives and declined between drives. At the end of 1945, when the Victory Loan Drive had just been completed, loans on securities were 4 billion dollars larger than they had been at the end of 1943.

During 1946 there were no further Treasury drives and securities loans fell more than one-half. Commercial and industrial loans at the same time increased by one-half, and real estate and consumer loans rose by two-thirds or more. The total loans of all member banks reached 26.7 billion dollars at the end of 1946. After 17 years, the total volume of member bank loans had finally returned to the level of December 1929.

Data have not been tabulated for individual banks at the end of 1946, but a number of the wartime differences in loan portfolios among the banks were shown in the 1945 tabulations. The greatest increases in loans over the war years as a whole occurred at the larger banks. Not all small banks were equally far behind, however. Those which had grown most rapidly during the war had also acquired proportionately more loans than did the small banks which grew slowly. The evidence suggests that the wartime gap between the lending of large and small banks was narrowed during 1946.

Wartime Differences in Loan Portfolios among Individual Banks. Before the war the average small bank held one-third or more of its total assets in loans. Generally, the larger the bank the smaller was the proportion of loans to total assets. Banks in the largest size group of the 6,155 identical banks held about one-fifth of their total assets in the form of loans in 1939. By the end of 1945 the largest banks held slightly less than one-fifth of their greatly enlarged volume of assets in loans, while the average proportions for banks of smaller and medium size had dropped to 12 and 13 per cent. The dollar amount of outstanding loans in the three smaller size groups was about the same at the end of 1945 as it had been at the end of 1939. Banks in the 5–50 million dollar size group experienced

a total loan growth of less than two-thirds of a billion dollars. The largest banks accounted for 7.5 billion dollars of the total increase in loans. The accompanying table summarizes these data.

RELATION OF TOTAL LOANS TO TOTAL ASSETS OF 6,155 MEMBER BANKS, BY SIZE OF BANK, YEAR-END 1939, 1943, AND 1945

Size of bank[1] (Total deposits, in millions of dollars)	Total loans (In millions of dollars)			Loans as a percentage of total assets		
	1939	1943	1945	1939	1943	1945
Under 1	196	186	193	38	20	13
1– 2	492	457	503	35	18	12
2– 5	1,018	929	1,082	33	16	12
5–50	2,980	2,813	3,606	29	15	13
50 and over	9,162	11,486	16,694	23	17	19
All sizes	13,848	15,871	22,078	25	16	17

[1] As of Dec. 31, 1943.

The principal cause of this great rise in loans among the large banks from 1939 to 1945 was loans for the purchasing and carrying of securities (chiefly Government securities), which increased about 5 billion dollars. But their commercial and industrial loans also rose more than 2 billion dollars. Not all of this increase could be explained by the concentration of V-loans in the larger banks. Apparently the large businesses, characteristically served by the large banks, found it convenient from time to time to draw directly on their banks instead of obtaining funds through Government advances. The smaller businesses, comprising the clientele of the smaller banks, found Government advances much more attractive than the higher rates of 4, 5, and 6 per cent, or more, which banks customarily charge smaller borrowers. As a result of the greater advantages of Government progress payments for small borrowers, the small banks did not generally increase their commercial and industrial loan volume.

Even among the small banks, however, there were a number of exceptions. Analysis of the proportion loans were of total assets at the end of 1945, for each of the 6,155 banks, indicates a slight but regular relationship between the higher proportions of loans and the more rapid rates of bank growth (measured by the increase in private demand deposits). Rapidly increasing private demand deposits probably tended to appear at banks in localities where income payments also were rising considerably, with a resulting demand for loans by the ancillary concerns engaged in

serving consumers rather than the Government. Thus loan volumes could understandably have been higher among the rapidly growing small banks than among those of slower growth.

The regional factor was also important, with Dallas again the leading example. The relationship of the loan-to-assets ratio to bank size, or to rate of bank growth, which prevailed in most other districts was not sufficient to explain the Dallas case. The total loans of the Dallas District banks more than doubled from the end of 1939 to the end of 1945. Even at the end of the war there were many individual banks in this district whose total loans exceeded their total holdings of Government securities. One-fifth of the Dallas District banks had loans equal to 30 per cent or more of total assets; one-tenth of them exceeded 40 per cent. In sharp contrast, less than one out of 40 banks in the rest of the country had a loan-to-assets ratio as high as 30 per cent at the end of 1945; and there were even fewer whose loan volume exceeded their holdings of Government securities.

Changes in Loan Portfolios during 1946. Two of the causes of the wartime disparity between the loan portfolios of large and small banks were gone in 1946—the Government was no longer financing producers, and there were no more war loan drives (or large new Treasury issues) giving rise to securities loans. Business borrowers of all sizes turned to the banks for a much larger portion of their needs; loans of the industrial and commercial type increased at virtually every bank in the country. Securities loans, which had helped swell the portfolios of large banks much more than of small, were steadily retired. No tabulations have been made to measure the exact effect of these changes on individual banks, but a suggestion of what took place is apparent from the central reserve city, reserve city, and country bank tabulations.

Total outstanding loans at all member banks rose 3.9 billion dollars in 1946. The increase was made up as follows (in billions of dollars):

Country	+2.4
Reserve city	+2.3
Central reserve city:	
Chicago	+0.2
New York	−1.0
Total	+3.9

The total increase was 17 per cent over the amount of member bank loans outstanding at the end of 1945; but for the country banks, often considered representative of the smaller banks, the increase represented a rise

of 43 per cent in the one year. The increase was 27 per cent for reserve city banks and 12 per cent in the Chicago central reserve city banks.

Although New York City banks showed a decrease of loans in the aggregate, banks in the New York District outside New York City did not. Data were available for each of these individual banks. Although possibly not typical of the country as a whole, the data show that banks of medium size (5–50 million dollars of total deposits at the end of 1943) experienced the greatest gain in loans during 1946; that the margin between the loan-to-assets ratios of the small and the largest banks had been narrowed; and that those small banks whose wartime growth had been greatest still led other small banks in their additions to total loans.

There apparently was, then, so far as available data would suggest, a reversal of some of the characteristic wartime changes in the loan portfolios of member banks. As total loans generally increased, the segment taken up by securities loans diminished, and the proportion in business, real estate, and consumer loans increased. The shifting loan composition also resulted in relatively more lending by the medium-size and small banks, and relatively less by the largest banks. But there were two other significant aspects of the 1946 growth of loans at the smaller banks.

Among country banks, and probably among small banks generally, the rise in real estate loans during 1946 was greater than the rise in commercial and industrial loans. While many of the loans reported by smaller banks as real estate loans were undoubtedly for commercial and industrial purposes, there was some concern over the possibility that small banks might be unduly affected if there should be a drop in inflated postwar real estate values. One cause of the small bank concentration on real estate loans as against commercial and industrial loans, as such, might have been a tendency for the large banks to serve the large business customers in the borrowing communities served by the smaller banks.

A second important aspect of the growth in loans at small and medium-size banks was the greater emphasis on consumer loans. A special study made at the Board of Governors as of mid-1946 suggested that many small banks were devoting relatively high proportions of their loan volume to this type of activity.[18] Holdings of instalment paper plus single-payment

[18] Frieda Baird, "Commercial Bank Activity in Consumer Instalment Financing," *Federal Reserve Bulletin*, March 1947, pp. 264–69. The banks in each size group under 100 million dollars in total deposits held an average of 7–8 per cent of their total loans in consumer instalment loans, while the consumer instalment loans of the largest banks were only 3 per cent of their total loans.

loans varied from 15 to 17 per cent of total loans in the three size classes of smaller banks used in the consumer loan study. But the very largest banks, those having deposits in excess of 100 million dollars at the end of June 1946, had an average of only 9 per cent of their loans devoted to consumer financing. While there is a general presumption "in the trade" that this type of lending requires mass production methods for successful handling, many small banks have apparently found it possible and profitable to handle consumer loans under present conditions. Extreme concentration on consumer lending by small banks might, however, be open to some question.[19]

The over-all prospect for bank loans at the end of 1946 was uncertain. Total outstanding member bank loans then represented about 60 cents for each $5 of gross national product. At the end of 1939 the corresponding figure had been 75 cents and at the end of 1945 it had been 50 cents. The relative volume of loans outstanding at the end of 1946 was still less than half that of the twenties, when there were about $1.25 of member bank loans for each $5 of gross national product. While particular banks might again return to portfolios consisting largely of loans, it was obvious that an enormous further increase would be necessary if the banking system as a whole were ultimately to expand its outstanding loans in proportion to the doubling in gross national product that occurred between 1929 and 1946.

PROFITS AND CAPITAL ACCOUNTS

The annual profits of all member banks, after income taxes, rose steadily from 347 million dollars in 1939 to 788 million in 1945. In 1946 they fell back to 758 million. There was relatively little increase during or after the war in the total amount of dividend payments, so that in the aggregate most of the wartime additions to profits found their way into the capital accounts rather than into stockholders' dividends. Because total capital accounts were continually increasing, the ratio of net profits after taxes to total capital accounts did not rise as much as the dollar volume of profits. That ratio was 7.0 per cent for the average of all individual member banks in 1939, and it was 11.0 per cent in 1945. It rose to 12.0 per cent

[19] There were five relatively small commercial banks in New York State, for example, whose consumer instalment loans in June 1946 amounted to at least half a million dollars, and whose volume of these loans exceeded 45 per cent of their loan portfolios. The largest of these banks had total deposits of less than 20 million dollars.

in 1946, however, because thousands of small banks increased their profits, while the large banks (whose profits fell off) were relatively few in number.

A considerable portion, perhaps half, of the 441 million dollar increase in profits from 1939 to 1945 could be attributed to nonrecurring sources of income, chiefly recoveries and profits resulting from the sale of Government securities while interest rates were declining. The other half, roughly attributable to the excess of gross operating earnings over operating expenses, was in large measure the result of enlarged portfolios of Government securities.

Gross operating earnings had not yet begun to decline in 1946, under the influence of the Treasury's retirement program, because the banks were largely able to offset the loss of income on retired Government securities through increased earnings on loans (and in some cases, through higher yields on newly acquired longer-term Government securities). Earnings on Government securities actually rose somewhat during the year. Operating expenses had, however, begun a more rapid rise—partly because of the inflationary pressure of the enormously enlarged volume of bank deposits. The principal factor in those rising expenses was higher wage and salary outlays.

Added expenses were less than the aggregate addition to operating earnings. But despite the resulting rise of 100 million dollars in 1946 operating earnings, net profits before taxes remained about the same as in 1945. That was because the nonrecurring elements of profit, "net recoveries and profits," fell to less than half the 1945 figure. At the same time, the amount of income taxes rose because the banks were beginning to run out of those "deductibles" which had reduced annual taxable incomes during the war years. The combined effect of a reduction in nonrecurring items of profit, and the diminishing amount of tax deductibles, was a drop in net profits after income taxes of 30 million dollars in 1946, a decline of 4 per cent from the peak profits reported in 1945.

Member bank capital accounts continued to rise in 1946. In the aggregate, they had restored depression losses and returned to their 1929 volume by the end of 1944.[20] Capital account increases in 1945 matched proportionately the growth in so-called risk assets at the member banks, and the ratio of capital accounts to such assets remained about 25 per cent. The increase in capital accounts during 1946 was slightly less than 15 per

[20] This generalization is roughly correct, despite changes in System membership over the 15 years.

cent of the rise in risk assets. Both in profits and in capital accounts, however, there were wide differences among the individual banks.

Differences in Profits among Individual Banks. There was a marked change over the war years in the relative profitabilities of the large and small banks. In 1939, the average ratio of net profits to capital among all banks in the three smaller size groups was about 7 per cent. The average of such ratios among the banks in the two larger size groups was slightly less than 7 per cent. By 1945, the average ratio had risen to about 10 per cent for the small banks, and was more than 11.5 per cent among the larger banks. The larger banks had increased their profit ratios beyond those of the smaller banks primarily for four reasons. Perhaps the most important factor—one for which no correction could be made in the data—was the fact that capital accounts tended to be relatively larger in the smaller banks (particularly those of slow growth), thus causing the ratio of profits to capital to appear low. Second, the small banks which had experienced rapid growth held much higher proportions of very short-term Government securities in their portfolios; consequently their average yield on Governments was often lower than that of the large banks. Third, most small banks were slow to take their profits on the rising capital values which had resulted from the decline in interest rates; the "recoveries and profits" item in net profits was, therefore, higher at the large banks. Fourth, despite the shifting deposit composition at small banks, interest on time deposits constituted a larger increase in the expenses of small banks than in those of large banks (this was particularly noticeable among small banks which grew relatively slowly).

Despite the high average profit ratios at the end of 1945, one out of twelve member banks reported net profits after taxes equal to less than 5 per cent of capital accounts. Further inquiry into the record of these least profitable banks showed that most of them were small (total deposits under 5 million dollars at the end of 1943). A high proportion of them had grown relatively slowly during the war. They differed from other banks of their own size and rate of growth in one of two ways. About three-fifths of them had gross earnings equal to those of similar banks, but exceptionally high expenses caused their net profits to fall below 5 per cent. The other two-fifths did not acquire gross earnings comparable to those of other banks of their own size and wartime rate of growth. Generally high wartime profit rates in banking had not automatically assured highly profitable operations for all banks.

Most of the fall in total profits during 1946 was accounted for by the central reserve city banks in New York. Most of the banks in the country reported increased profits. It did seem possible, however, that the New York banks, followed at some remove by other large banks, were mirroring in advance a major change in banking—just as they had done in so many other respects during the war years. But whether or not the declining profits of many large banks in 1946 were a portent of similar developments throughout the banking system, the immediate consequence was a closing of the 1945 gap between the profit rates of large and small banks. With the exception of very small banks whose total deposits were under 1 million dollars (as of 1946), smaller banks had consistently higher average profit ratios than the large banks in 1946.

Member Bank Capital Accounts. Because the adequacy of bank capital accounts is primarily determined by the type of assets held, the traditional ratio of capital accounts to total deposits was superseded, during the war, by a ratio of capital accounts to so-called "risk" assets. The supervisory authorities defined risk assets in their summary tabulations as total assets less cash and Government securities. Government securities were excluded because they are free of credit risk, although some of them of course are subject to a valuation risk due to fluctuations in their market prices. There is no doubt that the newer measure was superior to its predecessor. Special tabulations as of the end of 1945, prepared from records of 6,073 of the 6,155 member banks analyzed in this study, show wide variation among so-called "risk ratios" of banks at the end of the war.

These tabulations are presented in the accompanying table as percentage distributions for the banks in each of the five size groups. There were 52 banks whose capital accounts were below 10 per cent of risk assets in 1945. A high proportion of these extremely low ratios occurred among large banks, although large banks in the East had maintained higher ratios than were found among the large banks elsewhere. The tendency for the ratios to lower as size of bank increased can be observed throughout the table. The medians of each size group, for example, ran as follows from smallest to largest banks: 41, 35, 33, 32, and 26.

While evaluation of the "correct" capital ratio must vary from bank to bank, according to the nature of the risk assets involved and the character of the deposits, the banks whose ratios of capital to risk assets fell below 10 per cent in 1945 probably were in need of substantial additions to capital. On that premise, the earnings of those banks were studied to see

what additions they might support. The analysis showed that the rate of capital accumulation permitted by retaining net earnings would be too slow, at nearly all of these banks, to provide for early increases in capital on a significant scale. Almost without exception, however, the 1945 rate of earnings seemed large enough to have supported sufficient issues of new capital stock to double the 1945 capital accounts.

During 1946 there was a reduction in the ratio of capital to risk assets at most banks, although the ratio of capital to total assets increased. The major factors in these changes were the growth in total loans, which in-

PERCENTAGE DISTRIBUTION OF 6,073 MEMBER BANKS, BY RATIO OF CAPITAL ACCOUNTS TO RISK ASSETS AND BY SIZE OF BANK, 1945[1]

Ratio of capital accounts to risk assets (Per cent)	Total	Size of bank (Total deposits, in millions of dollars)				
		Under 1	1–2	2–5	5–50	50 and over
Under 20	14	7	12	16	19	31
20–30	25	20	26	27	26	32
30–40	22	21	23	22	22	19
40–50	15	20	15	13	14	9
50–60	10	12	9	9	8	6
60 and over	14	20	15	13	11	3
All ratios	100	100	100	100	100	100

[1] Capital accounts and risk assets for each individual bank were available only as averages of the amounts reported on three dates: Dec. 31, 1944, June 30, 1945, and Dec. 31, 1945. The banks were grouped into the same size classes used in all special tabulations made for this study, with size measured by total deposits as of Dec. 31, 1943.

creased risk assets, and the greater decline in holdings of Government securities, which reduced total assets, while capital accounts continued to grow.[21] Because the smaller banks increased their loans proportionately more than did the large banks, and because the small banks generally increased their dividends in 1946, there was a greater reduction in the capital ratios of the small banks (as retained earnings failed to keep pace with new loans). The 1945 ratio-spread among size groups of banks, running from a capital ratio of 41 per cent for the smallest to 26 for the largest, was narrowed in 1946 to approximately 38 per cent at the smallest and 25 at the largest, with corresponding reductions in the three intervening size groups.

[21] In the large central reserve city banks in New York, where total loans fell off during 1946, the ratio of capital accounts to risk assets rose.

In both capital ratios and profits, 1946 was a year of leveling. The capital ratios of the smaller banks fell more than those of the largest banks, bringing them nearer to equality. And conversely, the higher wartime profits of large banks declined as the profits of the smaller banks remained steady or increased. The greatest over-all significance, however, lay in the probability (1) that a further decline in bank profits might occur in the years immediately following 1946, and (2) that ratios of capital to risk assets would continue to fall for a longer period as bank loans and holdings of non-Government securities increased.

CONCLUSIONS

The tremendous scope and inclusiveness of the American mobilization for World War II necessitated an extreme centralization of direction and of responsibility—which only the Government could assume. Consequently the burden of financial risk had also to be borne largely by the public, and most financing had to pass through Government accounts. Under these circumstances there was little room for private undertakings between the banks, as suppliers of funds, and the businesses producing war goods. The war was financed almost entirely through the proceeds of governmental taxation and governmental borrowing. The commercial banking system provided one-fifth of the Government's cash requirements through the creation of new money, while four-fifths was acquired by the Government from the current income stream either through taxes or non-bank borrowing.

As a result primarily of their increased holdings of Government debt the member banks grew one and one-half times in aggregate size from 1939 to 1945. All of the banks, whether they individually grew proportionately more or less than this average of 150 per cent, experienced both the problems of doing business on a larger scale and the necessity of adjusting their operations to a decided shift in the composition of their assets. Most of the smaller banks also experienced a change in the character of their deposits, as private demand accounts expanded proportionately much more than time deposits.

Although most banks concentrated their early purchases of Government securities on issues of very short term, they became an increasingly important influence in the market for Government bonds as well. Treasury restrictions on the eligibility of new long-term issues for bank purchase, after 1943, funneled bank acquisitions into the older issues. But the effect

of bank purchases spread as nonbank holders sold outstanding bonds to the banks at a premium in order to acquire funds for further subscriptions in the war loan drives. Bank-reinforced demand caused a considerable price rise in the Government securities markets during 1945, at the peak of the Treasury's borrowing effort. Continuation of bank purchases in the bond market during 1946 was limited considerably, however, as the Treasury reversed its influence by creating pressure on reserves through a debt-retirement program. Barring future Government deficits, or a deliberate change in Treasury refinancing policy, bank portfolio managers will find less and less opportunity for additional bond purchases during the remainder of the decade. After 1950 the total volume of eligible bonds in existence would be less than the amount of bonds held by banks at the end of 1946.

The wartime additions to bank-held Government debt might also be expected to alter the relation between banks and their business borrowers. Some few banks might choose temporarily to ride on their securities earnings, to the disadvantage of deserving applicants for loans. But the general effect should probably be very much to the borrowers' liking. Banks should have much less reason than ever before to press their business borrowers for repayment of loans at a time when the banks themselves were pressed for funds. As of 1947, in meeting any unusual reserve needs, the banks could sell shorter-term Government securities in a market supported by Federal Reserve credit. Or banks that were members of the Federal Reserve System could borrow at low discount rates by pledging Government securities of any term.

Insertion of so large a volume of "bankable" Government securities into bank portfolios during the war substituted earning assets (several times greater in amount) for the excess reserves which had served banks, after 1933, as the cushion between reserve drains and the liquidation of bank loans. Conversely, the banks were left relatively unrestrained by central bank action in their extension of new loans.[22] New loans to business, to real estate owners, and to consumers, many of them term loans, flourished during the reconversion effort of 1946. While the banks necessarily judged loans by their usual standards of credit risk, they had little motive to give primary consideration to conditions that would protect their own "liquidity."

What limits remained on bank lending came from the state of business

[22] Cf. pp. 98–101 of the paper by Woodlief Thomas and Ralph A. Young.

demand itself, and from the size of bank capital accounts. Bank capital at the end of 1946 was generally over 20 per cent of risk assets, giving no cause for immediate concern. But even though losses caused by bank pressure for loan repayment might henceforth be slight, because of the new and larger cushion against "stringency," the normal course of business events would continue producing losses on loans and other investments. Bank capital would have to be adequate to absorb those losses. And the size of a bank's capital account would, therefore, be an important determinant of its maximum loan expansion.

The post-reconversion outlook for commercial banks as business institutions seemed to be for some reversal from the high wartime levels of profitability. During 1946 the large banks, which had led the way to high profits during the war, experienced a considerable drop. Unless there should be a sustained rise in loan income to offset rising expenses and a reduction in nonrecurring items of profit, it seemed likely that the profit rates of most commercial banks would gradually decline to the levels prevailing prior to the war.

SELECTIVE INSTRUMENTS OF NATIONAL CREDIT POLICY

by

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Selective instruments of national credit policy are distinguished from general instruments, such as discount rates and open market operations, by the fact that their primary and principal impact is not on the total amount of credit that is put to use in the economy as a whole but on the amount that is put to use in one or another particular sector of the economy.

This paper undertakes to describe several of the existing selective instruments and the distinctive mechanism which they exemplify, to outline their relation to existing general instruments, and to inquire briefly into the outlook—especially the long-range outlook—for the selective concept.

The whole discussion takes for granted that the objectives of national credit policy, however it may be implemented, are to help in stabilizing the national economy and in gradually expanding it.

EXAMPLES OF SELECTIVE INSTRUMENTS

The selective instruments to be here described are those which have been applied to the two fields of stock-market credit and consumer credit. They will be treated in this order for the reason that governmental concern with the course of stock-market credit and governmental interest in finding workable methods of influencing that course are of much the longer standing.

Mechanism for Influencing Stock-Market Credit. Legislative concern respecting stock-market credit was registered in 1913 by the provisions of the original Federal Reserve Act which declared ineligible for discount notes drawn for the purpose of trading in stocks. The growth of stock-market credit was the subject of official warnings by the Federal Reserve Board at intervals between 1915 and 1919, and was inquired into by a joint congressional commission in 1921. Later and greater growth prompted the Board's action early in 1926 in publishing currently figures

* In charge of consumer credit regulation while this was in effect (1941–47).

for loans to brokers, and inspired early in 1929 both the Board's emphatic warning against the expansion of stock-market credit and the Board's "direct action" campaign. The significance of the same sector was given further legislative recognition in the Banking Act of 1933, and more decisively in the Securities Exchange Act of 1934, which authorized and directed the Federal Reserve Board to regulate margin requirements on security loans.

It was a long process of trial and error that eventuated in the devising of the margin-requirements technique. The instruments previously tried in this field included moral suasion, induced agreement, the publicizing of statistical facts, "direct action," and—first to be tried but last to be here discussed—the denial of eligibility for rediscount to stock-market paper.

Moral suasion, as exemplified by admonitions issued by the Board in 1919 and early in 1929, seems on both occasions to have had some effect in dampening speculative fervor, but only in slight degree and for very short periods.

The only instance of induced agreement is the arrangement worked out during World War I, under the pressure of the needs of war financing, between the New York Stock Exchange and a group of banks in New York City, then called the "money pool" banks.[1] From the autumn of 1917 to the autumn of 1918, the purpose of the arrangement was to insure that these banks would make enough street loans (on acceptable collateral) to serve the "essential needs" of the Exchange and to prevent stock-market money rates from going so high as to interfere with the marketing of Government securities to finance the war. In September 1918, however, there was increasing demand for such loans and the Exchange agreed on November 4—a week before the Armistice—to prevent any increase in the aggregate amount of the borrowings of their members above the level (about one billion dollars) at which they then stood.

This arrangement, supplemented at first by a stiffening of the margin requirements imposed by the New York banks, remained in effect for only two months. It was successful during the short time that it was in force in stabilizing the volume of street loans. There is reason to doubt, however, that it had much to do with restricting speculation in stocks or re-

[1] This arrangement was worked out under the leadership of Benjamin Strong, then Governor of the Federal Reserve Bank of New York, and the Liberty Loan Committee of which he was chairman.

straining advances in stock prices; both the volume of trading and the level of stock prices remained quite stable, but in the circumstances of the time this seems to have been only natural. Discontinuance of the arrangement on January 4, 1919, was soon followed by a sharp increase in the volume of trading, in the level of stock prices, and in the volume of brokers' borrowings—which increased during the next nine months by over 700 million dollars. The sharp upswing which culminated in November of that year was in turn succeeded by the larger downswing of 1919–21.

The publicizing of statistical facts is illustrated by the publication week by week, as initiated by the Board in February 1926, of figures showing the total volume of brokers' loans—then about 3.1 billion dollars. These figures had not before been available to the public, were much larger than the public had supposed, and their publication was considered by observers at the time to have had a temporary restraining effect. In any event, the volume of stock-market credit, the volume of trading, and the level of stock prices all fell off for a number of months. Late in 1926 and early in 1927, however, both the level of stock prices and the volume of stock-market credit resumed their upswing, and from that time forward did not seem to be appreciably affected, except occasionally and then only momentarily, by the weekly publication of the mounting figures for brokers' loans—which had doubled by the spring of 1929.

The use of "direct action" for a few months early in 1929 consisted of a campaign, initiated by the Board, to have the Federal Reserve Banks insist that such individual member banks as were in debt to them should either liquidate their indebtedness or else reduce outstanding street loans. The stated purpose was to prevent the abuse of Reserve Bank credit—"the use of the resources of the Federal Reserve Banks for the creation or extension of speculative credit"—but it was upon the course of stock-market credit that the campaign was expected to register. It was not pressed home at all points, but was reflected during the short period of its duration in some decrease in brokers' loans—about 300 million dollars—which was accompanied by a temporary decline in the volume of trading and a temporary halt in the upswing of stock prices. At the same time there was a sharp rise in short-term money rates, not only for street loans but also for commercial loans. The reduction in the street loans of banks, however, was offset to the extent of more than one-half by an increase in the street loans of lenders other than banks. Whether street loans in-

creased at banks which were not indebted to the Reserve Banks, and consequently were not subject to the "direct action" pressure, has never been ascertained. It is obvious, nevertheless, that by reason of the limitations of the instrument this could have happened then and that it could always happen at any time when, as has in recent times been the case at intervals for several years in succession, member banks are not only out of debt to the Reserve Banks but are, on the contrary, holding large excess reserves.

The denial of eligibility for discount to stock-market loans dates from the very beginning of the Federal Reserve System, in 1913. One of its purposes, though not the only one,[2] was to exert influence on the amount of credit used for financing transactions in the stock market. It is accordingly to be considered as a selective instrument of credit policy; in fact, the oldest one of all, included as it was in the original Federal Reserve Act. According to that act, no Federal Reserve Bank was permitted to discount any paper "issued or drawn for the purpose of carrying or trading in stocks" or other securities except Government securities. For the purposes of the present discussion, this prohibition is chiefly significant for a misconception embodied in it which had to give way before selective instruments of the modern type could be developed.

The original operational idea was that if member banks are prohibited from obtaining Reserve Bank credit through discounting stock-market loans their power to make such loans will be restricted, with the result that the total amount of credit used for stock-market purposes will in turn be controlled. As time went on, however, experience showed this idea to be illusory, because (1) a member bank can make stock-market loans on the basis of Reserve Bank credit obtained by it through discounting other loans; (2) a member or nonmember bank can make such loans on the basis of funds received by it indirectly through the permissible discounting operations of other banks or through such channels as the open market operations of the System and gold imports; and (3) loans can be made available to the stock market, as they were in fact made available in large volume (eventually about 6.5 billion dollars) in the late twenties, by nonbanking lenders. Under the fractional reserve arrangement, moreover, Reserve Bank credit, however obtained and even if used initially for a commercial loan, puts at the disposal of the banking system several times

[2] Another purpose was to help insure that non-self-liquidating paper would be excluded from the earning assets of the central banking system.

that amount of credit which would not be subject to any specific control. It follows, therefore, that whatever authorities are responsible for national credit policy, *if* called upon to apply effective control to stock-market credit—or for that matter any other selected category—cannot hope to do so by the selective granting or withholding of Reserve Bank credit. They must be able to exercise a more direct influence on the use of credit in the selected sector, from whatever source obtained.

During the whole period prior to 1933, attempts by the Federal Reserve System to influence the course of stock-market credit were handicapped not only by the inadequacy of available instruments but also by the absence of any explicit legislative mandate requiring the Federal Reserve authorities to take responsibility for the course of stock-market credit. Taking cognizance of this fact, in the light of experience, Congress provided in the Banking Act of 1933 that each Federal Reserve Bank, in determining whether to grant or refuse credit accommodation, should give consideration to "whether undue use is being made of bank credit for the speculative carrying of or trading in securities . . ."[3]

This not only cleared up a question of governmental responsibility but also went far beyond the requirement of the original Federal Reserve Act that stock-market paper should be ineligible for rediscount. Not only the character of the paper, but also the behavior of the applying member bank and in addition that of other banks, became a prescribed criterion. Thus Congress in effect gave legislative recognition to the specific objective which animated the Board's selective approach in 1929 and undertook to implement that approach. At the same time, Congress authorized the Federal Reserve Board to suspend any individual member bank from the use of the credit facilities of the System for "making such undue use of bank credit," and to limit by rules of uniform district-wide application the volume of security loans that a member bank might carry, expressed as a percentage of the bank's capital and surplus. Significant as this legislation was in enunciating a principle, it added very little on the instrumental side; the technique contemplated for enforcing the principle was not greatly different from that used in 1929 and was subject to the same inherent limitations.

Recognizing these limitations, Congress (in the Securities Exchange Act

[3] The relevant provision has a broader, but still selective, coverage: ". . . whether undue use is being made of bank credit for the speculative carrying of or trading in securities, real estate, or commodities, or for any other purpose inconsistent with *the maintenance of sound credit conditions*; . . ." (Italics supplied.)

of 1934) gave the Board a mandate to issue margin-requirement regulations "for the purpose of preventing the excessive use of credit for the purchase or carrying of securities," and buttressed the mandate by making these regulations applicable not only to all banks, both member and nonmember, but also *and primarily* to extensions of credit by credit-grantors other than banks—*i.e.*, by brokers and dealers in securities. The statute did not undertake to define, but left to be determined by the Board from time to time, what use of credit for the designated purpose shall be deemed "excessive," but did provide that in order to serve their preventive purpose the margin requirements should be "based upon" a stated standard under which the requirements, except as raised or lowered by Board action taken under prescribed statutory rules, could not be less than 25 per cent or more than 45 per cent.[4]

While this instrument, like all its specific predecessors, is selective in conception, it is altogether different in method. The control which it applies, though bearing directly on the conduct of lenders, puts restraint on the borrower. It limits the amount that he can borrow, or even bid for, by relating it to the type and value of the collateral that he must provide. It can be used, therefore, to keep down the amount of stock-market credit even though the lending power of lenders may be very large and the rate of interest they would be willing to take very low. By thus limiting the demand for credit for stock-market purposes, the control can reduce the amount of upward pressure on money rates that this demand for credit could otherwise exert. The selective methods previously employed, affecting as they did only the supply side of the money market, could not of course have this result.

During the whole time that this new instrument has been available, the standard margin requirements have been higher, and for most of the time much higher, than they had been when they were fixed by the New York Stock Exchange, leading brokers, and the commercial banks. Information concerning the standard requirements during the boom of the twenties, though fragmentary, is sufficient to indicate that even when speculation

[4] The rules seem to give the Board (though this is debatable) somewhat less power to *lower* margin requirements than to *raise* them: The guiding rule for lowering is "for the accommodation of commerce and industry, having due regard to the general credit situation," while that for raising is "to prevent the excessive use of credit to finance transations in securities." See also Section 2 of the Securities Exchange Act of 1934 which refers, among other things, to "national emergencies," to "sudden and unreasonable fluctuations of security prices," and to "excessive speculation."

was most active they were seldom above 15 per cent (with exceptions as low as 10 per cent). Under the Board's regulations, effective October 1, 1934, the margin requirements prescribed, which were about 28 per cent at the outset, have since early in 1936 never been less than 40 per cent[5] and were for a time as high as 100 per cent.

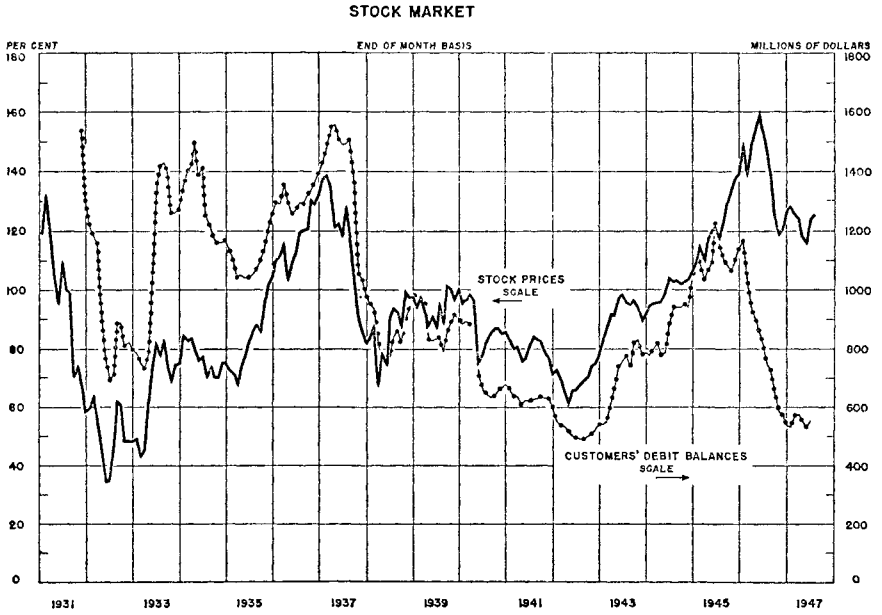
During this 13-year period, partly in consequence of the higher margin requirements, the aggregate volume of stock-market credit has at no time been as much as one-fourth as large as it was during the stock-market boom of the late twenties. The amount of credit extended by brokers, which is measured by their customers' debit balances outstanding, has been as large as 1,560 million dollars—in the spring of 1937—but this was less than half as large as these balances had been early in 1927 when the boom of the twenties was entering its semi-final stage and in fact somewhat less than it had been in the autumn of 1924 when the boom was just starting. Judging by this general evidence, margin requirements can be used as an effective instrument for keeping the volume of stock-market credit at crucial times within officially determined bounds.

The effectiveness of the instrument, in more respects than one, had a partial test in 1936–37. This is brought out by the chart on page 72. When requirements were raised by Board action early in 1936 from a 45 to a 55 per cent level, the volume of stock-market credit, as measured by customers' debit balances, promptly declined somewhat along with a moderate decline in stock prices. It began to increase again in the summer, along with a renewed increase in stock prices, and continued to do so until the spring of 1937, but the total increase (about 15 per cent) was materially less than the accompanying increase (about 40 per cent) in the level of stock prices. In preregulation days, at any rate for the 1917–34 period for which figures are available, no such thing had ever happened; the typical relationship was one in which the growth of stock-market credit had been in much the same proportion as the advance in stock prices.

The restrictive potency of the instrument was tested more decisively in 1945 and 1946, when the Board raised the margin requirements from the 40 per cent level at which they had stood since 1937 to a 50 per cent level (February 5, 1945), then to a 75 per cent level (July 5, 1945), and finally to a 100 per cent level that applied from January 21, 1946 to February 1,

[5] Margin requirements on "the short side" were not fixed by the Board until Nov. 1, 1937. From that time until Feb. 5, 1945, they were at the 50 per cent level (against 40 for "the long side"); since then they have been the same as those on "the long side."

1947. The first change did not halt the increase in stock-market credit, which continued to advance, along with a further increase in stock prices. But the second and third increases did, as is brought out by the chart, for although stock prices continued to advance until May 1946, the volume of stock-market credit actually began to decline after July 1945, and continued to do so, with a short interruption, throughout the period of price advance as well as afterwards. This reflected in part the effect of new rules which put restrictions on transactions in undermargined accounts. The



new rules (effective July 16, 1945) required that the proceeds of any sales of securities in such accounts should go first to reducing the debit balance of the account; they could no longer be freely used to buy securities, as margin traders operating in a rising market are always tempted to use them. Quite aside from the effect of this particular factor, however, the 75 per cent requirement—and later the 100 per cent requirement—certainly applied substantial restraint to the use of credit for stock-market purposes.

These high requirements must have influenced also the amount of "buy-

ing for the rise," or so it would certainly seem to anyone who observed the speculative mania of the twenties. A simple arithmetical example will bring out the point. At that time, a man having, say, $1,000 that he was willing to stake could buy (with one of the less prudent or 10-per-cent brokers) 100 shares of stock at $100, on which a rise of 5 points would bring him $500 profit; under the 75 per cent rule he could buy only about 13 shares at $100, on which a rise of 5 points would bring him only about $65 profit. Under the 100 per cent rule established early in 1946, he could buy with $1,000 only 10 shares at $100, and his profit on a rise of 5 points would be only $50. The lure of a rising market as a place in which one may "get rich quick" was obviously far less potent in 1945, 1946, and 1947 than throughout the late twenties.

The margin-requirements mechanism for influencing the course of stock-market credit has both its inherent possibilities and its inherent limitations. It can be used with effect to restrain speculative excesses in the stock market and to prevent those which may still occur from doing so much harm to the national economy as some of them did in preregulation days. Most of its inherent limitations, aside from those which it shares with general instruments of credit policy, arise from the circumstance that margin requirements can be prescribed only by reference to the amount of collateral by which a loan or account may be secured. In the United States, however, the practice of making loans to purchase and carry securities without collateral, or even on collateral other than securities, has never yet been at all common or widespread.

Mechanism for Influencing Consumer Credit. Governmental concern with consumer instalment financing, another of the fields to which selective instruments of policy have been applied, does not have so long a history as governmental concern with stock-market credit, but its history does go back as far as 20 years. Special inquiry into member bank holdings of instalment paper was made through bank examiners in 1925–26; machinery was set up by Congress in 1934 for encouraging the use of instalment credit to finance home mortgages, repairs and improvements to residential property, and the purchase of electrical appliances; in 1937 the Board put into its Regulation A, relating to discounts for and advances to member banks by Federal Reserve Banks, provisions designed to encourage, in accordance with specified standards of a general nature, both real estate loans and loans for financing the sale of goods on an instalment basis; and from 1941 to 1947, under an Executive Order valid during a

period of national emergency, the Board exercised control over short-term consumer credit by means of its Regulation W.[6]

A noteworthy fact about national credit policy in the consumer-credit field is that, in different circumstances, it has employed selective instruments first to encourage expansion and then to exercise restraint.

One of the principal stimulative devices has been that of Government guaranty (for private extensions of credit) used for example to encourage home building, improvement, and repair. Employing this mechanism, the Federal Housing Administration has undertaken to insure acceptable lending institutions against possible loss, or against at least a part of such loss, and thereby to stimulate loans for the designated purpose. It is notable that for home building the amount of a loan eligible for guaranty has been large relative to the valuation of the property (as determined by the insuring agency), that the length of the insurable loan contract has been relatively long, that the amortization provisions have been standardized, and that the rate of interest which might be charged on an insurable loan has been relatively low. In view of its purpose, the plan has naturally stressed low down-payments and long maturities. It has in particular influenced many banks and other financial institutions to go into a line of business that was new to them, and to develop it on an uninsured as well as an insured basis. The volume of loans under FHA insurance grew steadily until its growth was stopped by the war, and amounted at its peak to about 3.6 billion dollars. The efficacy of the instrument in stimulating private credit extension and private enterprise, though sometimes questioned, appears to those who have carefully studied the matter to have been amply demonstrated.[7]

The techniques employed by the Board in the regulation of consumer credit, though analogous to those used in the regulation of stock-market credit, were different in several essential respects. The basic requirements (adjustable from time to time) were those which applied to "instalment-

[6] In exercising this control, the Board was required by the Executive Order to consult with a committee comprising the Secretary of the Treasury, the Federal Loan Administrator, and the Administrator of the Office of Price Administration, or such alternate as each might delegate. By subsequent Executive Orders, the over-all policy directives which two other agencies —the Office of Economic Stabilization and the Office of War Mobilization and Reconversion —were empowered to issue included directives relating to consumer-credit regulation.

[7] See for example Leo Grebler, "Housing Policy and the Building Cycle," in *The Review of Economic Statistics*, May 1942, pp. 66–73. An easing of terms for low-priced houses early in 1938, when down-payments were reduced and maturities were lengthened, is said to have influenced activity in this sector to turn up earlier than other sectors of the economy.

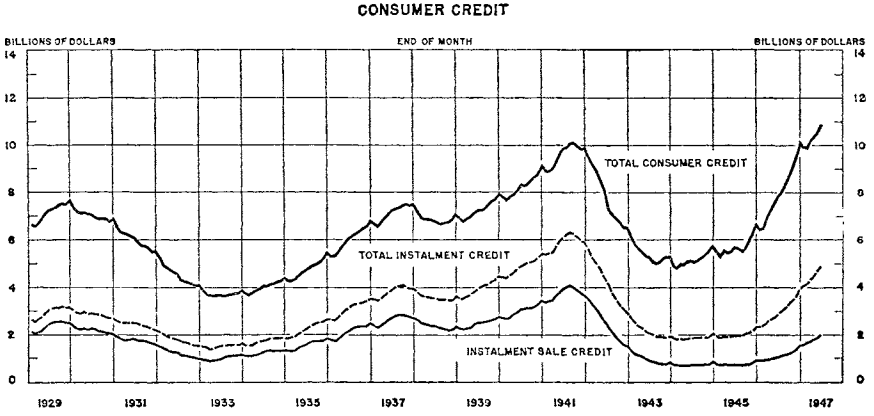
sale credit" and which prescribed a minimum down-payment, such as one-third, and a maximum length-of-contract, such as 12, 15, or 18 months. They applied to vendors, such as automobile dealers, who create the instalment-sale paper but usually sell it to a financial institution, such as a bank or finance company. The basic requirements extended also to lenders; if the paper did not comply with the requirements of the regulation, lenders were forbidden to create it, to buy it, or to accept it as collateral for loans. Makers of instalment loans directly to the consumer, for the stated purpose of purchasing an automobile or other "listed article,"[8] were subject to equivalent requirements. In addition, other instalment loans, though not limited as to amount, could not (unless the loan was an exempted loan) have a longer maturity than that specified in the regulation.

Down-payment and maturity requirements, like margin requirements in the field of stock-market credit, apply a control which operates to influence the aggregate amount of credit that debtors or prospective debtors are in position to obtain rather than the amount that credit-grantors are in position to supply. Like the margin requirements, consequently, they can serve their primary purpose, such as limiting the use of short-term consumer credit, even though the total supply of available credit may be very large, and can do so without tending to raise money rates.

The course of consumer credit for the past 18 years is shown on the chart on page 76, with separate curves for instalment credit (including instalment loans) and for that part thereof which represents instalment-sale credit. It shows that there have been wide fluctuations in the total, of the nature of cyclical swings, and that the dominant factor in these swings has been instalment-sale credit, well-known to be itself correlated as a rule with fluctuations in consumer purchases of consumers' durable goods. The large reduction in the total between 1941 and 1944, from about 10 billion dollars to about 5 billion, reflects primarily a sharp wartime reduction in the available supplies of goods such as are commonly bought on the instalment plan, particularly automobiles and household appli-

[8] The list of articles (consumers' durable goods) included at all times those which were retained under the revision effective Dec. 1, 1946: Automobiles, refrigerators, cooking stoves and ranges, air conditioners, washing machines, ironers, dishwashers, sewing machines, suction cleaners, radios, phonographs, and furniture. Between May 6, 1942 and Dec. 1, 1946, it included also a wide range of other articles, among them many categories of "soft goods," and made provision for regulating both charge accounts and single-payment loans.

ances, and the wartime increase in consumer income which enabled many consumers to buy for cash instead of on credit and to pay promptly for credit purchases. But Regulation W, which went into effect September 1, 1941, was also a factor in bringing about the initial decrease as well as in restraining the subsequent increase. On this point there seems to be very general agreement, notwithstanding considerable difference of opinion concerning the amount of influence that may fairly be attributed to the regulation. Without it, more credit would have been extended to consumers, the rate of repayment would have been less rapid, and the consuming public as a whole would have come out of the war and into the reconversion more heavily in debt. At any rate, as is shown on the chart, the total volume of consumer credit outstanding at the end of 1945 was no larger than it had been nine years before, when the country was only part way out of the great depression, and the volume of "instalment-sale credit" was actually lower than it had been in 1933 in the trough of the depression.



Whatever efficacy consumer-credit regulation may have had in wartime was obviously dependent, to a degree that is hard to estimate, upon circumstances of the time which predisposed persons subject to the regulation to comply with it, such as the public spirit characteristic of wartime and the absence in an active "sellers' market" of inducements to promote sales by offering very easy credit terms. This minimized immensely the problem of enforcement. Under peacetime conditions, after goods are in supply again, the disposition of the consumer-credit industry to comply with any regulation would depend very largely upon the scope and nature and stringency of the regulation; that is to say, upon the prescience and

judgment of the authorities responsible for shaping and administering the regulation. An important circumstance making for sustained cooperation from the consumer credit industry could be the disposition of a considerable part of the industry, in the light of its experience over the past 30 years, to see in governmental regulation a safeguard against excessive relaxation of instalment terms such as competition has heretofore engendered, notwithstanding repeated cooperative efforts within the industry to halt the trend.

After December 1, 1946, when Regulation W was revised and remodeled, discussion of whether or not consumer-credit regulation would be desirable and effective in peacetime—either for a transition period or indefinitely—was facilitated by the exhibit of a regulation better adapted to fit peacetime conditions. The remodeling took the direction of focusing the regulation on consumers' durable goods in the narrower sense, as distinguished from the numerous semidurables formerly included among the listed articles. The list was confined to those relatively few items of sizable unit-cost for which instalment methods of financing and refinancing typically predominate. This remodeling, by simplifying the regulation, minimized both compliance problems and enforcement problems and also served to make more clear-cut and manageable the central problem of the policy making authorities—that of determining as of any given time whether any change should be made (in either direction) in the basic requirements and if so to what extent. The revised regulation, with its narrowed scope, no longer covered the whole credit field of consumer credit, but it did cover that large part which is subject to the widest range of fluctuation and is most important in relation to stabilizing the national economy.

ELEMENTS OF SELECTIVE MECHANISM

A prerequisite to the development of selective mechanism, as the examples cited will have indicated, is that the field to which the given instrument is to apply shall be definable in precise terms. This is essential for policy making (as well as legal and legislative) reasons, in order that the policy makers may be in position to follow the course of the magnitude that they are interested in influencing. It is indispensable also for operating reasons, in order that credit-grantors who are to be subject to given requirements may know which of their manifold and diverse transactions must conform. How is it to be determined, for example, whether this or that transaction constitutes an extension of credit "for the purpose of

purchasing or carrying securities," or an extension of "consumer credit," or an extension of consumer credit "for financing or refinancing the purchase of consumers' durable goods"?

For identifying precisely the included transactions, only three methods seem to be available, and all three have been used to some extent. They may be called the collateral test, the proceeds test, and the declaration test. If the credit-grantor is a broker or dealer in securities, his extensions of credit will almost always be supported by collateral consisting of securities and the proceeds can be presumed to have been used in almost all cases for purchasing securities. In such cases, the collateral test is generally adequate.

If the credit-grantor is a banker, however, and the loan is not made to a broker or dealer in securities, there can be no such presumption even though the collateral consists of securities, and a bank loan for purchasing securities may of course be supported by other collateral or even by no collateral at all. For bank loans, therefore, up to the present time, a combination of the collateral and declaration tests has been employed. Unless the loan is secured by stocks the banker need not inquire into its purpose, but if it is so secured he may at his option either assume that its purpose is to purchase stocks or may, if acting in good faith, accept and rely upon a signed declaration of the borrower to the contrary. If, in the consumer-credit field, the credit-grantor is a dealer in some consumers' good, such as automobiles, and the extension of credit arises out of a sale of the good, the purpose is self-evident and neither a collateral test nor a declaration test is necessary—but if the credit-grantor is a banker or a small-loan company or a credit union the collateral test is not conclusive and, to some extent at least, the declaration test has to be employed. Wherever that test must be the main reliance, its use presents a number of special administrative problems.

The proceeds test would require the lender to assure himself of the use to which the proceeds of a loan are put or are to be put. Superior though this test might seem to be in principle, extensive resort to it would present difficult administrative problems. Little specific use has consequently been made of it, and this has been mainly for helping to give definition to the declaration test.

A given instrument clearly cannot be effective on the restrictive side if its application is so limited as to leave out any class of credit-grantors which could supply much credit for the selected purpose. For security

market credit, this problem has been handled by making the margin requirements applicable to any bank, to any member of a national securities exchange, and to any broker or dealer who (in the language of the statute) "transacts a business in securities through the medium of any such member;" this leaves unused, but in reserve, the Board's statutory authority to include other persons (except lending agencies owned by the United States) so far as loans made in "the ordinary course of their business" are concerned. The institutional scope of the Board's consumer-credit regulations was considerably more inclusive. In their final (and limited) form they applied, in general, to any person who was "engaged in the business of making extensions of instalment credit in amounts of $2,000 or less, or discounting or purchasing obligations arising out of such extensions of credit." This included governmental lending institutions operating in this field, such as the Electric Home and Farm Authority (now in liquidation) and the Rural Electrification Administration.[9] It stands to reason that any control of this type should apply in principle not only to private credit-granting institutions but to corresponding governmental institutions as well.

Although the central part of the mechanism consists of such basic elements as minimum margin (or down-payment) requirements and maximum length-of-contract requirements, regulations in which such requirements are imbedded consist for the most part of provisions of the nature of supporting rules, designed both to prevent circumvention of the basic requirements and to facilitate permissible business transactions. These need to be so contrived that any of them can be changed, as occasion may require, without necessitating any change in the basic requirements. This contributes to giving the whole mechanism such inherent flexibility that necessary or desirable adjustments can be made from time to time both readily and promptly.

For the margin requirements, and also for the consumer-credit regulations while they were in effect, the ultimate legal sanctions have been severe, consisting of fine, imprisonment, or both—the fine being limited to $10,000 in both cases and the term of imprisonment to 2 years in the one case and 10 years in the other. The development of less severe and consequently more workable sanctions has presented a problem in both of

[9] Until Oct. 15, 1945, the Federal Housing Administration was affected indirectly in that certain home-improvement loans which that agency could insure if the loans were to be made could not lawfully come into existence under the consumer-credit regulations.

the designated fields, but some of these have in fact been developed. Under a novel provision of the Securities Exchange Act, for example, it is the obligation of the New York Stock Exchange or any other "national securities exchange" to enforce the law and regulations thereunder, including the Board's margin rules, against its own members, and the Exchange has on occasion censured an offender or fined him (*e.g.*, by $100); it could go so far as to suspend him from membership or even to expel him. The Board's consumer-credit regulations were supported by a requirement that every credit-grantor subject to them should be licensed and might, after reasonable notice and opportunity for hearing, have his license suspended or revoked by the Board for any willful or negligent failure to comply with any provision of the regulations. As a practical matter, the compliance problem under these regulations was simplified and its solution promoted—to a degree that would be hard to overemphasize—by the fact that the enforcement program was carried out in the main on a decentralized basis, *i.e.*, by the 12 Federal Reserve Banks and their 24 branches.

The selectivity of the mechanism that has been described is not at all of the pin-point type. The use of credits in one or another sector of the economy, broadly defined, is governed by rules which apply throughout that sector. These rules are impersonal. They involve no official determination concerning who shall enter the business in question, or how much business he shall do, or with whom he shall deal. No official of Government is called upon to pass judgment on individual credit transactions. One need not labor the point that in a free society, such as we prize in this country, these negative characteristics are as important as the positive characteristics that are commonly most emphasized.

In the course of time, experience and research will doubtless lead to improvements in selective mechanism. These may relate not only to matters of detail but to matters of principle as well. They would surely be necessary in case the principle of selectivity were ever to be applied to additional sectors of the economy, which might differ as much from the sectors now included as these differ from one another.[10]

[10] The only additional sector to which it has been seriously suggested that the principle should be applied, at any rate by means of an instrument of the type described in this paper, is real estate credit. For comment see pp. 69–71 of Grebler citation given in footnote 7, p. 74 of this paper; E. C. Johnson, *Federal Reserve Bulletin*, March 1944, p. 231; *Consumer Credit Controls* (80 Cong. 1 sess., Hearings before the House Committee on Banking and Currency, 1947), pp. 283–84; also references to Williams, Bopp, and Goldenweiser in footnote 11 on p. 82 of this paper.

COORDINATION OF GENERAL AND SELECTIVE INSTRUMENTS

General instruments of national credit policy—discount rates, open market operations, reserve requirements—have been in use for so long that the problem of coordinating these with one another has been measurably solved, both for easing the general money market and making credit more available and for tightening the market and making credit less available. Another problem, on which much less experience has been had, is that of coordinating the general and the selective instruments with each other.

Such experience as has been had with this problem indicates that in relation to the general instruments the function of selective instruments is, according to circumstances, to reinforce, to compensate, or at certain times to serve as a partial substitute. The insuring of home-building and home-improvement loans inaugurated in 1934 served to reinforce the general credit-easing program that was then being pursued. The increase in the margin requirements that was made early in 1936 can be viewed as a compensatory measure, designed to prevent the over-expansion of speculation in the stock market at a time when general instruments were being used to supply the money market with ample funds and to keep down the general level of money rates. The tightening of terms on consumer credit early in 1942, although it had a specific wartime purpose, can be viewed also as somewhat of the nature of a general anti-inflationary measure, a partial substitute for tightening the general money market at a time when that was itself precluded by the necessities of war financing. An interesting instance of the coordinated use of selective instruments was the simultaneous employment early in 1936 of a stimulative and a restraining measure—the insurance of home-building and home-improvement loans at the same time that the growth of stock-market credit was being held back by an increase in the margin requirements.

Not only the compensatory or balancing function of selective instruments when used in conjunction with general instruments, but also some of their independent functions, are indicated by a statement in the Annual Report of the Federal Reserve Board for 1928 (italics supplied): "Low money rates may have a favorable effect on domestic business, *but* at the same time may stimulate speculation in securities, commodities, or real estate. High money rates, on the other hand, may exert a moderating influence on speculation, *but* at the same time may result in a higher cost of credit to all lines of business, and thus be detrimental to commerce and industry; . . . ."

An impressive implication of the statement quoted is that precisely because the general or conventional instruments operate to influence the general level of money rates and the course of business as a whole, the question of *just when* to use them and to what extent is sometimes extremely difficult. If the authorities have at their disposal suitable selective instruments, a decision to use one or more of these may be considerably less complex and consequently more likely to be taken in good season. Need for the broader decision should accordingly arise less often, and be less difficult for the authorities to make when it does arise—both because the way for it will have been paved and because it can be taken with the assurance that the change in general pressure which it will occasion, if this turns out to have bad effects in a particular sector of the economy subject to selective credit control, can be dealt with in that sector. To ease the apprehension of causing a collapse of the whole economy by restrictive action, or causing runaway inflation by stimulative action, should tend to make national credit policy as a whole more vigorous, more flexible, and more effective.

OUTLOOK FOR THE SELECTIVE CONCEPT

In appraising the outlook for the selective concept—especially the long-range outlook—one may note at the outset that it has been, or is at least coming to be, well received by representative economists.[11] They are giving it welcome as a promising contribution to the national combat against inflation and deflation and against extreme economic fluctuations in general, viewing it as all the more acceptable because it can be so employed as to strengthen rather than weaken such basic democratic institutions as private enterprise, a competitive economic order, and a freely functioning general price system. That is to say, the drift of thought among economists seems to be toward recognizing that selective instruments of national credit policy, though still viewed somewhat as innovations, may nevertheless possess to a significant extent the very attributes which have had so much to do with generating and sustaining the great

[11] See for example Gottfried Haberler, *Consumer Instalment Credit and Economic Fluctuations* (1942), pp. 162–63, 175; John Maurice Clark, *Demobilization of Wartime Economic Controls* (1944), pp. 13, 132, 135; *Financing American Prosperity: A Symposium of Economists* (1945), pp. 142–43, 146 (Ellis); p. 253 (Hansen); p. 290 (Slichter); pp. 383–84 (Williams). See also Karl R. Bopp, *American Economic Review*, March 1944, pp. 275–76; Charles R. Whittlesey, *Quarterly Journal of Economics*, May 1946, p. 345; E. A. Goldenweiser, *American Economic Review*, June 1947, pp. 327–35; The Council of Economic Advisers, *Federal Reserve Bulletin*, July 1947, pp. 828–29.

tradition which has so long surrounded the more familiar general instruments.

This receptive attitude among economists, so far at least as regulation of stock-market credit and consumer credit is concerned, seems to reflect in large part their appreciation of the strategic significance of the credit used in these sectors of the economy and also that of the sectors themselves. A boom in stock prices, whether viewed as supported by the growth of credit or as generating that growth, can beget a slump that has stunning effects on business enterprise and the level of employment; wide fluctuations in the demand for consumers' durable goods, dependent in large part on the use of consumer credit, help to engender wide fluctuations in the important industries which produce such goods and even wider ones in some of those which cater to these industries. The identification of strategic factors in economic fluctuations, as achieved by research into the history and theory of business cycles, is indeed fundamental to the philosophy of selectivity, whether in the field of national credit policy or the broader field of national economic policy in general.

An objection sometimes advanced against selective instruments is that though some of them may be potent on the restrictive side most of them have little potency on the stimulating side. It is certainly true of margin requirements and of consumer-credit regulation, as it is of the general instruments, that their potency is greatest when they are used to restrain the growth of credit. A significant consideration here, however, is that their use in their respective sectors to prevent *excessive expansion* should reduce, if not eliminate, the likelihood of *excessive contraction*; such contraction is well recognized to be a serious factor in accentuating downswings in the business cycle. But it is not true that selective instruments can have in their respective sectors no influence at all in their less effective direction. Lowering the margin requirements in the autumn of 1937, though it failed to halt the decline in stock-market credit, can be fairly credited with having helped to slow down the decline for a number of months. It seems quite likely also that in some circumstances, though not in others, a relaxation of official requirements for instalment credits would tend to stimulate credit expansion in the consumer-credit field and consequently help the industries that make large use of consumer credit.

It is a matter of common knowledge, certainly, that at times during recent decades the market for such consumers' durable goods as automobiles and refrigerators has been greatly expanded by the lowering of down-payments and the lengthening of instalment contracts.

There is no logical reason, however, why every instrument of credit policy must itself be capable of two-way operation. Selective instruments which are valuable mainly for restraining purposes may be supplemented with others, such as the insurance of credits, which are valuable for stimulative purposes. In addition, and in the long run this may come to be the more important point, the availability of selective instruments of both types should enable the Congress and other policy-making authorities to make better use upon appropriate occasion, for both stimulative and restraining purposes, of the general or nonselective instruments of credit policy and other instruments of national economic policy.

Even where the hold of the traditional and nonselective ideology of credit policy has been most firmly entrenched, the pressure of events as well as the progress of understanding has done a good deal to loosen up that ideology. Its hold on the minds of its adherents, already somewhat disturbed at intervals prior to 1929, was seriously shaken during the Great Depression when floooding the banking system with excess reserves did not of itself suffice to energize recovery. Misgiving was accentuated when successive increases in reserve requirements in 1936 and 1937, designed as a timely precautionary measure against possible inflation, were found to have in the securities markets some deflationary consequences which necessitated resort to countervailing open-market operations. The charge began to be pressed that exclusive reliance on general instruments tends to paralyze credit policy, in that for psychological and other reasons they may be so extremely powerful that to use them to moderate an unhealthy upswing in business activity may in fact precipitate a downswing. What necessity is there, it was asked, to tighten credit for *all* purposes at a time when excessive use of credit is being made only for *some* purposes? Is no differentiation possible, particularly when there are present in the economy simultaneously both inflationary tendencies and deflationary tendencies? Such considerations as these have had, and may continue to have, considerable influence on the dominant tradition.

Whether national credit policy is destined, as time goes on, to make much use of selective instruments will depend in considerable part on the competence with which any selective instruments in current use are shaped and administered. It will depend also, however, upon the receptivity to the concept that may be expected from the public at large, from credit-grantors, and from the Congress.

To the public at large, for fairly obvious reasons, the selective approach

actually seems to be more natural than the general approach. If the authorities undertake to stimulate business activity by the insurance of loans for home building or home improvement, for example, the relation between the means and the end is easy for the public to understand; much easier than when the authorities undertake to stimulate general business activity by flooding the general money market with funds. On the restrictive side also, measures directed against unhealthy developments in a single field, such as the stock market, seem to the public at large more sensible than measures which tend to tighten credit for everybody everywhere. But the selective incidence of the selective instruments may often be of less consequence, as a factor making for the acceptability of a restriction with the people, than the incidental circumstance that the particular device employed (though not designed for this purpose) serves in observable degree to protect the individual from incurring debt to his own detriment—as (1) by buying stocks on a margin so thin that a small but temporary price decline will wipe out his equity, or (2) by buying, perhaps by reason of his having low sales resistance and having that weakness played upon by the appeal of "easy terms," more things at one time than he can ever hope to pay for and retain. At the level of the folkways, in short, there seems to be something obviously sensible and right in governmental measures that tend to limit the exploitation of improvidence.

With credit-grantors, even including some bankers who instinctively dislike Government regulation in general, the tested selective instruments have met with some degree of favor—but, as with the general public, largely for reasons but incidentally related to their possible influence on the aggregate amount of credit put to the selected use or on the course of economic fluctuations. Some few stock brokers actually supported the margin-requirements legislation at the outset and few now complain against it in principle; many have appreciated the protection to their own financial condition that it affords, both directly and indirectly, and some approve the Government control on the ground that without it margin trading might sometime go again to such extremes as to threaten legislative prohibition; a proposal to that effect in 1934 came to vote in the Senate and failed by only a few votes. Many consumer-credit grantors (particularly small merchants) welcomed the advent of Federal regulation in 1941, or came to support it afterwards, for reasons growing out of their own previous experience—notably the financial hazard arising from the

inordinate competitive relaxation of instalment terms (especially for automobiles, *etc.*) over preceding years; the failure of repeated cooperative efforts made within the consumer-credit industry itself to halt the relaxation, with antitrust laws hindering some of these efforts; and even the feeling in some quarters that Federal regulation, implying some governmental recognition or sponsorship of the industry, would help to relieve it from a certain ancient odium that had not (and has not yet) disappeared.

However meritorious the selective principle may seem to its proponents, and whatever support for it they may feel to exist already or to be in the making, when the matter of consumer-credit regulation came before the Congress in 1947 it was the opposition that was the better organized and the more vocal. Several trade associations, for example, notwithstanding sharp division of opinion within the ranks of some of them, pressed vigorously for the removal of consumer-credit regulation and against legislation to continue it—using in general *laissez faire* arguments of one sort or another. On that particular issue, notwithstanding efforts of the Federal Reserve Board and endorsement from the Council of Economic Advisers and the President, the immediate legislative outcome was adverse; although authorizing the continuance of consumer-credit regulation until November 1, 1947, the Congress directed that it be then discontinued. Sooner or later, however,—provided the concept of selectivity in national credit policy does in fact possess intrinsic merit and provided any selective instruments in actual use are competently administered—the concept may draw to itself the necessary political and legislative support. As bearing on this prospect, anyone who is familiar with the voluminous congressional hearings and debates on banking and credit matters over the past 30 years will have noted considerable disposition on the part of the Congress to appreciate their concrete and specialized aspects as well as their general aspects. It may well be that relating each of these to the other will be the crucial congressional problem.

Whether or not a given selected field of credit should be brought under control, or remain under control if it is already there, is not a question to be settled all by itself. From the point of view of national credit policy, the value of selective instruments consists in considerable measure in the enfranchising effect that their ready availability can have on the effective use of general instruments. In that view, the retention of existing

specialized controls and perhaps also the addition of others would have a presumption in their favor. The presumption will seem particularly strong to those who apprehend serious general price inflation (and subsequent deflation) and apprehend also that for use in combating such developments the conventional over-all instruments of credit policy may for many years, as a practical matter, be subject to severe limitations.

CONCLUSION

The concept of selectivity seems to be gradually making its way into the philosophy of national credit policy, for reasons that seem likely to stand the test of time. The obstacle to its progress that so long resided in the absence of appropriate selective mechanism has been overcome or is in process of being overcome. The older general instruments and the newer selective instruments complement each other, and taken together should make credit policy more resourceful. How to employ them in conjunction for constructive public purposes is a problem that calls for economic statesmanship, not only with respect to national credit policy in particular but also with respect to national economic policy in general.

Over the long term, national credit policy will be able to make more of a contribution to the public welfare if it has at its disposal both general and selective instruments than if it should have to be formulated and carried out within the limitations imposed by its having to use general instruments alone.

PROBLEMS OF POSTWAR MONETARY POLICY

by

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Federal Reserve policies have evolved from experience in coping with the changing problems of the 30-odd years of the System's existence. This evolution has developed from the endeavors of the Federal Reserve authorities to perform the public duty for which the System was established.[2] Founders of the System could not have foreseen all the exigencies with which monetary policies would have to deal during the years to follow. They were impressed with the needs for an elastic currency, for the mobilization of the scattered reserves of the banking system, for reducing the reliance of that system upon stock-market credit as the central money market, and for avoiding money panics. To accomplish these purposes the Federal Reserve System was given power to create new money. This power is exercised through the lending and investing activities of the Federal Reserve Banks, which make available funds that can be used by member banks to obtain currency or to add to their reserve balances with the Reserve Banks. The Reserve Banks in turn can influence the lending and investing activities of commercial banks by regulating the supply and cost of funds which serve as the reserve base for commercial bank credit.

Certain largely automatic limitations upon the System's operations were imposed by the Federal Reserve Act through requirements as to reserves, collateral for notes, and types of assets to be held. The System was also given certain discretionary powers, as in the fixing of discount rates. It appears from the discussion preceding and accompanying passage of the Act and from its grant of broad powers to the Federal Reserve Board, that some degree of judgment and discretion was expected to be exercised in the determination of the System's policies and that the general objec-

[1] This paper represents the results of study and work by many persons within the Federal Reserve System. In general it aims to present the thinking behind many of the policies followed by the System during recent years, although the explanations given are those of the authors and should not be considered as representing the official views of the System authorities collectively or individually.

[2] For a description of this development, see the "Three Decades of Federal Reserve Policy," by Karl R. Bopp, the first paper in this pamphlet.

tives of these policies were to be the maintenance of sound banking and monetary conditions in the interest of economic stability. It was widely recognized at the time that the previously existing banking and monetary system in this country had intensified the development of booms and depressions and had been responsible for the spectacular panic phase of those cyclical variations.

Automatic and mechanical limitations in the Act apparently were designed with the thought that, by setting bounds to the exercise of discretionary power, excessive and unsound credit expansion would be prevented. History of the Federal Reserve System has shown, however, that these mechanical limitations have in practice not operated in that manner. They have often been most restrictive when restriction was undesirable and have contributed little or no restraint at times when restriction was needed. As a consequence, during the life of the System there have been many alterations in these statutory limitations to meet changing banking conditions.[3]

Experience has demonstrated that effective limitation on excessive and unsound bank credit expansion under changing economic and banking conditions must be accomplished primarily by the exercise of discretionary authority rather than by automatic or mechanical means, for the reason that it is impossible to provide specifically in any credit and monetary statute for all future contingencies. Consequently, policies formulated and pursued by the Federal Reserve authorities for the purpose of influencing the total supply, availability, and cost of bank credit and money, as well as the specific availability of bank credit in particular strategic sectors, must be the main reliance of the System, rather than fixed rules and limitations.

The use of discretionary powers by the Federal Reserve System in efforts to meet the ever-changing requirements of the credit system has brought about the development of Federal Reserve policy. Various limitations on the effectiveness of credit policy have been discovered in practice, and attempts to eliminate or moderate them have found expression in many amendments to the Federal Reserve Act. Taking the history of the Act as a whole, it can be said that its evolution has been in the direc-

[3] Critical defects in these mechanical limitations on Federal Reserve powers, as well as in the scope of the System's discretionary authority and in certain aspects of the banking structure not dealt with in previous legislation, were sharply demonstrated by the financial and banking crisis of 1929–33. Correction of these defects was a major objective of the Banking Acts of 1933 and 1935 and of the Securities Exchange Act of 1934.

tion of making increasingly explicit the authority granted to the Federal Reserve System implicitly by the initial Federal Reserve legislation, namely, to use its discretionary powers in the public interest under changing economic conditions.

METHODS AND CONSEQUENCES OF WAR FINANCE

Hardly had the System been organized before it was faced with the serious problem of war finance. This task had not been foreseen by the founders, but the country would have been greatly handicapped in prosecuting World War I had not the Federal Reserve System been in existence. Also, the adjustments following the war, difficult as they were, would have been greatly aggravated and perhaps disastrous had there been no Federal Reserve System. In World War II the System was called upon again to aid war finance—even more exacting in its development than the former effort—and now again the country is facing the problem of adjusting monetary conditions distorted by war to the peacetime needs of the economy.

One of the inevitable consequences of war is an abnormally rapid expansion in the supply of money and other liquid assets such as Government securities and savings accounts. Because of this financial heritage of war, the postwar economy is exposed to the risks of serious instability from monetary causes. The amounts of new money and other liquid assets generated during the Second World War surpassed all previous records. Unless absorbed or reduced in effectiveness by serious price inflation, redundant monetary liquidity seems certain to persist for many years to come. During the period ahead avoidance of disruptive fluctuations in credit, interest rates, and prices, at the least, or of recurrent inflation and collapse, at the worst, will require well-conceived and firmly pursued policies of monetary and debt-management operations.

As a result of the heritage of war finance, the Federal Reserve System is greatly restricted in its capacity to perform the functions for which it was established, namely, to exercise an effective control over the volume of bank credit and the money supply. The re-establishment of the System's capacity to influence credit and monetary conditions in the interest of stable economic development is a primary postwar problem.

Financing of war is inflationary because people receive incomes for producing and supplying goods that are not available for general consumption. War expenditures have to be paid for currently. No country has ever imposed upon its citizens a tax burden that would provide for war

expenditures as much as half of national income—the amount spent by this country during the war just ended—nor has any country in wartime been able to borrow out of the people's savings the entire balance between expenditures and taxes. Throughout the war, efforts were made in this country to raise as much as possible of its cost by taxation and by borrowing the peoples' savings.

Fiscal and monetary authorities were agreed that financing through banks, which results in the creation of new money, should be used only as a last resort and only to the minimum extent necessary to provide the increased money supply needed by the expanding and abnormal war economy. Nevertheless, the banks had to be relied upon to a considerable extent. A high degree of liquidity was essential for securities sold to the public, and purchases by banks were needed to help maintain an active securities market and to facilitate the general sale of new issues.

Although for these reasons a sizable expansion of the banks' holdings of Government securities and thereby in the money supply was necessary, the actual amount that occurred was excessive. "In retrospect," to quote from the 32d Annual Report of the Board of Governors of the Federal Reserve System, "it is evident that more vigorous policies should have been adopted in order to raise more of the cost of the war through taxation and to restrict bank purchases of Government securities." Many of the financing procedures adopted encouraged banks to purchase more securities than it was essential to have them buy and thus complicated the problem of postwar adjustments.

Maintenance of Interest Rates. One pivotal Federal Reserve policy in facilitating war finance was the declared determination to provide banks with easy access to a volume of reserves sufficient to enable them to absorb all newly issued Government securities not taken by other investors. This decision involved the necessity of maintaining the interest-rate structure at approximately the levels existing at the beginning of the war. Besides facilitating bank purchases of securities this policy served a fourfold purpose: (1) to encourage prompt buying of securities by investors, who might otherwise have awaited higher rates; (2) to assure a strong and active market for outstanding securities; (3) to keep down the interest cost on the Government's war debt; and (4) to limit the growth in bank and other investors' earnings from their public-debt holdings.

The interest-rate structure generally maintained throughout the war, as is shown in the chart on page 93, was characterized by very low

rates on short-term money, a wide spread between them and rates on long-term securities, and the lowest levels of long-term rates in the history of this country. This unusual interest-rate pattern came into being during the prewar period of recovery from severe deflation, when demands from borrowers were small, the flow of savings for investment was in large volume, and at the same time gold imports swelled bank reserves to far beyond current needs. Available funds were to a large extent invested in short-term paper, partly to retain liquidity and partly in anticipation of higher interest rates later.

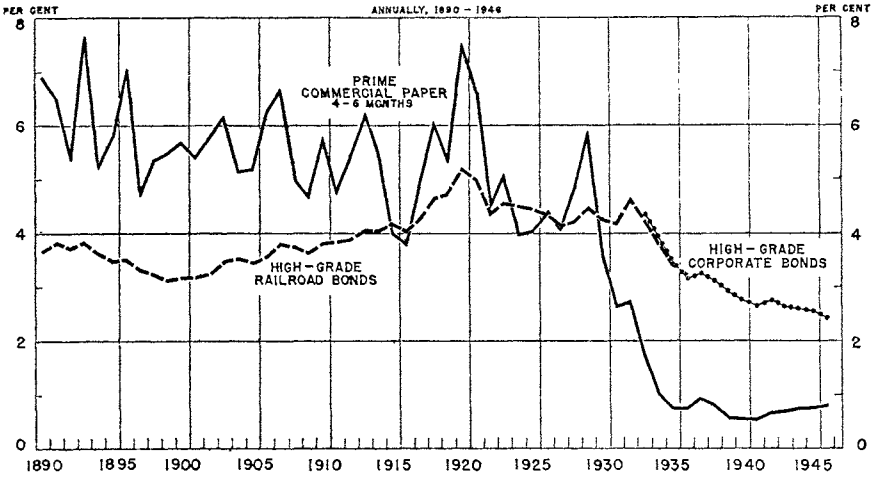
Maintenance during the war of the wide differential between short-term and long-term interest rates established during depression stimulated expansion of bank credit, because it was possible for banks to sell short-term securities and buy longer-term issues bearing higher rates of interest. The short-term securities sold by banks were purchased by the Federal Reserve Banks in line with their policy of keeping short rates from rising. Since purchases by the Reserve System create additional bank reserves, the basis was thereby provided for a deposit expansion by the banking system as a whole of six to ten times the volume of such reserves.[4] Because this process of selling short-term securities to the Reserve Banks and purchasing longer-term issues was occasioned by the differential in yields between these maturity groups, it resulted in a kind of automatic "monetization of the public debt" without regard to the economy's needs for additional money. Such automatic monetization of the public debt has continued to some extent in the postwar period.

Maintenance of short-term rates at a low level in relation to long-term rates also tended to induce a further decline in long-term interest rates. An implied assurance that prices of long-term securities would not be permitted to decline removed an important distinction between long-

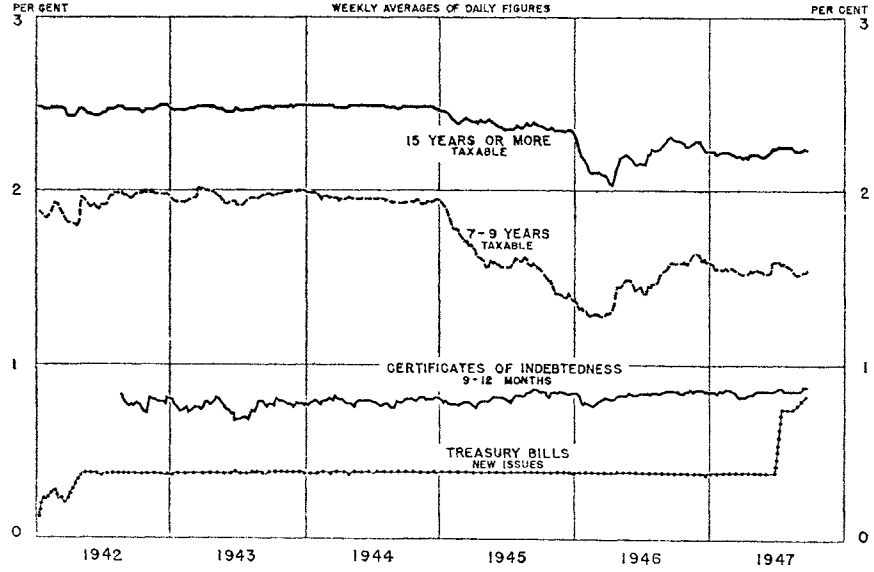
[4] Actual reserves required of all member banks currently amount to about 15 per cent of total net demand and time deposits, or a ratio of expansion to reserves of nearly seven to one. When one bank obtains a deposit, which at the same time brings that bank additional reserves, it can lend or invest all of those reserves in excess of requirements; the funds thus pass to another bank which in turn can expand its assets. This multiple expansion might be less than the seven to one ratio mentioned above, if successive banks retained reserves in excess of the required amount. Moreover, since nonmember banks, which hold their required reserves largely with member banks, share in this process of credit extension; and since time deposits, against which reserve requirements are lower, may increase more rapidly than demand deposits, the total *multiple* expansion in deposits may greatly exceed the ratio of seven to one. During the period from June 1940 to December 1945, the expansion in total deposits at all banks, other than interbank and United States Government deposits, was about nine times the increase in required reserves of member banks. For member banks alone, the multiple expansion in total deposits over this period was about eight times the increase in their required reserves.

THE STRUCTURE OF INTEREST RATES

LONG- AND SHORT-TERM INTEREST RATES



YIELDS ON U. S. GOVERNMENT SECURITIES



NOTE.—Securities are classified according to earliest call date or due date. References to data, and to their sources and composition, are given below.

Commercial paper: for years 1890–1941, *Banking and Monetary Statistics* (Board of Governors), p. 448; for 1942–44, *Federal Reserve Bulletin*, February 1945, p. 159; for 1945–46, *Federal Reserve Bulletin*, February 1947, p. 181.

High-grade railroad bonds: Annual figures computed from monthly figures given in Frederick R. Macaulay, *Movements of Interest Rates, Bond Yields, and Stock Prices in the United States since 1856* (National Bureau of Economic Research), Appendix A, Table 10, column 5, pp. A141–61.

U. S. Government securities: for January 1942 through December 1944, *Federal Reserve Bulletin*, May 1945, pp. 483–90; for January 1945 through September 1947, *Federal Reserve Bulletin*, October 1947, pp. 1251–53.

Corporate high-grade bonds: data for years 1933–41, *Banking and Monetary Statistics*, p. 471, note 2; for 1942–43, *Federal Reserve Bulletin*, February 1945, p. 159; for 1944–46, *Federal Reserve Bulletin*, February 1947, p. 181. For composition of series, see *Treasury Bulletin*, January 1945, p. 56, and July 1947, p. 59.

and short-term securities. As a consequence, banks and other investors began to prefer long-term as against short-term securities, and the shifting from short to long issues by all groups of holders, especially by banks, tended to depress the yield on longer-term issues below prewar levels. The very low postwar levels of long-term yields have presented special problems of adjustment for life insurance companies and other savings and endowed institutions.

Effect of War Loan Drives. Another wartime stimulus to bank credit expansion developed out of practices pursued during the war loan drives. Nonbank investors, in order to subscribe to new issues and thus help the attainment of local quotas, sold substantial amounts of previously acquired issues to banks. During the drives, banks had excess reserves because deposits against which reserves were required were drawn upon by depositors in the purchase of securities, while Treasury deposits, against which no reserves were required, increased.[5] The resulting reduction in member bank required reserves and the investment of these freed reserves increased the earning assets of banks.

As a consequence, banks increased their holdings of Government securities substantially during drives. Between drives, as deposits were reshifted from Government to private account, required reserves increased and banks sold sufficient securities to the Federal Reserve to meet the higher reserve requirements. The net effect was an impetus to expansion in bank holdings of Government securities throughout the war period.

Wartime Expansion of Bank Credit and Money. Viewing the wartime period as a whole, banks were able to expand their holdings of Government securities by any amount they could obtain because the Federal Reserve System, in following its policy of supporting the market for short-term issues, keeping down short-term rates, and facilitating war loan drives, made additional reserves almost automatically available to banks. The volume of short-term securities outstanding was sufficient, if resold to the Federal Reserve, to permit a much further expansion of bank reserves. Thus under policies pursued in war financing, the banking system was not only permitted, but encouraged, to expand its holdings of United States Government securities on the basis of reserves freely supplied by the Reserve System in maintaining the structure of interest rates.

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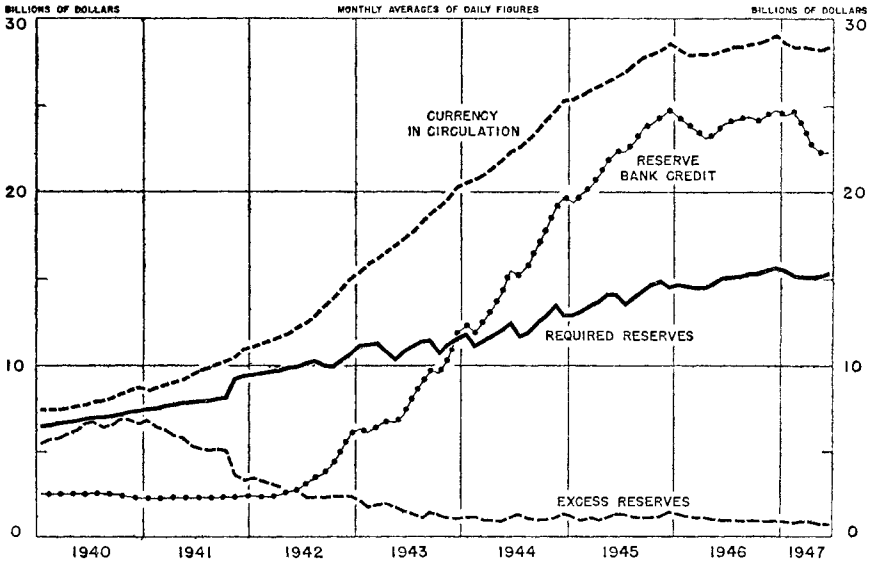
[5] Special wartime legislation enacted in 1942 exempted war loan deposit accounts of the Treasury in member banks from reserve requirements. This exemption expired at the end of June 1947.

Total funds raised by the Treasury in the period from the middle of 1940 to the end of 1945 amounted to 383 billion dollars. About 40 per cent or 153 billion dollars of this amount came from taxes. Nearly 230 billion was obtained by borrowing, of which about 104 billion came from the banking system, including mutual savings banks as well as commercial banks and Federal Reserve Banks. Some of this increase reflected large sales of securities during the Victory Loan Drive at the end of 1945. During 1946 and to some extent in 1947 the Treasury made use of the large balances built up from the Victory Loan to retire maturing debt. Most of the retirements were from commercial bank holdings.

RESERVE BANK CREDIT, REQUIRED AND EXCESS RESERVES OF MEMBER BANKS, AND CURRENCY

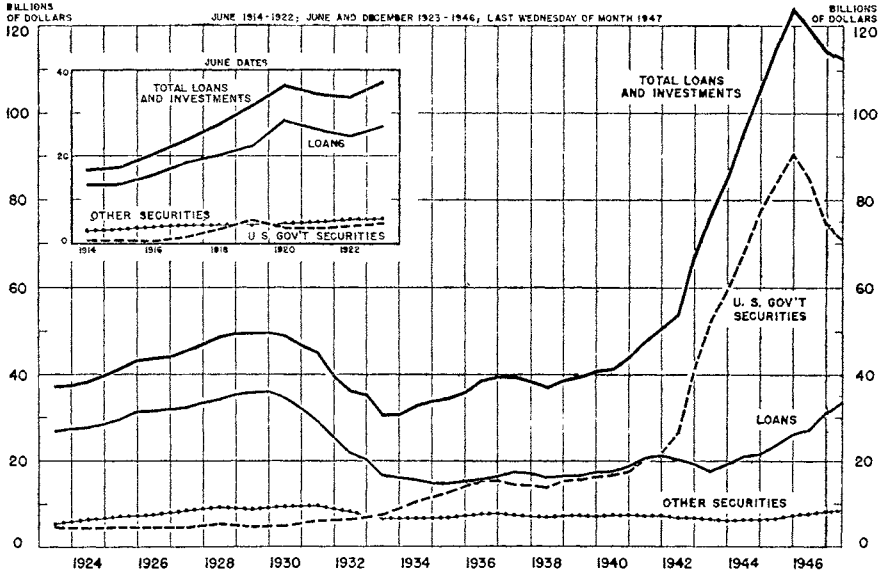


The wartime increase of 22 billion dollars in Federal Reserve holdings of Government securities, together with a decline of over 5 billion in excess reserves of member banks, as is shown in the accompanying chart, largely provided for increases of 21 billion dollars of currency in circulation and of nearly 8 billion dollars in the total amount of required reserves at member banks. This growth in required reserves reflected an expansion of 44 billion dollars in demand deposits, excluding interbank and United States Government deposits, and of 19 billion in time de-

posits at all commercial and mutual savings banks. The growth in total deposits and currency is shown in the chart on page 98.

From 1940 to 1945 commercial banks, as is shown in the accompanying chart, increased their holdings of United States Government securities by approximately 75 billion dollars, and after the substantial debt retirement in 1946 and early 1947 bank holdings still exceeded 70 billion dollars, compared with 16 billion in 1940. Bank loans also expanded, mostly since the end of 1944, to the highest level since 1929. During the war period loan expansion was to a large extent to finance purchases of Gov-

LOANS AND INVESTMENTS OF ALL COMMERCIAL BANKS



ernment securities. The rapid growth in the assets of banks increased their earnings substantially. While banks incurred additional expenses in servicing the greatly increased wartime monetary demands, total earnings increased more rapidly than expenses, with the effect that during 1945 net profits in relation to capital funds reached the highest level on record.

War financing was responsible for a very rapid and large expansion of liquid assets held by the public. The holdings of total deposits and currency by individuals and businesses increased from 1940 to mid-1947 by 100 billion dollars to $2\frac{1}{2}$ times the prewar level. The inflationary potential

in the expanded money supply is roughly indicated by the increase in its ratio to the annual value of the country's total production of all goods and services, shown in the accompanying chart. The ratio of total deposits and currency to gross national product attained a level of 80 per cent during 1946 compared with less than 70 per cent in the late 1930's, a period of considerable unemployment and unused resources, and with a little over 50 per cent in the 1920's, a period of active business and full employment.

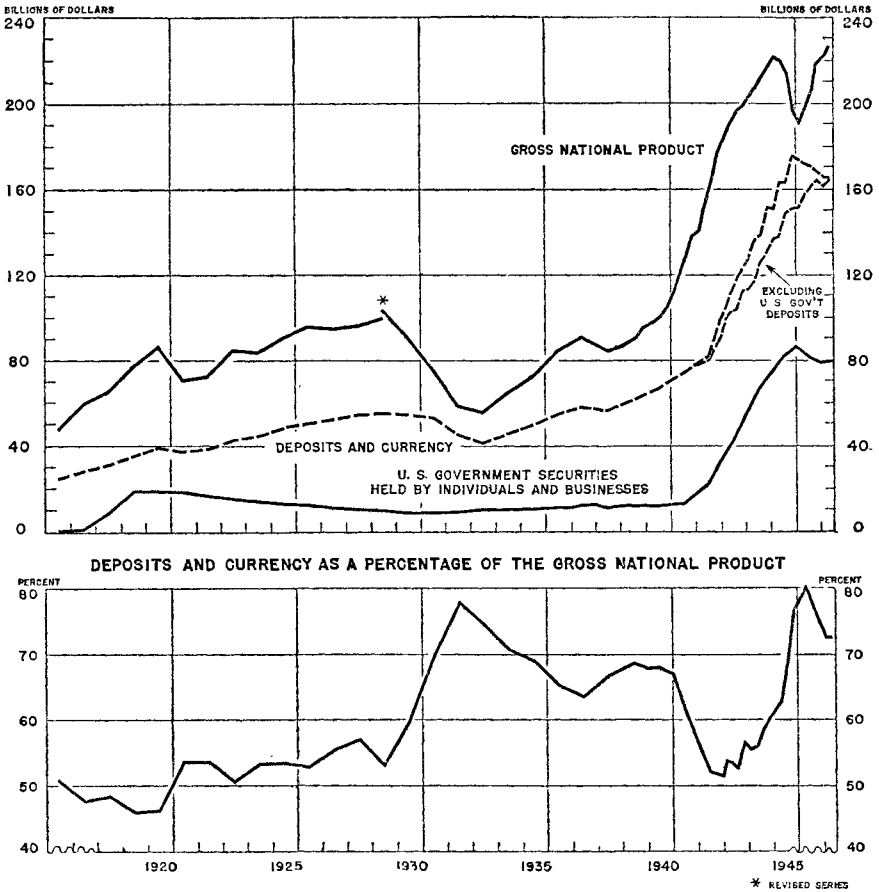
The chart shows that individuals and businesses, in addition to having greatly expanded holdings of deposits and currency, held over 80 billion dollars of Government securities in the middle of 1947, seven times as much as before the war. Savings bonds and notes, which are more than half of this total, are redeemable on demand and, as long as the Federal Reserve Banks stand ready to buy the marketable securities, these issues also are freely convertible into cash. This is a new and unprecedented situation which has great significance from the monetary point of view.

FINANCING POLICIES IN THE TRANSITION PERIOD

To a considerable extent inflationary developments after the end of war financing had their seeds in war finance. These inflationary effects, in the absence of adequate taxes, could only be counteracted by direct controls over demand, supplies, and prices of goods and services, since these market factors could not possibly be in equilibrium during war and its aftermath. In the war period serious inflation was avoided by the maintenance of controls, as well as through the public's exercise of voluntary restraint and investment of savings in Government securities, but after the war was over these restraints were greatly diminished and in many cases abandoned.

With the end of war, financing of the Government's fiscal requirements quickly ceased to be the dominant factor generating inflationary pressures. Early in 1946 it was possible for the Treasury to initiate a large-scale program to retire debt from its accumulated cash balances, and by the end of the year it was possible to project additional debt retirement from a budget surplus during the ensuing year. The Treasury's debt-retirement program, by redeeming securities held by Federal Reserve Banks, created a drain on bank reserves; this helped to check continued rapid expansion of bank credit and restrained further downward pressure on long-term interest rates. In addition, debt retirement directly reduced

GROSS NATIONAL PRODUCT AND THE MONEY SUPPLY



NOTE.—Sources of data presented in chart are given below.

Gross national product: For years 1916–18, U. S. Department of Commerce estimates based on National Bureau of Economic Research estimates of the production of finished goods; for 1919–28, *Federal Reserve Bulletin*, September 1945, p. 873; beginning 1929, U. S. Department of Commerce estimates in *Survey of Current Business*, National Income Supplement, July 1947. Figures are annual totals for years 1916–38 and seasonally adjusted quarterly totals at annual rates thereafter.

Deposits and currency: Federal Reserve figures for all banks in the United States, partly estimated, and adjusted to exclude interbank deposits and items in process of collection. Figures through 1941 are from *Banking and Monetary Statistics* (Board of Governors), pp. 34–35; for later years from monthly issues of *Federal Reserve Bulletin*. Figures are for end of June, 1916–38; for end of June and December, 1939–42; for end of March, June, September, and December, 1943–46; for last Wednesday of March and June, 1947. Figures subsequent to December 1946 are preliminary.

U. S. Government securities held by individuals and businesses: Federal Reserve estimates based on banking and corporation data from various sources. For 1916 through June 1939 figures are from *Banking and Monetary Statistics*, p. 512; thereafter from *Federal Reserve Bulletin*, September 1947, p. 1104. Figures are for the end of June, 1916–35; for end of June and December thereafter. Estimate for June 1947 is preliminary.

commercial bank holdings of Government securities. At the same time bank loans collateraled by such securities showed a sharp reduction from the high level reached in the Victory Loan Drive.

Some discouragement to member bank borrowing at the Reserve Banks for the purpose of purchasing or holding Government securities was effected in April 1946 by elimination of the Federal Reserve Banks' preferential discount rate on advances collateraled by short-term Government securities. This preferential rate of ½ per cent was put into effect during the war to encourage banks to utilize their excess reserves in the purchase of short-term securities, rather than to keep them idle. It was no longer needed, and its elimination made the regular discount rate of 1 per cent applicable to such borrowing.

Notwithstanding these developments, expansion in the public's deposits continued to occur, although at a slackened pace. This expansion resulted in part from a brisk postwar revival of bank lending to businesses, to property owners, and to consumers; and in part from the Treasury's retirement from accumulated cash balances of securities held outside of banks, which involved the transfer of Government deposits to private accounts. While bank loan expansion during the postwar transition, which carried loan volume close to record levels, reflected mainly the financing of expanding production and distribution of civilian goods at rising prices, it was also due, to an indeterminable extent, to speculative and excessive commitments induced by bottlenecks and shortages affecting many goods.

The further expansion of bank credit to private borrowers added somewhat to the inflationary pressures that developed from many causes during the postwar transition. More important, however, than the current credit expansion was the already superabundant volume of money and other liquid assets available as the result of war finance and not subject to rapid reduction. The inflationary pressures generated by so large a volume of liquid assets were altogether too strong to be effectively checked by any quantitative restraints that could be imposed on further credit expansion. In addition, the use of available quantitative instruments of control would have resulted in declining prices of Government securities and, because of the huge public debt outstanding and its wide distribution, assurance of stable market values on this debt had become a major central banking responsibility.

In this situation there was little more that could be done by the Fed-

eral Reserve System to counteract inflationary developments, while at the same time fulfilling its responsibilities for maintaining an orderly and stable market for Government debt. Banks were under some pressure as a result of the reduction in reserves through the debt-retirement program and for this reason, as well as to meet the expanding loan demand from their customers, banks had to sell short-term securities to the Reserve Banks. Refusal of the Reserve Banks to purchase these securities or any attempt to sell additional amounts to absorb more bank reserves would have resulted in an increase in short-term money rates.

Whenever it could, without abrupt stiffening of money rates, the System made vigorous use of available methods of influencing the amount of outstanding bank credit of selected types. It encouraged the liquidation of loans for carrying Government securities purchased in war loan drives. It made maximum use of its powers to determine margin requirements for purchasing listed corporate securities by fixing these requirements at 100 per cent of current market value of the collateral. It maintained, with some adjustments and revision, its special wartime control over consumer credit, particularly over instalment credit, until such regulation was ended by legislative action. Partly as a result of these selective measures, a significant contraction in bank credit for carrying securities took place and the expansion of consumer credit was restrained somewhat. On the whole, Federal Reserve policies left banks considerable flexibility in accommodating the transition credit needs of commerce and business, while bringing about contraction in over-all bank credit and some slackening in the rate of growth of money in private hands.

By mid-1947 Treasury balances had been reduced to approximately normal working levels, making further debt retirement dependent upon current budget surpluses. Pressure on bank reserves resulting from the debt-retirement process was thus moderated and the latitude of banks in shifting from short-term Government securities into assets offering higher returns was substantially restored. By selling short-term securities to the Federal Reserve System, as stated earlier, banks obtain additional reserves on the basis of which bank credit may expand six to ten times the amount of such reserves. Some evidence of increased demand by banks for longer-term Government bonds appeared toward the close of the retirement program. In consequence of this development and also of conditions favorable to further bank shifting into other higher-yield assets, the Federal Open Market Committee early in July terminated its policy

of buying Treasury bills at ⅜ per cent. Subsequently issuing rates on 12-month Treasury certificates were raised. These actions permitted short-term rates to rise and contributed to a more flexible money market situation with regard to Treasury debt-management operations and to Federal Reserve credit policies.

NATURE OF THE POSTWAR PROBLEM

Superabundance of money, together with potential further expansion in the money supply—resulting from wartime growth in the public debt—presents a continuing problem for the postwar period. The magnitude of these forces and changes in their relation to the total national product have already been pointed out and are illustrated by the chart on page 98.

This volume of money can be reduced only through a contraction in public debt held by banks or by a shift in such debt from banks to more permanent investors; it can be further increased, on the other hand, by bank credit expansion. Since the principal basis of the expanded money supply is the Federal Government debt, a decrease to the economy's current level of need would be difficult to bring about; but in adjusting to a redundancy of money, the economy is likely to experience recurrent inflationary pressures interspersed with downward reactions. To prevent monetary redundancy from increasing and to re-establish conditions under which further credit expansion may be more closely related to the expanding needs of agriculture, business, and consumption are important tasks of fiscal, public-debt, and monetary management now and perhaps in the coming years. These tasks must be accomplished without permitting instability in the distribution and value of the public debt to disrupt the economy's financial operations.

In view of this situation, the central problem that confronts the Federal Reserve System in the postwar period is to re-establish the System's primary function, which is regulation of bank credit expansion. At the same time the System must be able to fulfill its new responsibility, inherited from war finance, of maintaining a stable market for the public debt. With the postwar level of commercial bank holdings of marketable Government securities at 70 billion dollars and with 88 billion held by businesses and individuals, it is difficult for the System to exercise effective control over the total volume of bank credit as long as these holdings can be readily sold to the Reserve Banks. The additional bank reserves

that can be thus generated at the initiative of banks and others could be the basis for an expansion in bank credit and deposits of from six to ten times the newly created reserves.

A policy of maintaining short-term interest rates at wartime levels with a differential between short- and long-term rates would complicate the postwar problem of credit control. It would continue inducements that holders of short-term securities have had since early in the recent war to sell them and purchase longer-term, higher-rate issues. Furthermore, the Federal Reserve System would purchase the short-term securities sold by these holders and thereby create additional bank reserves. In this way, the policy would contribute to further credit expansion and to a further decline in long-term interest rates. A decline in long-term rates caused by the pressure of credit expansion rather than by a surplus of current savings over the capital demands of business would be an inflationary influence in the real estate and security markets and would otherwise prove disruptive to financial processes. Monetization of the public debt stimulated by this policy could result in a huge additional expansion of bank credit and a decline in long-term interest rates to new low levels.

Various measures have been suggested for dealing with these problems of debt monetization and declining long-term interest rates. The more important are as follows:

1. The Reserve System could permit short-term interest rates on Government securities to rise to a level at which banks would no longer be induced to sell short-term securities to the Reserve System in order to purchase longer-term securities in the market.

2. Sufficient amounts of new long-term securities could be issued to check the decline in long-term rates.

3. Monetization of the debt could be permitted to continue until long-term interest rates declined to a level at which banks would no longer be induced to sell short-term securities and buy longer issues.

4. Adoption of one or more of the proposals made by the Federal Reserve Board in its 1945 Annual Report would provide a means of restricting the ability of banks to shift from short-term to long-term securities or to loan assets and could thus limit the extent to which banks could monetize the public debt.

These various proposals are discussed in the subsequent sections of this paper.

INTEREST-RATE POLICY

Determination of the level of short-term interest rates has traditionally been considered an important instrument of central bank policy; at the

same time there has been considerable difference of opinion among monetary authorities and theorists as to the effectiveness of interest-rate variations in encouraging or discouraging borrowing and lending. Without attempting to settle this controversy, it may be said that monetary management cannot ignore the effect of interest-rate fluctuations, both short- and long-term; nor can it depend entirely upon interest-rate policy to accomplish its objectives. The postwar situation, moreover, presents many new aspects of the relation between interest rates and monetary policies.

Flexible Interest-Rate Policy. The nature of the postwar monetary problem makes it necessary for central bank policy to place greater emphasis upon the *availability* of credit in influencing expansion and contraction of bank credit than upon the *cost* of credit. It is difficult, however, except through certain types of selective controls, to influence the availability of credit without having an effect upon interest rates. Thus adherence to stability of interest rates as the prime objective of monetary policy might prevent the adoption of policies to limit the availability of credit at times when such limitation was desirable.

Although small changes in interest rates might in themselves have little influence on the volume of borrowing and lending, complete avoidance of variations would prevent the adoption of policies flexible enough to bring about gradual adjustment of the money market to changing conditions of credit supply and demand. If interest rates were held unchanged when quantitative restrictions began to be needed, it might eventually become necessary to resort to drastic action in order to meet a situation after it had fully developed, which more flexible policies might have forestalled.

Inherent in the postwar situation, as already explained, is the tendency for long-term interest rates to decline even below existing unprecedentedly low levels. The large wartime accumulation by the public of funds held in currency, bank deposits, and short-term Government securities, as well as future current savings, will exert pressure toward lower interest rates unless there should be a correspondingly large demand for investment funds for capital expansion, or unless any gap in demand is offset by an increased willingness on the part of the public to hold liquid assets. Even in these circumstances the previously described process of debt monetization would make possible the satisfaction of part of the existing demand through bank credit expansion at low or perhaps even declining long-term interest rates. To supply capital demands through this process would contribute to inflation and economic instability.

The renewed decline in long-term interest rates from such causes would further reduce the return on family savings and decrease the incomes of endowed and savings institutions that depend on earnings from investments. Lower investment yields resulting from credit expansion would tend to discourage risk investment at times when increased risk-taking would be desirable to maintain economic stability. Individuals living on income from savings, life insurance companies, and educational and other endowed institutions have already been faced with difficult problems of readjustment because of declining interest rates. Further declines would seriously affect the livelihood of many of these individuals, impair the functions of such institutions, and alter established economic and social patterns. It would become essential for the Government to assume an increasing responsibility for such individuals and functions and to help bear their necessary costs.

Limitations on Flexible Interest-Rate Policy. While the above-mentioned aspects of the problem of interest rates indicate the desirability of a flexible interest-rate policy in preference to rigid maintenance of short-term rates at low levels in relation to long-term rates, other elements in the postwar situation make such a policy difficult to follow.

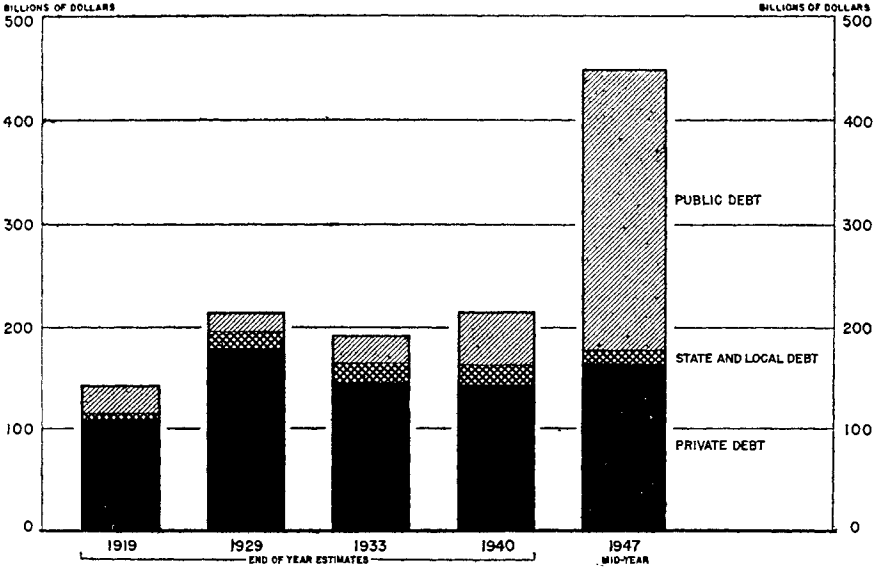
Permitting short rates to rise in order to prevent further monetization of the public debt, for example, would increase the cost to the Treasury of carrying its short-term debt and would complicate the Treasury's refunding problem.[6] It would also increase bank earnings, which have attained high levels as compared with former periods. In view, however, of the postwar decline in bank earnings, the increase in their expenses, and the likelihood of a further decrease in earnings if holdings of higher-coupon maturing issues are refunded into lower-rate issues, somewhat higher yields on short-term securities may be a desirable means of discouraging banks from selling more profitable assets and further monetizing short-term Government securities. In any case, a policy of raising short-term interest rates would cope with only one aspect of the postwar problem of further monetary expansion, namely, purchases by the Reserve System of short-term securities sold by banks and other investors in order to purchase higher-yielding longer-term securities. It would not prevent,

[6] The aggregate current interest cost on the total public debt might not be increased above the present level, because refunding of maturing high-coupon issues with issues bearing lower rates would tend to reduce the total interest payable. Nevertheless, a rise in short-term rates would mean larger interest costs than would be incurred if rates did not rise.

although it might discourage somewhat, sale of short-term securities to expand other assets.

The Federal Reserve System's general instruments for regulating the expansion of bank credit and the money supply developed over a period when private indebtedness was the predominant factor in the nation's debt structure. Even at the end of World War I, when the Federal Government debt in this country stood at a record level up to that time, it was still just over one-fifth as large as private and other debt. By mid-1947, following retirement of part of the debt incurred in World War II, the Federal debt was 50 per cent larger than other debt. These changes are shown in the accompanying chart.

TOTAL PUBLIC AND PRIVATE DEBT



NOTE.—Gross public and private debt as estimated by the U. S. Department of Commerce on the basis of data from various governmental and private agencies.

With the economy's total postwar debt made up of three parts Federal debt to two parts private and other debt, discussion of customary Reserve System instruments of policy is put into a new frame of reference. Changes in the volume of public debt result primarily from war and other operations conducted in the public interest. These changes are not likely to be influenced materially by regulation of the supply, availability, and

cost of credit. In fact, central banking policies need rather to be adjusted to public needs. In contrast, private debt is incurred on the basis of the expected productivity of investment in business and the satisfaction that consumers get from present as against future consumption. Demands for credit by businesses and individuals are responsive in some degree to monetary and credit regulation and may need to be restricted or stimulated in the interest of public welfare. There is little, if any, economic justification for considering public and private debt on the same basis with regard to the application of customary central banking policies. If traditional Reserve System methods of influencing changes in the amount of private debt through changes in interest rates are resumed, appropriate protections will need to be established against undue instability in the market value of the vast public debt.

Meanwhile, should the Federal Reserve System refuse to purchase Government securities offered for sale and not taken by others, then interest rates on both public and private debt would be subject to wide fluctuations. With approximately 230 billion dollars of publicly-held marketable and redeemable Federal debt, broadly distributed among banks, businesses, investment institutions, and individuals at nearly all levels of income, the possible effect of widely fluctuating interest rates upon operations and actions of these holders, and upon debt-management expedients, is difficult to predict. The consequence of attempting to use such a remedy might be more harmful than the disease.

To prevent wide fluctuations in short-term rates, the Federal Reserve System would have to be prepared to purchase Government securities at some level of rates. It is not possible to know how much of a rise in rates might be necessary to restrain sales to the System. With a substantial volume of Government obligations maturing virtually every month, Federal Reserve policies must also take into account Treasury refunding operations.

Another risk in a situation in which the operations of financial organizations are dominated by public debt is the possibility that any substantial rise in short-term rates might be accompanied by a rise in long-term rates. While the prevention of further declines in long-term interest rates seems to be desirable, and toward this end some rise in short-term rates and some degree of uncertainty for long-term interest rates would be useful, particularly when bonds are selling at substantial premiums, there is a limit beyond which a rise in interest rates could not be carried with-

out seriously upsetting the market. The events of 1946, when long-term bond prices fluctuated within a range of four points, indicate that purchases of these bonds at premium prices are not without some risk.

It is difficult to know how much of a rise in yields on Government securities would be needed to discourage banks from selling these securities in order to make private loans or to invest in corporate bonds, when there is an active demand for credit. Experience shows that increases in Federal Reserve discount or bill-buying rates have not always exerted effective restraint against credit expansion generated by speculative demands. Such increases would be even less effective in a situation where their primary effect would be upon prices of outstanding Government securities, rather than upon private borrowers.

Experience with brokers' loans, which long served as liquid secondary reserves for this country's banking system, thus providing a type of central banking service, shows that banks will withdraw funds from the central money market in order to take care of the demands of their business and other customers and that they will not be discouraged from doing so by having to forego high money rates. In the case of brokers' loans other lenders had to be found to absorb called loans or securities forced to be liquidated, while in the case of Government securities the banks could readily obtain additional reserves to take care of the needs of their customers by selling some of their securities to the Federal Reserve System.

Conclusions as to Interest Rates. This discussion of the relation of interest rates to postwar monetary policy leads to the following conclusions: Continuance of a pattern of interest rates in which short-term rates are stabilized at levels much below long-term rates is conducive to further declines in long-term interest rates based on expansion of bank credit. Flexible policies allowing some variation in the spread between, and levels of, short- and long-term interest rates would help to re-establish control over credit expansion as well as to prevent a continuing downward movement in long-term interest rates growing out of monetization of the public debt. Moreover, by permitting gradual adjustments to changed situations, moderate variations in the pattern and levels of interest rates might forestall or mitigate unstabilizing tendencies in the money market.

Substantial variation in short-term interest rates, however, in view of the large volume of public debt outstanding and its broad distribution

among owners, would have serious repercussions throughout the economy without exerting the same influence upon borrowing and lending as in the past when private debt was a more important part of the total debt structure. Maintenance of substantially higher interest rates, furthermore, would raise the cost of the public debt, and widely fluctuating rates would greatly complicate the Treasury's task of refunding its large maturities. Finally, it is important to recognize that higher levels of short-term interest rates would not prevent shifting by banks, corporations, and others from the vast holdings of Government securities in order to meet private demands for credit if these demands are particularly strong or banks are competing actively for such business. In other words, while sale of short-term Government securities to purchase longer-term issues might be prevented by diminishing the existing spread between short- and long-term interest rates, the higher short-term rates would not prevent sales of Government securities to expand private debt.

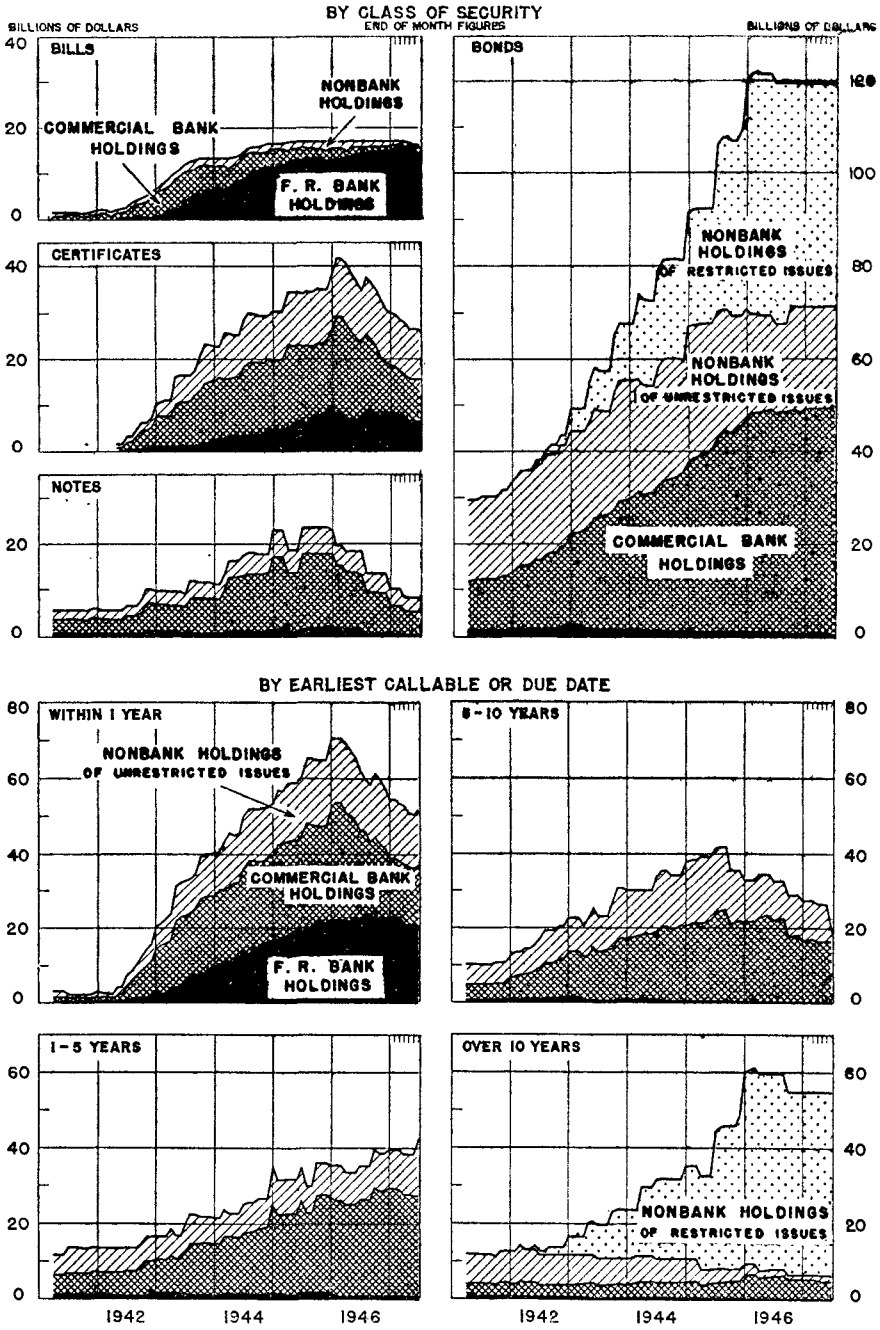
Under present and foreseeable conditions some flexibility in interest rates is desirable. In view of the limitation to which flexible interest-rate policy is subject as a heritage of war, however, other measures are needed to supplement the use of traditional Federal Reserve instruments of credit control.

DEBT-MANAGEMENT POLICIES

Since the problem of postwar monetary policy is so closely tied in with the value and distribution of the public debt, proper management of the debt could do a great deal to influence monetary developments. In view of the large portion of the public debt that is of short term—52 billion dollars of the marketable debt matures within one year and 95 billion within five years—flexible debt-management policies can be readily developed. Another element in the situation is that 33 billion dollars of Government securities are held by various Government agencies and are readily subject to change as to form and maturity. Amounts of marketable issues of various types and maturities held by the various major groups of investors during recent years are shown on the accompanying charts.

Within the limits of market demands the Treasury can influence the distribution of the debt among various groups of holders by its choice of securities to be issued. For example, Treasury bills are almost wholly owned by Federal Reserve Banks and, as long as the System purchases

OWNERSHIP OF U. S. GOVERNMENT MARKETABLE PUBLIC SECURITIES



NOTE.—Basic data are from the U. S. Treasury's monthly Survey of Ownership of U. S. Government securities, published in *Treasury Bulletin* and summarized in *Federal Reserve Bulletin* for October 1947, pp. 1312-13. Postal savings and prewar bonds are included; guaranteed securities are excluded. Data understate commerical bank holdings somewhat and overstate nonbank holdings.

sufficient amounts of bills at rates below those that other holders will pay, changes in the volume of bills offered will be reflected directly in Federal Reserve holdings and hence affect the supply of bank reserves. Action taken by the Federal Reserve System in July 1947 to eliminate the fixed ⅜ per cent buying rate on Treasury bills permitted the rate on bills to rise to a level more nearly consistent with other market rates. This restored the bill as a market instrument and made it possible for the Treasury to vary the amounts of bill offerings and to use the bill as a more flexible instrument of debt management.

At the other extreme, long-term bonds ineligible for purchase by banks could be offered to holders of savings. It has been suggested that issuance of enough additional long-term bonds to satisfy the demand for such securities would keep long-term interest rates from declining further and provide funds with which the Treasury could retire short-term debt. Even in such a case, however, if the issue were sufficiently attractive, some holders of outstanding bank-eligible issues would be likely to sell these securities to banks and then purchase the new issue. This in fact occurred during the war loan drives. Consequently, additional offerings of long-term issues, even though they be restricted as to purchase by banks, may nevertheless result in further debt monetization.

Late in September 1947, the Treasury introduced a variation of this proposal through the issuance of Series A investment bonds. These bonds, which are nonmarketable and redeemable, have features similar to the Series G savings bonds, though with differences as to eligibility for purchase, purchase limits, and maturities. They were issued to absorb the savings of the public in the hands of institutional investors not being invested in private outlets. The use of this type of security permits the Treasury to pay an appropriate rate for genuine long-term savings and provides an instrument for protecting the income of bona fide investors while also protecting them against capital loss in case of liquidation before maturity. At the same time, this type of security safeguards the Treasury against paying a high coupon rate on liquid investments to temporary holders.

The scope of this paper does not permit an exhaustive discussion of debt management or of its use to further monetary policies. Some aspects of this subject have been discussed in another paper in this series.[7] It is

[7] See Roland I. Robinson, "Monetary Aspects of National Debt Policy," in *Public Finance and Full Employment* (December 1945), the third pamphlet in this series.

clear that Treasury and Federal Reserve authorities, through joint planning of policies and operations, should carry forward a debt-management program that will preserve the taxpayers' interest in maintaining a low level of interest cost, provide the Treasury with the necessary funds, and meet the legitimate investment needs of various investor groups. In addition, this program should facilitate the adoption of credit policies designed to restrict excessive bank credit expansion and at the same time maintain an orderly market for Government securities.

SELECTIVE CREDIT CONTROLS

In view of the limitations upon the use of traditional methods of credit policy under the changed situation brought about by war, increased reliance may need to be placed on other methods of credit control. Banking history shows that bank credit may contribute to economic instability as a result of undue expansion or contraction in its total amount, as a result of undesirable conditions that are largely localized in particular credit sectors, or as the result of a failure of desirable credit developments to occur in individual sectors. It is difficult, if not impossible, to deal with such developments by using general credit instruments. Also, since these instruments operate by affecting the amount of bank reserves and thereby the availability, supply, and interest levels of all types of credit, their use and timing is necessarily influenced by the net balance of factors in the whole economic situation. Developments in localized credit areas may not be apparent in total bank credit soon enough for action to be taken in time to prevent a serious weakening of the credit structure. The use of general credit instruments to rectify a credit development that is narrow in scope might result in undesirable pressure in areas where the credit situation was essentially sound.

For the correction of unsound conditions in special credit areas, the Reserve System's general instruments need to be supplemented by special selective instruments. These instruments are discussed more fully in another paper in this pamphlet.[8] They include particularly controls over stock-market credit and over consumer credit, which have been effectively used. To these might also be added regulation of real estate credit, which, however, would entail difficult administrative and jurisdictional problems.

Another type of selective device, of a stimulative rather than a restrictive nature, is the guarantee of certain types of bank loans against

[8] Carl E. Parry, "Selective Instruments of National Credit Policy."

loss by the lender. This instrument was used successfully and on a large scale in the case of war production loans, and has been employed to a limited extent by various peacetime agencies.

Selective instruments of the type described are helpful adjuncts to the general instruments of Reserve System policy, since they permit application of policies of limited objective and also differentiation in credit policy when forces of inflation or deflation are present only in a particular sector of the economy. They are not substitutes for the traditional instruments, however, and should only be introduced where the costs and gains to the credit system and to the economy are fairly well determinable in advance. These characteristics apply to regulation of security loans and consumer credit, as well as to the guarantee of bank loans. Permanent authority to regulate consumer credit and adoption of guarantee loan provisions would therefore be constructive measures that would strengthen the System's ability to serve the purposes for which it was established. Permanent regulation of security loans is already authorized by law.

PROPOSALS FOR ADDITIONAL CONTROLS

In view of the banking and monetary heritage of war finance, the Federal Reserve System is faced with a twofold responsibility for the longer run: to prevent speculative or otherwise excessive expansion of bank credit and at the same time to assure reasonable stability in the prices of the large volume of Government securities outstanding. There should be limits to the ability of banks and others to convert Government securities into additional bank reserves and these limits should be imposed without bringing about widely fluctuating interest rates.

It would not be possible to accomplish both of these objectives through exercise of existing powers of the Federal Reserve authorities. To assure effective discharge of the System's basic long-run responsibilities, additional instruments of general credit regulation such as those proposed in the 1945 Annual Report of the Federal Reserve Board are urgently needed. These instruments would serve to re-establish the System's functioning along traditional central banking lines.

The three basic plans proposed by the Board for consideration by the Congress may be designated by the following terms:

(1) A primary reserve plan
(2) A secondary reserve plan
(3) A bond limitation plan

These three proposals have many similarities and also important differences. In each case adoption would require legislation that should permit considerable administrative flexibility because of the wide differences between individual banks and groups of banks. It would also be necessary to apply the provisions to all commercial banks, not only to member banks of the Federal Reserve System. Each of these powers could be so applied as to leave banks adequate ability to accommodate commerce, industry, and agriculture; in fact, only if applied in this way would the System's credit operations under the proposals be consistent with the purposes of the Federal Reserve Act. At the same time, any one, or some combination of the powers would help to restore the System's capacity to exert an over-all restraint on undue expansion of bank credit by moderate but timely use of traditional instruments.

The Primary Reserve Plan. This plan involves supplementary authority to increase commercial bank reserve requirements. The Board of Governors of the Federal Reserve System already possesses statutory power to vary reserve requirements within prescribed limits, but its authority to increase such requirements has been fully utilized since early in the war, except for a relatively small margin for further increases at central reserve city banks in New York and Chicago. In order to keep short-term interest rates on Government securities from rising above a specified level, any increase in reserve requirements might have to be accompanied by Federal Reserve purchases of short-term securities in an amount that might not fall far short of the increase in required reserves.

The principal effects of the measure would be (1) to shift a certain amount of short-term Government securities from commercial banks to Federal Reserve Banks, and (2) to reduce the ratio of multiple credit expansion on the basis of a given amount of reserves. It would, therefore, diminish the amount of short Governments available for sale to the Reserve Banks and also reduce the degree of multiple credit expansion that would be possible on the basis of any reserves created by such sales.

The plan could be applied to discourage further purchases of long-term issues or increased lending by banks, while Federal Reserve support could keep short-term interest rates on Government securities from rising above some pre-determined level. This measure would, in conformity with present banking practices, be relatively simple to operate, and permit adjustments to interbank flows of funds in the same manner as at present.

The proposal would tend to reduce the earnings of commercial banks

and increase those of the Reserve Banks. If the plan were adopted it might be desirable for the Reserve Banks to have power to pay some interest on reserve balances, in case bank earnings should be unduly reduced. Under a policy adopted in April 1947, the bulk of Federal Reserve Bank earnings over expenses and dividends at the statutory rate are paid over to the Treasury. This is accomplished by use of a provision of law authorizing the Board of Governors to impose an interest charge on the amount of outstanding Federal Reserve notes in excess of the collateral requirements and not backed by gold certificates. As a result of this policy, any increase in Federal Reserve Bank earnings would increase the receipts of the United States Treasury. Therefore, unless provision were made in applying the primary reserve plan for payment of interest on member bank reserve balances, amounts paid to the Treasury after its introduction would be increased.

Legislation authorizing higher levels of reserve requirements might also include provision for amending various aspects of the present requirements. It should authorize the counting of vault cash as reserves and provide for greater administrative flexibility in imposing different requirements on different types of deposits and in classifying banks for reserve purposes. As stated, similar requirements would have to be imposed on nonmember banks in order to prevent a growing disparity between reserve requirements of member and nonmember banks.

The Secondary Reserve Plan would establish a required reserve, in addition to balances with Reserve Banks, which might be held in Treasury bills and certificates equal to a specified percentage of net demand deposits.[9] This percentage might be placed initially at a level that would induce commercial banks as a group to retain the bulk of their present holdings of short-term Government securities—probably 10 to 20 per cent of net demand deposits would be sufficient. Subsequently the percentage could be established at a level which would assure a commercial bank demand for such securities sufficient to encourage or discourage credit expansion or to maintain a desired level of rates without Federal Reserve purchases.

To facilitate transition to the new plan, as well as regular adjustments of bank positions required by interbank flows of funds, banks should be permitted to hold additional reserve balances with the Reserve Banks or

[9] A reserve required to be held in some special issue of Government securities would serve the same purpose.

cash in lieu of bills and certificates. This provision, which is a major feature distinguishing this plan from those proposed by Lawrence Seltzer and by the economic staff of the Committee for Economic Development, would be necessary to make the plan effective as a limitation on bank credit expansion.[10] Otherwise it would be necessary for the Treasury to supply bills or certificates to banks needing them to meet their secondary reserve requirements against expanding deposits. This would result in further pressure for bank credit expansion and deposit growth rather than in restraint, which it is the purpose of the plan to provide.

The secondary reserve plan has the advantage of permitting banks to retain substantial holdings of short-term Government securities, while limiting their ability to sell these to the Reserve Banks in order to make other loans and investments. Its principal distinction from the primary reserve plan is that under its operation the commercial banks could continue to hold the short-term Government securities whereas in the primary plan the Reserve Banks would hold them. This plan would establish short-term Government securities in a preferred market position over other types of short-term paper and thus permit interest rates on Government securities to be stabilized, while allowing fluctuations in other rates.

This proposal has been criticized because it would purportedly require the banking system to increase holdings of Government securities whenever there was an increase in deposits resulting from expanding loans.[11] This objection is not well taken. Bank loan expansion would increase the amount of reserves required to be held, just as it does now, and banks would have the same alternative as they have now of liquidating some other assets or of borrowing from the Reserve Banks. They would, however, not be able to reduce their holdings of Treasury bills and certificates, unless they had an excess, but would have to sell long-term issues out of their portfolios. They would use the proceeds of these sales to meet their increased reserve requirements, which could be held in part in the form of bills, certificates, or cash, or entirely in the form of balances with the Reserve Banks.

The Bond Limitation Plan would limit the amount of long-term mar-

[10] Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," *Journal of the American Statistical Association*, March 1940, pp. 24–36; Research staff (Melvin G. DeChazeau, Albert G. Hart, Gardiner C. Means, Howard B. Myers, Herbert Stein, Theodore O. Yntema), Committee for Economic Development, *Jobs and Markets* (New York, 1946), pp. 90–95.

[11] See, for example, J. H. Riddle, *Interest Rates and Federal Reserve Policy* (Bankers Trust Company, New York, 1946).

ketable securities, both public and private, that any commercial bank could hold against its demand deposits.[12] In a sense this plan would merely extend the principle, recognized in banking law and pursued during the war, of restricting investment of demand deposit funds in long-term assets.

The limitation should apply to all bonds, or probably to all single-payment marketable securities having a final maturity of more than one year at time of issue, but it might be more limited in scope. Bonds within a year or perhaps within five years of maturity might be exempt from the limitation, but such exemption would cause sudden adjustments in the market and in the banking position as large issues passed from under the limitation. It would have to cover obligations of State and local governments and of corporations; otherwise United States securities would have a disadvantageous market position. It might also cover real estate and real estate loans, in which many banks invest large portions of their time deposits and capital.[13]

Adjustments of reserve positions between banks would not be particularly complicated by the bond limitation plan, although some reduction in bond portfolios might be necessary if banks lost deposits, particularly time deposits, and increases in portfolios would be permissible in case of additions to savings deposits.

While none of the plans is designed to restrict specific bank lending activities, except as regards their effects on over-all credit expansion, this measure would probably have less direct restrictive effects than the others, except on real estate loans, and it might even encourage lending. It is primarily designed to restrict shifting from short-term securities into long-term securities, without restricting lending. With regard to bank investment, individual banks would be free to adopt whatever maturity composition of their investment portfolios, and whatever distribution among various types of bonds and real estate loans,

[12] Various formulae are possible for this plan. The 32d Annual Report of the Board of Governors in describing this proposal in general terms suggested as a formula the relation of holdings of long-term securities to net demand deposits. A somewhat more complicated, but in practice more satisfactory, formula would relate such holdings to savings deposits plus capital accounts plus some percentage of demand deposits other than interbank balances without adjustment for collection items. This formula would avoid penalizing banks holding large amounts of cash items in process of collection and also avoid permitting banks to hold long-term assets against interbank balances.

[13] In this way, account could be taken in the statutory formula of existing national banking law with regard to investment in banking premises and real estate loans.

would yield them the highest net return. The plan would not insulate the short-term Government securities market from the effects of tightening credit conditions and consequently would not provide as much latitude as the alternative plans for the use of the customary general instruments of central banking policy.

APPLICATION OF THE PROPOSALS

Any of these various plans would set off a large part of the public debt in such a way as to free Government securities from the effects of changes in the supply of bank reserves and in interest rates on private marketable paper. Once established any such plan could be fairly rigidly maintained, while traditional open market and discount rate instruments were largely relied upon for current policy in affecting availability, cost, and supply of bank credit for private purposes. Alternatively these new plans could be flexible in their application, with requirements and limitations being varied as bank credit and monetary developments and prospects might justify or require.

These proposals are in no way revolutionary or drastic and their application need not interfere with the ability of banks to supply the credit needs of the economy. They are designed to adjust the banks' greatly expanded lending capacity to those needs. Combinations of the secondary reserve and bond limitation plans are, in effect, already being applied in Canada. Regulation of secondary reserves of banks is accomplished by distribution among the banks on an allotment basis of special short-term issues exclusively for bank holding. Limitation of bond holdings is achieved under a special agreement with the banks that confines their holdings of bonds to a percentage of savings deposits. However, there are but ten chartered banks in Canada and such plans can be effectuated by administrative arrangements more readily there than in this country with 14,000 banks. Other countries have similar arrangements based on informal understandings or well-established banking traditions.[14]

Another point of emphasis is that the primary purpose of the plans is not to save interest costs on the public debt or to keep down bank earnings from investment in that debt—although they would contribute to these results—but is to enable the Reserve System to deal with the monetary situation resulting from the huge public debt. The major task of postwar bank credit and monetary policies is to re-establish conditions

[14] England and Belgium are examples.

under which Federal Reserve control over general bank credit expansion can be effectively exercised through traditional central banking instruments. In accomplishing this task, it is important to recognize that the System is obliged to facilitate debt management by the Treasury at low cost and with minimum unstabilizing effects. The central problem, therefore, is to free the market for private credit from excessive influence of public credit and to further reconversion of the current operations of banks and other financial organizations from a public to a private credit basis. Adoption of one, or some combination, of these proposals, appears an essential step toward reinstating the traditional instruments of monetary regulation—discount rates, open market operations, and changes in reserve requirements—as sensitive, flexible methods of Federal Reserve policy.

Adoption of any one of the proposed measures would not necessarily mean relative rigidity in the level and structure of interest rates, except perhaps in certain categories of short-term Government securities. In fact, such rigidity would be inconsistent with a restored use of traditional Federal Reserve instruments of general credit policy. But some plan patterned along the lines of those proposed may be necessary before policies can be adopted which would accomplish an effective "defrosting" of interest rates on private debt and on that portion of the public debt held in the active money market. These measures are designed to set off a large part of the public debt and of bank investments in a way that would partly free them from the influence of changing interest rates. In all likelihood, variations in market interest rates would not seriously perturb institutional and other permanent investors holding savings bonds and marketable Government obligations. Marketable public-debt obligations held outside the banks, as well as private debt, could be traded freely in the active money market and permitted to fluctuate without the danger that these fluctuations would cause serious repercussions.

If the economy should be in position where investment demands exceeded the available supply of savings, then it would be preferable for interest rates on marketable securities to rise somewhat than for bank credit to be forced into an inflationary expansion. It would, on the other hand, be possible to support the market for long-term Government bonds and at the same time offset the effect on the supply of bank reserves of any Federal Reserve purchases. It would likewise be possible to prevent a repetition of the undue decline in the level of interest rates caused by an expansion of credit in the early part of 1946.

These instruments would not unduly restrict banks in making loans. It is the purpose of the proposals to restore to the System the power to limit excessive credit expansion—the function it was created to perform but is no longer able to fulfill. Any limitation either on the supply of bank reserves or on the ability of member banks to rediscount has its effects through exerting a restrictive influence on bank lending. The effects of the proposed instruments would not differ in this respect from those for which all credit regulative powers of the Federal Reserve System are designed.

If banks want to take care of the needs of their customers at times when there is an active demand for loans but when over-all credit expansion is not desired, it would be better for the maintenance of a stable credit structure for them to sell securities of the kind that nonbank investors would absorb rather than of the kind that the Federal Reserve Banks would have to absorb. Through the one process there would be no net credit expansion, whereas through the other there would be a growth in bank reserves which would permit multiple credit expansion.

Application by the Federal Reserve System of any one of the proposed powers could, and should, be so regulated as to provide banks with adequate funds for meeting the economically desirable needs of commerce, industry, and agriculture. It is the System's task to *supply* the banks with enough reserves to meet those needs, while preventing expansion in the available supply of reserves beyond the amount essential for sound credit demands. The System has adequate power to permit needed expansion but finds itself today in a position of having no corresponding power to arrest undue or harmful expansion.

In summary, it may be said that because of a redundant money supply and the vastly increased capacity for further expansion, the credit situation in the postwar period is likely to be an unstabilizing influence upon the economy. The money supply, actual and potential, is disproportionate to current output and incomes, even at present inflated prices, and also to foreseeable prospective needs. In view of the situation resulting from war, one or more of the measures described is needed to restore more effective control over the supply and use of bank credit. Without such control, the national objective, as declared by Congress, of economic stability at the highest sustainable levels of production and employment may be seriously jeopardized.