# A STUDY OF SOME RECENT LEGAL RESERVE PROPOSALS FOR COMMERCIAL BANKS

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# A STUDY OF SOME RECENT LEGAL RESERVE PROPOSALS FOR COMMERCIAL BANKS

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# CHAPTER I

# INTRODUCTION

## The Problem

Thomas B. McCabe, Chairman of the Board of Governors of the Federal Reserve System described the function of a central bank in the following terms.

> Central banking institutions have always been considered the necessary and essential complement of a free-enterprise economy. Money does not manage itself. Once commercial banking institutions holding demand deposits become important, central banking institutions must be organized to avert money panics and to mitigate booms and depressions. Although they have necessarily been given wide discretionary powers, they should in no sense be regarded as an invention of or an adjunct to a managed economy or an administered state. Instead, they are part and parcel of a free-enterprise economy, designed to maintain full and continuous use of its human and material resources. In modern terms this means that they are expected to help maintain a high and stable level of employment in a free-enterprise economy. They endeavor to do this by the prompt and flexible use of adequate discretionary authority over the cost and availability of money and credit.[1]

Many believe that suitable monetary policies are necessary but not sufficient for a high and stable level

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[1] Monetary, Credit, and Fiscal Policies: Hearings Before the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report. 81st Cong., 1st sess. (Washington: 1950), p. 462.

of economic activity.[2] This paper assumes that suitable policies are at least necessary without considering whether they are sufficient or not. If the central bank is to meet its responsibilities in maintaining the economy on a stable, prosperous level, the devices which it uses to implement its policies must be sufficiently flexible to meet new problems and sufficiently powerful to accomplish the desired results.

## Scope of this Study

This paper considers the effectiveness of various proposals in solving some contemporary problems that our central banking authorities are called on to meet. The Federal Reserve System makes its policies on "the cost and availability of money and credit" effective through its control of the volume of bank reserves and through changes in the legal reserve ratio. This study focuses its attention on the latter subject--legal reserve requirements. Specifically it concerns two reserve proposals that have been made by the Board of Governors of the Federal Reserve System since the end of World War II--

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[2] For example, cf. Monetary Measures and Objectives: Statements by Board of Governors of the Federal Reserve System. Washington: Board of Governors, n. d.; reprints from Federal Reserve Bulletin, 23: November, 1938; 24: April, 1939; 24: May, 1939.

the proposal that banks be required to maintain a secondary reserve of short-term Treasury securities, and the proposal to replace the present classification of deposits for reserve purposes by a classification based on type of deposit. It also discusses the possibility of separating the money market into two markets--one for Treasury securities and one for all other securities--by requiring banks to hold higher reserve ratios against loans to non-Federal Government borrowers than against loans to Federal borrowers.

Proposals made by the Board of Governors are studied primarily because such proposals are at least as likely to be based on a sound understanding of present banking conditions and present needs of the central bank as are proposals made by others. This body is in a strategic position to know what revisions are needed. Its research staff enables it to keep track of new developments and to study new ideas. The System's contacts with practicing commercial bankers put it in a position where it can see its own problems and those of the commercial banking community. Differential legal reserve ratios are considered because of the timeliness and novelty of the idea.

## Brief Statement of Conclusions

1. The effectiveness as an anti-inflation weapon of the proposal to require commercial banks to maintain secondary reserves of short-term Treasury securities and/or certain cash items against their deposits could be rendered largely ineffective by non-bank holdings of United States Government obligations and by bank holdings of Treasury, state, and municipal bonds and corporate securities. These same factors would prevent its successfully separating the market for Treasury issues from the remainder of the money market.

2. The proposal to base legal reserve ratios on the type of deposit would remove some non-economic inequities among member banks and between member and non-member banks. It would supply the Federal Reserve System with a more selective control over the banking system.

3. Requiring commercial banks to maintain higher legal reserve ratios against loans to all other borrowers than against loans to the Treasury would be a useful weapon with which to combat inflation. This requirement would make way for Federal Reserve restriction of bank credit to raise interest rates on loans to non-Treasury borrowers without causing a corresponding rise in the rates on obligations of the Federal Government.

## CHAPTER II

## HISTORY OF THEORY OF LEGAL RESERVES IN THE UNITED STATES

Commercial banks in any country must hold reserves against their deposit liabilities. In some countries, for example England, maintaining reserves is an established custom that virtually has the force of law. In this country, the custom of maintaining reserves against deposits has been re-enforced by actual legislation.[1] The next few pages will be devoted to a study of the development of the theory underlying legal reserve requirements in this country.

### Theory Prior to the National Bank Act

The English colonists in America suffered a constant scarcity of circulating media, caused by the drain of specie to meet the import gap. One of the more notable banking experiments of the colonial period was the so-called "loan banks" formed to lend on the security of real estate, and sometimes on personal security and

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[1] "The History of Reserve Requirements for Banks in the United States," Federal Reserve Bulletin, 24:953, November, 1938.

merchandise.[2] In a rudimentary way, banking functions were performed by colonizing companies, colonial governments, merchants, and others who were in a position where they could extend credit. The first modern commercial bank in the country was the Bank of North America, established in Philadelphia in 1782.

Of the colonial banks, Harry E. Miller has written:

> The importance of maintaining the immediate convertibility of paper money was but little appreciated in the colonial period. One of the most interesting chapters in colonial banking literature is concerned with that problem, and the extent to which security, now in the form of real estate mortgages and now in the form of staple commodities as well, was substituted for specie reserves in the schemes of the day, is familiar knowledge to all students of colonial banking. The operations of the deposit banks of continental Europe (which virtually issued warehouse receipts, reduced to common denominations, for the sundry coins in circulation) were familiar to the colonists, and to many of them, as to monetary "reformers" of later periods, it seemed but a logical step to issue like receipts to circulate as media of payment against real and personal property of recognized value.[3]

Further:

> To a certain extent the old fallacy, so much in evidence during the colonial period, of confusing ultimate security with immediate redeemability, or, at least, of tending to give little attention to the

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[2] Davis Dewey Rich, Financial History of the United States (eleventh edition; New York: Longmans, Green and Co., 1931), pp. 24-27.

[3] Banking Theories in the United States before 1860 (Harvard Economic Studies, Vol. 30. Cambridge, Massachusetts: Harvard University Press, 1927), p. 125.

> latter, persisted well into the nineteenth century. Bond-secured issue, safety fund, limitation of circulation to a certain proportion to capital, received far more emphasis than specie reserve; and in some measure, at least, the cause seems to have been failure adequately to perceive the significance of reserves.[4]

Laws requiring banks to maintain specified reserves against note liabilities were first adopted by the state legislatures of the late 1830's. The uncertain financial condition of many state chartered banks seems to have been important in causing the state legislatures to take this action. There was an over-issue of notes by many banks even before the War of 1812[5] and the propensity to expand note issue increased in the 1830's. The principal purpose of reserve requirements at this time, and for almost a century afterward, was to assure the convertibility of bank liabilities into cash at par.

Reserves were required against deposits in only two states prior to the Civil War. This failure to legislate reserve requirements on deposits as well as notes arose from a misconception of the nature of bank deposits. The dominant view was that bank deposits arose wholly

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[4] Ibid., p. 152.

[5] Harold Underwood Faulkner, American Economic History (sixth edition; New York: Harper & Brothers Publishers, 1949), p. 164.

from the bringing of cash to the banks, and many failed to perceive that deposits are an element of the money supply. The idea that banks do create deposits was not regularly accepted until the last decade before the Civil War.[6]

The idea that depositors are able to use discretion and to inform themselves about the bank where they deposit their money, and so need no further protection, was seldom questioned. On the other hand, bank notes circulated among individuals who were forced to accept them without being in a position to choose between the note liabilities of one bank or another.[7]

Some fine points in the operation of legal reserves were perceived in the early years of their existence. "The desirability of tempering the rigidity of laws establishing reserve minima, in order to provide for periods of abnormal strain, received attention early in the discussion of such laws."[8] As early as 1839, it was suggested that a bank be granted a few weeks' indulgence whenever a drain reduced its reserve below the legal minimum. In the meantime, the bank was to forfeit a

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[6] Miller, op. cit., pp. 110-120.

[7] Ibid., pp. 116, 151.

[8] Ibid., p. 153.

part of its profits.[9] Others saw that imposing a legal minimum reserve ratio implied that a larger percentage had to be maintained in order that a bank would have working reserves on hand.[10]

The Louisiana banking legislation of 1842 established a unique reserve system. It required each bank to maintain cash assets equal to one-third of its combined note and deposit liabilities and liquid assets equal to the other two-thirds. These liquid assets were to comprise non-renewable promissory notes and other non-renewable obligations maturing in three months or less. In the panic of 1857, the banks of New Orleans were among the few in the country able to avoid suspension of specie payments. This caused their reserve requirements to receive favorable attention in the North.[11] In 1858, Massachusetts adopted a 15 per cent reserve requirement against notes and deposits, making the second state to adopt legal reserve requirements against both notes and deposits prior to the National Bank Act.

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[9] Loc. cit.

[10] Loc. cit.

[11] Bray Hammond, "Historical Introduction," Banking Studies (Washington: Board of Governors, 1941), p. 11.

During the years prior to the Civil War, an important change came about in the composition of bank reserves. Originally a bank's reserves were the specie in its vaults. This practice gradually gave way to one in which bank reserves included funds that a bank might have on deposit with a bank in a financial or commercial center and which could be drawn on by the depositor to replenish its reserves. These correspondent balances tended to concentrate in New York City.[12] This correspondent relationship was satisfactory as long as few country banks needed to withdraw their balances or wanted to borrow funds. The funds the New York banks paid or lent their correspondents were the former's own reserves and when many banks wanted to borrow or to withdraw their deposits at the same time, credit stringency resulted. The New York City banks were then unable to meet the demands of both country correspondents and of local borrowers. A necessary power the New York banks did not have was the power to create reserves.

> The crisis of 1857 did much to bring about a sudden realization of the significance of New York as a growing financial center, and the problems of a central reserve city, if not of a central reserve bank, were now analyzed more deeply than ever before. But Nathan Appleton seems to have been the only one

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[12] Ibid., p. 12.

> to give much heed to the need of further centralization of control at New York.[13]
>
> Practically all the earlier discussion of reserves referred to their relation to circulation only. It was not until the difficulties of handling the deposits of country banks arose, and especially after the panic of 1857, that deposits received much attention in the consideration of reserve policy [except in the case of two states, Louisiana and Massachusetts, and in the case of one man, a Professor Tucker].[14]

Legal reserve requirements had been in existence about two decades when the problem that arose from the concentration of reserves in the banks of New York City, under the direction of several un-co-ordinate boards of directors, was realized. The same problem arose in later crises; but it was not until the Federal Reserve Act that effective remedial action was taken.

By the time of the passage of the National Bank Act in 1863, the custom of requiring banks to maintain reserves against their note liabilities had become well established. Also, New York City had been recognized as the foremost financial city of the country. The reserve provisions of the National Bank Act, which were based largely on the laws of Louisiana and Massachusetts, required national banks to maintain reserves against both

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[13] Miller, op. cit., p. 166.

[14] Ibid., p. 155.

note and deposit liabilities. The reserve was to be held in the form of lawful money, except that national banks outside of specified important commercial cities were permitted to carry a portion of their reserves in the form of balances with national banks in these redemption cities. The revised National Bank Act of 1864 continued this provision, but in addition allowed national banks in redemption cities other than New York City to deposit part of their reserves with national banks in that city.

The theory behind these provisions was simple. Bank notes tended to accumulate in these redemption cities and it was essential to provide for par convertibility in these cities in order to avoid a discounted currency. Since the purpose of the reserve requirements was to provide for the redeemability of notes at par, it was logical to allow banks to count as part of their reserves their deposits with national banks in the designated redemption cities.

## National Bank Act to the Federal Reserve Act

The National Bank Act served as the model for much of the state banking legislation passed in the

following years.[15] Some of the states did, however, endeavor to improve on the Act. The National Bank Act had assumed that all deposits are alike. Individual demand deposits, bankers' balances, and time deposits were added together and the reserve ratio applied to the total. The New Hampshire Act of 1874 recognized the fact that time deposits are less subject to withdrawal than are demand deposits. It required a 15 per cent minimum reserve against demand deposits and a 5 per cent reserve against time deposits. By the time of the passage of the Federal Reserve Act, eleven other states had followed New Hampshire in recognizing the greater irregularity of demand deposits.[16]

As well as assuming the homogeneity of all deposits an individual bank held, the National Bank Act assumed the homogeneity of all deposits in all banks in the same city. A second advance in the theory of legal reserves recognized the greater relative frequency of withdrawal of bankers' balances over individual's demand deposits. The Nebraska Act of 1889 required all banks--regardless of location--that accepted correspondent

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[15] Robert G. Rodkey, Legal Reserves in American Banking (Michigan Business Studies, Vol. 6, No. 5. Ann Arbor, Michigan: University of Michigan School of Business Administration Bureau of Business Research, 1934), pp. 30-44.

[16] Ibid., pp. 42-44.

balances to maintain minimum legal reserves of 20 per cent, as against 15 per cent for all other banks. Under this scheme, different banks in the same city might be required to hold different reserve percentages. Five states followed Nebraska's lead in distinguishing between reserve agents and other banks prior to the passage of the Federal Reserve Act.[17]

The threefold classification of banks made by the National Bank Act was carried over into the Federal Reserve Act, apparently without consideration of its appropriateness under the changed conditions and without perceiving the logic of the Nebraska Act. What the framers of the Federal Reserve Act did have in mind when they adopted this classification, this writer does not know. It was thought that a large proportion of interbank deposits would disappear after the passage of the Act.[18]

Legal Reserves as a Means for Controlling Credit

For several decades the primary function of legal reserve requirements was conceived to be the assurance of

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[17] Ibid., pp. 34, 43-44.

[18] Ibid., pp. 71, 74-76; Henry Parker Willis, The Federal Reserve System: Legislation, Organization and Operation (New York: The Ronald Press Company, 1923), pp. 174-175, 406.

the liquidity of commercial banks. One reason for passage of the Federal Reserve Act was recognition of the fact that the individual bank does not guarantee its liquidity by the maintenance of legal reserves. Protection of bank liquidity became the function of rediscounting and open market operations, and reserve requirements acquired significance as regulators of the volume of bank credit. The earliest official statement of this changed attitude appeared in "Member Bank Reserves--Report of the Committee on Bank Reserves of the Federal Reserve System."

> The committee takes the position that it is no longer the primary function of legal reserve requirements to assure or preserve the liquidity of the individual member bank. The maintenance of liquidity is necessarily the responsibility of bank management and is achieved by the individual bank when an adequate proportion of its portfolio consists of assets that can be readily converted into cash. Since the establishment of the Federal Reserve System the liquidity of an individual bank is more adequately safeguarded by the presence of the Federal Reserve banks, which were organized for the purpose, among others, of increasing the liquidity of member banks by providing for the rediscount of their eligible paper, than by the possession of legal reserves. The two main functions of legal requirements for member bank reserves under our present banking structure are, first, to operate in the direction of sound credit conditions by exerting an influence on changes in the volume of bank credit, and, secondly, to provide the Federal Reserve banks with sufficient resources to enable them to pursue an effective banking and credit policy.[19]

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[19] Nineteenth Annual Report of the Federal Reserve Board (Washington: Federal Reserve Board, 1933), pp. 260-261, also p. 264; Cf. also Twenty-Third Annual Report

This new conception of the primary function of legal reserves found practical application in the Thomas amendment to the Agricultural Adjustment Act of 1933. This amendment gave the government new powers to add to bank reserves, and the provision for raising reserve requirements was a safeguard in case of an inflationary credit expansion which existing controls would be inadequate to curb. This new power could be used only when the Board, upon the affirmative vote of five of its members, and with the approval of the President, declared that an emergency existed by reason of credit expansion. The power of the Board to change reserve requirements was clarified in the Banking Act of 1935. This Act authorized the Board of Governors to raise or lower the required reserve ratio within specified limits. This could be done on the affirmative vote of four members without declaring the existence of an emergency or securing the President's approval. Since that time, legal reserve ratios have been altered some twenty times.

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of the Board of Governors of the Federal Reserve System (Washington: Board of Governors, 1937), pp. 18-19. The statement on the second function is rather ambiguous. Federal Reserve bank's lending power (ability to increase member bank reserves) is not dependent upon the volume of member bank reserve balances; neither is the System's ability to reduce member bank reserves dependent on the volume of reserve balances.

The dollar value of this country's gold stock rose by somewhat less than $14 billion from the end of 1933 to the end of 1939. At the end of 1939, member banks had excess reserves of $5.25 billion. The outbreak of war in Europe indicated that this nation's active balance of trade would continue and gold inflows would continue to increase this country's monetary gold stock. Under these conditions, the powers of the central bank were insufficient to prevent an inflationary expansion of bank credit. To give the Federal Reserve sufficient power to prevent such an inflation, it was proposed that all insured commercial banks be required to maintain a secondary reserve of special Treasury bonds against demand deposits, in addition to any other reserves required by Federal or state authorities.[20] The idea of requiring banks to maintain security reserves was considered by the Board of Governors during the war years and a modified version was proposed by the Board in 1947.[21]

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[20] Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," Journal of the American Statistical Association, 35:24-36, March, 1940.

[21] Infra, Chapter III for a discussion of this proposal.

Early in 1951, Edward C. Simmons proposed a secondary reserve requirement that differed in various ways from the proposal of the Board of Governors.[22] Simmons' proposal aims at making the banking system sounder rather than at contributing directly to the effectiveness of monetary policy. Consequently it differs in detail from the Federal Reserve proposal. It does not contain an option for allowing banks to include certain cash assets in the required reserve; nor does it contain a provision for varying the reserve ratio. He suggests the possibility of including open-market commercial paper, bankers' acceptances, and brokers' loans in addition to short-term Government securities.[23]

## Legal Reserves as a Device for Removing Treasury Securities from Money Market Influences

The conception of the function of legal reserves has passed through two stages of development: they were first used as a device to assure bank liquidity and later used as a control of the volume of bank credit. This second function remains as important as ever, but another

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[22] "Secondary Reserve Requirements for Commercial Banks," The American Economic Review, 41:123-138, March, 1951.

[23] Cf. post, Chapter III.

possible function has recently received attention. If the Federal Reserve, in order to combat inflation, restricts the volume of bank credit and raises interest rates, yields on Treasury securities rise and a disorganized market for Government obligations may result. Treasury insistence on marketing its issues at low interest rates prevents the central bank from taking effective action to restrict the expansion of bank credit. Under these conditions, the possibility of using legal reserve requirements to separate the market for Treasury securities from the remainder of the money market has been considered.

The 1947 proposal of the Board of Governors was discussed largely as a device for restricting expansion of bank credit. However, E. A. Goldenweiser suggests the proposal was aimed at developing the market for short-term Treasury securities.[24] He also indicates the plan was intended to insulate a portion of the public debt from money market influences.[25] The Federal Reserve Bulletin article plainly indicates the Board believed it

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[24] Monetary Management (New York: McGraw-Hill Book Company, Inc., 1949), pp. 90-91.

[25] Loc. cit.

had a plan that would remove a portion of the market for Treasury securities from under the influence of developments in the private money market.[26]

Another (and more promising) means of separating the market for Treasury securities from the market for non-Treasury securities has been considered. This plan would require commercial banks to maintain higher reserve ratios against loans to non-Treasury borrowers than against loans to the Treasury. This proposal is discussed in Chapter V below.

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[26] "Proposal for a Special Reserve Requirement Against the Demand and Time Deposits of Banks," Federal Reserve Bulletin, 34:14-23, January, 1948.

# CHAPTER III

## SECONDARY RESERVES OF SHORT-TERM TREASURY SECURITIES

### Historical Review

The pioneer proposal to require commercial banks to maintain secondary reserves of Treasury securities was made by Lawrence H. Seltzer.[1] His idea evolved from the National Bank Act which put an upper limit to the volume of National Bank notes outstanding by requiring that all outstanding notes be secured dollar for dollar by the deposit of certain issues of United States bonds. By limiting the volume of eligible bonds Congress was able to limit the possible note issue. Seltzer proposed that all banks insured by the Federal Deposit Insurance Corporation be required to maintain a reserve against demand deposits in the form of a special series of Treasury bonds, in addition to any other reserves required by Federal or state authorities.

War-time developments brought the idea of security reserves to the attention of Federal Reserve authorities.

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[1] "The Problem of Our Excessive Banking Reserves," Journal of the American Statistical Association, 35:24-36, March, 1940.

At the end of 1943, member banks held $23 billion worth of Treasury bills, certificates, and notes; at the end of 1944 they held $32 billion worth of these securities. The war was to leave the Federal Reserve System with two responsibilities: to prevent unsound credit expansion and to assure reasonable stability to the market for Government securities.

As long as commercial banks held a large volume of short-term Government securities and Federal Reserve authorities supported their prices, the banks held highly liquid secondary reserves that could be sold to the Federal Reserve whenever the banks wanted to increase their reserve balances. This large volume of short-term Government securities in bank portfolios rendered the credit control powers of the Federal Reserve System ineffective. The system had no way to contract credit or halt the credit expansion. If it raised reserve requirements, banks could recoup their excess reserves by selling Treasury securities to the Federal Reserve or by not replacing maturing issues in their portfolios. The initiative in adjusting the commercial banks' reserve positions rested not with the central bank but with the commercial banks.

It was in such an environment that the security reserve plan was officially proposed. In the 1945 Annual

Report of the Board of Governors of the Federal Reserve System, the Board suggested the passage of legislation enabling it to set required security reserve ratios.[2] The political attitude of the time was anti-control and nothing further came of their recommendation. During 1946 bank reserve positions were put under pressure by Treasury expenditure of $20 billion of war loan deposit accounts in commercial banks to retire maturing debt. While banks did increase their loans and sold securities and had many retired, they did not sell short-term Treasury securities to buy longer-term, higher-yielding Government obligations.

## The Proposal

Chairman Eccles of the Board of Governors proposed the plan to Congress in December, 1947, in a statement filed with the Committee on Banking and Currency of the House of Representatives.[3] This reflected a revival of interest in the plan arising from the prospect of continued large exports under the Marshall Plan and from the

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[2] (Washington: Board of Governors, 1946), p. 8.

[3] "Proposal for a Special Reserve Requirement Against the Demand and Time Deposits of Banks," Federal Reserve Bulletin, 34:14-23, January, 1948.

fresh inflation that was due to the corn crop failure.[4] This plan is the one to be discussed here. The proposal was outlined as follows.[5]

(1) Banks subject to the provisions would be required, in addition to their regular reserves, to hold a special reserve consisting of:
   (a) Obligations of the United States in the form of Treasury bills, certificates and notes (with original maturities of 2 years or less); or
   (b) Cash items, as defined in the next paragraph, to the extent that their total exceeds 20 per cent of gross demand deposits plus 6 per cent of time deposits.

(2) For this purpose cash items would include the following:
   (a) Balances with Reserve Banks, including statutory required reserves.
   (b) Coin and currency.
   (c) Cash items in process of collection.
   (d) Balances due from in excess of balances due to banks in the United States.

(3) The special reserve requirement would apply to both demand and time deposits and would be subject to a maximum limit fixed by statute. A maximum of 25 per cent of gross demand deposits and a maximum of 10 per cent of time deposits will probably be adequate for the temporary period covered by the proposed statute.

(4) The requirement would apply to all banks receiving demand deposits, including member banks of the Federal Reserve System and nonmember banks--insured and noninsured. It would not apply, however, to banks that do exclusively a savings business.

(5) The power to impose and to vary the special reserve requirement would be vested in the Federal Open Market Committee and would be limited by law to a temporary period of three years.

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[4] Albert G. Hart, Money, Debt and Economic Activity (New York: Prentice-Hall, Inc., 1948), p. 452n.

[5] Federal Reserve Bulletin, op. cit., pp. 16-17.

(6) The requirement would be introduced gradually as credit conditions warrant. The authorizing statute could provide that, after a special reserve has been established of 10 per cent against gross demand deposits and 4 per cent against time deposits, further changes would not exceed 5 per cent of gross demand deposits and 2 per cent of time deposits at one time. Ample notice should be given before the effective date of the initial application of the requirement, or of subsequent changes, to allow banks adequate time to make adjustments.

(7) The following considerations should determine the timing of the introduction of, or changes in, the special reserve requirement:
   (a) The volume and ownership of special reserve assets and of other assets readily convertible into eligible assets;
   (b) Past and prospective gold movements, currency fluctuations, or other factors causing changes in the volume of bank reserves;
   (c) Conditions in the Government securities market;
   (d) The general credit situation.

(8) Special reserves and requirements would be computed on a daily average basis for monthly periods, or for other periods, by classes of banks as the Open Market Committee might prescribe. The penalty against average deficiencies in the requirements would be one-half per cent per month, payable to the United States.

(9) The Federal Open Market Committee would be authorized to issue regulations governing the administration of the requirement, to require necessary reports, and to delegate administration with respect to nonmember banks to other appropriate Federal or State banking agencies.

The proposal excludes Treasury bonds from the special reserve because the volume of bills, certificates, and notes can more easily be limited to relatively stable amounts. Inclusion of Government bonds within two years of call dates or maturity would

result in more frequent variations in the total amount of eligible securities outstanding. This would entail more frequent variations in the secondary reserve ratio, introducing an unnecessary element of uncertainty into bankers' calculations.

Banks holding deposits subject to withdrawal on demand should maintain a high degree of liquidity; to the extent that their security reserves include long-term bonds, their liquidity is reduced. If higher-yielding bonds were eligible, commercial banks would likely hold as large a portion of them as possible. Thus, these security reserves would in reality be long-term investments, subject to the wider price fluctuations characteristic of such investments. On the other hand, bills, certificates, and notes are short-term, readily liquidated, and subject to narrow price variations.

The inclusion of longer-term securities yielding a higher income would make it possible for banks to continue shifting their holdings of short-term securities to the Federal Reserve and to purchase higher yielding bonds from non-banks. The proposal then would not accomplish one of its prime purposes--to restrict monetization of the public debt. Limiting the required reserve to these three Treasury issues would make it necessary

for banks to sell their higher-yielding securities in order to obtain reserves. This would tend to restrict banks' lending activities somewhat.

The formula provides for the inclusion of cash assets as well as securities in the legal reserve in order to avoid working hardships on banks that obtain new funds that are not holding adequate amounts of the eligible securities, or on banks that could not or do not want to acquire adequate amounts of the eligible issues. This provision does not render the proposal less effective because holdings of cash are just as effective as holdings of Treasury securities in reducing credit expansion. If commercial banks, in order to satisfy secondary reserve requirements which made only securities eligible, had to buy securities from non-bank investors, they would be monetizing the public debt.

Only the excess of the sum of the cash items over an amount needed for required reserves and operating funds would be eligible for inclusion in the secondary reserve. The Board suggested a level of 20 per cent of gross demand deposits plus 6 per cent of time deposits as a statutory amount for these funds.[6] What a bank holds

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[6] At the time the proposal was made, member bank reserve requirements against time deposits were six per

above this statutory amount will be eligible for inclusion in its special reserve. "Banks of all classes typically hold these cash items in an aggregate amount equal to the sum of about 25 per cent of gross demand deposits and 6 per cent of time deposits."[7] This means that, to meet maximum reserve ratios, many banks would have to acquire eligible securities or cash assets, or reduce their volume of deposits.

The proposal includes only the excess of balances due from banks over balances due to banks in the special reserve. Permitting a bank to count all of its balances due from banks in the special reserve would make it possible for banks to build up fictitious reserves through inter-bank exchanges of deposits.

## Transitional and Administrative Problems

The plan's effectiveness would be reduced if it did not apply to all banks, member and nonmember. However, the coverage of nonmember banks raises jurisdictional and administrative problems. Would the enactment

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cent for all member banks; twenty per cent against net demand deposits for central reserve city and reserve city banks; fourteen per cent against net demand deposits for country member banks.

[7] Ibid., p. 20.

of this proposal require Federal Reserve examination of state noninsured banks? Due to the variety in state reserve requirements, different examination procedures might have to be used in each state and condition report forms might have to be different for each state. If a state noninsured bank had insufficient legal reserves to satisfy both state and Federal Reserve reserve requirements, would that bank owe its penalty to the state or to the United States? Such problems as these could be satisfactorily solved only if the legislative enactment provided for administrative ruling in such cases.

The Board suggests that special reserve requirements be computed on a daily average basis for monthly periods; the penalty against average deficiencies would be .5 per cent per month. The monthly period exceeds the periods used in primary reserve computations for member banks, and the suggested penalty does not correspond with the penalty for primary reserve deficiencies. In the interests of administrative simplicity, it might be wise to make the averaging period and the penalty for deficiencies uniform with the primary reserve requirements. The Board proposes to vest the authority over secondary reserve requirements in the Federal Open Market Committee, rather than in the Board of Governors, which

has control over primary reserve requirements. It would seem wiser to have all powers over reserve requirements vested in the same body.[8]

This proposal would require a bank to hold reserves against gross demand deposits, rather than against net demand deposits as at present. In 1931, the Committee on Bank Reserves of the Federal Reserve System proposed that banks hold reserves equal to 5 per cent of net deposits plus 50 per cent of average daily debits.[9] This was aimed at adjusting reserve requirements to changes in the velocity of circulation of bank deposits. Since the present proposal would require reserves against cash items in process of collection, it appears that it might be aimed at the same result as the Committee's proposal.

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[8] It is the opinion of some that authority over existing primary reserve requirements and rediscount rates should be vested in the Open Market Committee because the five members who are Federal Reserve bank presidents bring to this body more thorough knowledge of actual banking conditions and bankers' sentiments. Cf. Monetary, Credit, and Fiscal Policies: Hearings before the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report. 81st Cong., 1st sess. (Washington, 1950), pp. 220-222, 434, 444-447.

[9] "Member Bank Reserves--Report of the Committee on Bank Reserves of the Federal Reserve System," Nineteenth Annual Report of the Federal Reserve Board (Washington: Federal Reserve Board, 1933), pp. 262, 274-285.

This proposal would require a bank to maintain reserves against its balances due from banks. The effect of this provision is to make the impact of reserve requirements more uniform on member and nonmember banks, inasmuch as many nonmember banks are allowed to include balances due from banks in their required primary reserves and maintain a much higher proportion of their deposits in this form.[10]

If the secondary reserve requirement is set high enough to have any restrictive effect on the expansion of bank credit, some banks will have an insufficient quantity of secondary reserves. Measures might have to be taken to aid some banks in making the adjustment. The Federal Reserve could agree to lend reserves, secured by municipal or corporate bonds, to a bank with deficient reserves for, say, a year. Or it might provide that any bank with a reserve deficiency would not be penalized for that deficiency for a specified period, but it could not expand its loans or investments until the deficiency was made up.

## Effects on Credit Management

Establishment of the special reserve requirement would accomplish two principal purposes: (1) it

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[10] Infra, Tables II and III.

> would reduce the amount of Government securities that banks would be willing to sell to obtain additional reserves; and (2) it would decrease the ratio of multiple credit expansion on the basis of a given amount of reserves. The results could be accomplished without reducing the volume of earning assets of banks.[11]
>
> How great a reduction [in the ratio of multiple credit expansion] from the present ratio of six or more to one would result from the proposal will depend on the percentage requirement established. It would also depend on the banks' holdings of assets eligible for the special reserve and their ability to acquire them from sources other than the Federal Reserve.[12]

Case 1. Suppose the weighted average reserve requirement against demand deposits for the country is 17 per cent, that the secondary reserve proposal has been enacted, and the secondary reserve ratio against demand deposits is 25 per cent. Assume the volume of time deposits remains constant, the quantity of coin and currency in circulation does not change, the volume of cash items in process of collection does not vary, and the volume and location of interbank balances do not change. For every $1,000.00 that commercial banks expand their demand deposits, their required primary reserves increase by $170.00 and their required secondary reserves, by $250.00. If the banking system has excess reserve balances with the

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[11] Federal Reserve Bulletin, op. cit., p. 17.

[12] Loc. cit.

Federal Reserve banks, these are reduced; if it has eligible Treasury securities in sufficient amounts, $250.00 worth will be transferred to required secondary reserves. The banking system can increase the volume of deposits by 5.9 times the volume of excess reserve deposits.

Case 2. If the banking system has excess reserve balances with the Federal Reserve but has no Treasury securities, a $1,000.00 increase in demand deposits will result in an increase of $170.00 in legal primary reserves. The banks will have to purchase eligible securities from nonbank investors or the Federal Reserve in the amount of $250.00. Suppose they buy them from nonbanks (we will consider the case where they buy from the Federal Reserve later). This will increase required primary reserves by $42.50 and required secondary reserves by $62.50. The banks can draw down their reserve balances with the Federal Reserve to meet the increased primary and secondary reserve requirements. If the process stops here, the banking system can increase the volume of demand deposits by slightly over $4.50 for each dollar of excess reserves. Banks may meet the $62.50 increase in secondary reserve requirements by purchasing eligible securities from nonbank holders, draw down their excess reserve balances to meet required primary reserves, and repeat this process again and again.

In this case, the formula for the sum of an infinite geometric progression can be used to find the limits of the increases in deposits and required reserves.[13] The total possible increase in demand deposits is $1,333.33; in required primary reserves, $226.67; in required secondary reserves, $333.33. Now the expansion multiple is 5.9, the same as in case 1.

Four and five-tenths and 5.9 are the lower and upper limits, respectively, to the deposit expansion multiple for each dollar of excess reserves. The actual multiple will be nearer the upper limit than the lower. If the banks make only one more purchase of eligible securities, i.e., if they purchase eligible securities in the amount of $62.50 and draw down their excess reserve balances with the Federal Reserve to meet the ensuing rise in primary and secondary reserve requirements, the expansion multiple is already 5.6.

Case 3. Suppose, however, the banking system has excess reserve balances with the Federal Reserve, but has no Treasury securities, and can buy no eligible securities. The excess reserve balance will be drawn down by the same $170.00 as before plus the necessary $250.00 to meet the required secondary reserve. The

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[13] This equation is: $s = a/(1-r)$, where a is the first term, r is the common ratio. Incidentally, this assumes the purchase of eligible securities at par.

deposit expansion multiple is now 2.4 times the volume of excess reserves. If they buy eligible securities from the Federal Reserve, the multiple is the same. Or, if the banks have no excess reserve balances and can buy no eligible securities from nonbank holders but have more eligible securities than they require, they can sell some of these to the Federal Reserve to acquire reserve balances. The banks can then expand their deposits by an amount 2.4 times the excess of eligible securities.

Before going further with this discussion, it would be well to consider some of the assumptions. Time deposits would probably increase as demand deposits increase, but this does not affect the comparative results. All three cases would be affected similarly by the fact that time deposits can be expanded by a greater amount than demand deposits, with a given volume of excess reserves. Coin and currency in circulation will increase slightly; this simply means that excess reserve balances will more quickly be exhausted and does not affect the comparative results in the above analysis. Interbank balances will probably increase somewhat; since these tend to concentrate in cities, where higher primary reserve ratios are required against demand deposits, the expansion multiple for a given volume of excess reserves will be reduced slightly. Cash items in

process of collection will probably increase; but this increase takes place after the deposit is made, and is not available to supply part of the increase in secondary reserve requirements. So the above analysis is sufficiently accurate for our purposes. Unfortunately, these three cases do not exhaust the possibilities.

Actual conditions: Approximation of case 2. The more realistic situation can be partially pictured from a study of bank asset portfolios and an illustrative computation of secondary reserve requirements, based on aggregative figures for June 30, 1947, that appeared in the Federal Reserve Bulletin article.[14] This example showed that if the maximum secondary reserve ratios had been in effect on that date, member banks in the aggregate would have had to increase their holdings of special reserve assets by $5,434,000,000; insured nonmember banks, by $151,000,000, with the given volume and distribution of deposits. On June 30, 1947, member banks had excess reserve balances of $738,000,000.[15] Member banks would have had to purchase special reserve assets to the amount of their deficiency plus the amount of their excess

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[14] Op. cit., p. 21.

[15] Federal Reserve Bulletin, 37:400, April, 1951.

reserve balances because every dollar of excess reserves spent on securities would have to be replaced by one dollar's worth of eligible securities. This is because the excess primary reserves count as part of the required secondary reserve. But every dollar's worth of securities they bought would increase secondary reserve requirements by $0.25, and they would have to buy more securities. This would have been possible only if member banks could have increased their deposits by more than $10.00 for every dollar of excess reserves, which they could not have done.

This writer had no way of computing the excess reserve position of nonmember banks, but assuming them to have been in a situation comparable to that of member banks, this would indicate that the Federal Reserve could have put a halt to credit expansion and even forced a reduction in bank credit. However, the picture is not yet complete. On June 30, 1947, commercial banks held more than $48,750,000,000 worth of Treasury bonds.[16] On the same date, all insured commercial banks in the aggregate held $4,826,000,000 worth of obligations of states and their political subdivisions and $3,471,000,000 worth of

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[16] Federal Reserve Bulletin, 34:80, January, 1948.

other securities; nonbanks owned $13,964,000,000 worth of Treasury bills, certificates, and notes, of which $2,911,000,000 were notes.[17]

Commercial banks could have sold Treasury bonds to the Federal Reserve and used the proceeds to purchase eligible securities from the Federal Reserve or from nonbank investors. Buying eligible securities from the Federal Reserve would in effect be an exchange of securities. Selling bonds to the Federal Reserve and buying eligible securities from non-bank investors would be an example of case 2 (banks have excess reserve balances but need to buy eligible securities from nonbank holders). How many bonds the banks would sell to the Federal Reserve would depend on the strength of the demand for bank credit and the Federal Reserve's policy toward the prices of Government obligations.

The commercial banks can also increase their reserve balances at the Federal Reserve in a less direct manner. If the demand for bank credit is strong, banks can sell municipal bonds and corporate securities. The system as a whole does not increase its reserves in this way (except insofar as the securities are sold to

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[17] Ibid., pp. 68, 80.

foreign investors and the banks import gold with the resultant foreign balances), but each bank that sells some securities increases its reserves at the expense of another bank. This selling will force down the prices of such securities and the resultant higher yields will attract investors. To acquire funds to buy these bonds, the non-bank investors can sell their Treasury securities to the Federal Reserve. Sales by nonbanks to the Federal Reserve increase bank reserves in the same manner that sales to the Federal Reserve by banks do. Here again is a case where the central bank's policy toward the prices of Government obligations will affect the volume of securities sold to it.

Commercial banks' reserves can be increased in a second indirect way. If nonbank investors have attractive lending opportunities, they can sell their Treasury securities to the Federal Reserve to acquire loanable funds. These sales to the Federal Reserve add to the money supply and increase bank reserves. This increase in reserves furnishes a basis for multiple expansion of bank credit.

The Board optimistically believed that the multiple by which deposits can be expanded for each dollar of excess reserves would be reduced from six to one, possible

to two and one-half to one. The Board seems to have been overly optimistic on this point. Such a reduction would have occurred if case three conditions prevailed (if banks have excess reserves but own no Treasury securities and are unable to buy eligible Treasury securities, or if they have no excess reserve balances but hold more than the necessary amount of eligible securities). The above discussion indicates that even if the Board had applied the maximum reserve requirements, actual conditions would have more closely approximated the second case. In this case the deposit expansion multiple would have been somewhere between 4.5 and 5.9 times the volume of excess reserves.

If this secondary reserve requirement were in effect, the planning of open-market operations would become more complex. Before undertaking such operations the Federal Open Market Committee would have to consider the condition, and the effects of the operation on, banks' primary and secondary reserve positions.

## Effects on Debt Management

Divergent movements in short-term interest rates. The Board of Governors believed that one effect of this proposal would be to permit the raising of interest rates

on private credit without raising rates on Government short-term securities. The Board admitted that under the conditions then prevailing, many borrowers would not be deterred even by a substantial rise in short-term rates. But higher interest rates in conjunction with the banks' limited ability to make credit available--which would make them more cautious in extending loans--would be a powerful restraint. Interest rates on private paper might be raised to a limited extent; but the banks' ability to increase deposits would not be reduced as much as the Board hoped, as the preceding discussion demonstrated.

The proposal would bring about differential movements in interest rates on short-term Government paper and rates on private paper if the supply of eligible securities were severely restricted and banks had to hold large portions of their secondary reserves in cash assets. Then the banks would bid up the price of the eligible securities to the point where their yield was materially reduced. Such a situation would probably not have been realized within the three years this proposal was intended to be in effect. The way would be opened for differential movements in short-term interest rates if the available volume of Treasury bills, certificates, and notes were drastically reduced and so was the volume

of reserve deposits with Federal Reserve banks. Again, this situation would not have been realized within the temporary life of the proposal. The proposal would accomplish the purpose of stabilizing commercial bank demand for short-term Treasury securities under the right conditions. But conditions did not exist that would have permitted the proposal to stabilize the demand for low-yielding Government obligations at the same time that other rates were rising.

Federal Reserve's policy toward prices of Government obligations. As shown above, this proposal would not relieve the Federal Reserve System of its responsibility for working with the Treasury to decide upon a policy toward the market for Treasury securities. Nonbanks have large holdings of United States Government obligations and commercial banks have sizable holdings of Treasury bonds. These can be sold to the Federal Reserve to furnish a basis for multiple deposit expansion. If the Federal Reserve will allow the prices of Government obligations to fall to par or below, the "near-moneyness" of these assets would be materially reduced and their holders would be less willing to dispose of them.

## CHAPTER IV

## PROPOSAL TO BASE RESERVES ON TYPE OF DEPOSIT

Recently the Board of Governors of the Federal Reserve System has proposed that the present classification of deposits for reserve purposes be replaced. Under present law, the Board has authority to set legal reserve requirements on time deposits between 3 and 6 per cent of such deposits. It has the authority to vary reserve requirements against net demand deposits between 13 per cent and 26 per cent for central reserve city banks, between 10 and 20 per cent for reserve city banks, and between 7 and 14 per cent for country member banks. Classification of banks by location traces back to the National Bank Acts of 1863 and 1864, and was carried over into the Federal Reserve Act upon its passage in 1913.[1]

That this classification results in inequities was recognized in an Act of September 26, 1918. During the wartime drive to increase the membership of the Federal Reserve System, much opposition came from banks situated

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[1] Cf. ante, Chapter II.

in outlying districts of reserve and central reserve cities, that would have had to meet much higher reserve requirements if they joined. As reserve and central reserve cities tried to expand their city limits, they encountered strong opposition from banks situated in independent suburbs. It was realized that banks in outlying districts of large cities often engaged in a banking business that was more nearly analogous to the business of country banks than to that of reserve city banks.[2] This Act empowered the Federal Reserve Board to allow member banks situated in the outlying districts of a reserve city, or in territory added to such a city by the extension of its charter, to hold the reserve balances required of country banks; and it authorized the Board to permit similarly situated banks in central reserve cities to hold the reserve ratios required of reserve city member banks or of country member banks.

Weaknesses and Inequities of Present Classification

Cost of holding correspondent balances not proportional to volume held. There is still inequity in the

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[2] Robert G. Rodkey, Legal Reserves in American Banking (Michigan Business Studies, Vol. 6, No. 5. University of Michigan School of Business Administration Bureau of Business Research, 1934), p. 73; "The History of Reserve Requirements for Banks in the United States," Federal Reserve Bulletin, 24:963-964, November, 1938.

treatment of those reserve city and central reserve city banks which are located in the business districts but which do not carry balances for correspondents. These banks, engaged in business similar in nature to that of country banks, have to carry much higher reserves than country banks.[3] They suffer reduced earning capacity, while the higher reserves required of them do not accomplish the purpose for which they were originally intended--to assure that banks holding correspondent balances are in a strong position to meet withdrawals from these volatile deposits. These banks are made to pay the higher cost of banks that hold deposits for other banks, without enjoying the income that arises from holding such deposits. This reduced earning power is no doubt an important item in the calculations of those "quasi-country" banks that refrain from joining the Federal Reserve System. Removing this discrimination would remove one cause of their opposition to membership, might result in larger membership, and would eliminate the dissatisfaction of such banks that are already members.

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[3] At present, central reserve city member banks have to maintain reserves equal to 24 per cent of net demand deposits; reserve city member banks, 20 per cent; and country member banks, 14 per cent. In addition, all member banks are required to carry reserves equal to 6 per cent of time deposits.

Another element of discriminatory treatment in the existing system of classification arises from the fact that the proportion of total deposits in the form of bankers' balances varies widely between correspondent banks in the same city. If higher reserves of reserve city banks and central reserve city banks are necessary because of correspondent deposits, then the portion of a bank's total deposits consisting of correspondent deposits should determine that bank's reserve requirements.

The present law permits a member bank to include in its legal reserves only balances with Federal Reserve banks. Member banks that must maintain large proportions of their deposits in the form of correspondent balances and cash in vault undergo correspondingly reduced lending (and earning) power. This is discussed more fully later. Also considered later is the manner in which the banking system's excess reserves are affected by changes in the volume of correspondent balances.

Effect of geographical shifts of deposits on banking system's reserves. This intercity differential in reserve requirements allows net shifts of deposits between banks with different reserve requirements to produce unwarranted and unwanted loosening or tightening of credit. While the Federal Reserve is trying to contract the supply of bank credit, net shifts of deposits

to banks with lower reserve requirements may undo part of their work. The reverse movement of deposits may produce a tightening of credit while the Federal Reserve is encouraging monetary expansion.

The years during World War II furnish an example of the possible results of such shifts of deposits. The shift of deposits from reserve city and central reserve city member banks to country member banks reduced the volume of required reserves by about $450 million, making possible a credit expansion of around $2 billion. The increase in the proportion of total member banks' demand deposits held by country member banks between December, 1939, and December, 1946, increased the latter's demand deposits by about $7.5 billion. If these funds had been in reserve city and central reserve city member banks, the required reserve would have been $1.5 billion; deposited in country member banks, the required reserve was $1.05 billion. Thus, $450 million of excess reserves were created.

## The Proposal

Recognizing these weaknesses and discriminations, the Federal Reserve System has endeavored to find a system of deposit classification to replace the existing one. A staff group of the Federal Reserve made a

preliminary report on the matter to the Joint Committee on the Economic Report on May 27, 1948. Testimony on the subject was presented to the (Douglas) Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report in December, 1949.

In the latter testimony, the proposed classification was presented as a complete plan in itself and it was also linked to a proposal of the Board of Governors that the Board be given authority over legal reserve ratios of all commercial banks--member and nonmember. In this paper, it is discussed as a separate and complete plan. On December 3, 1949, Chairman Thomas B. McCabe of the Board of Governors testified:

> I would like to say that what we call our uniform requirement proposal has not been passed upon by the Board of Governors. The Washington staff has done a voluminous amount of work on this in collaboration with our field staffs. We have conferred with bankers and other groups about it, and we have presented it informally to your joint committee. We have tentatively drafted certain terms and conditions, and the highlights of these terms and conditions are these:
>
> 1. That the differentials in reserve requirements would not be based on geographical location, as at present, but on type of deposits. . .
>
> 2. A relatively low percentage, as at present, would be prescribed for time deposits or savings deposits, a higher percentage for demand deposits other than interbank deposits, and a higher percentage for interbank deposits.

3. Vault cash would be counted as a part of required reserves.[4]

Chairman McCabe also suggested, "Banks should probably also be permitted to count as part of their reserves that part of their interbank balances which the correspondent bank in turn must hold as reserves with the Federal Reserve."[5]

In its Report, the Subcommittee stated:

> Without endorsing any particular plan, we recommend that serious consideration be given to the Federal Reserve proposal that the present system of member-bank reserve requirements based partly on the size of the city in which a bank is located be replaced by a new system of requirements that would be geographically uniform but that might require different percentages of reserves against different types of deposits.[6]

Congress did not take any action on this recommendation and the Board of Governors has not pushed for the enactment of legislation embodying such a revision.

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[4] Monetary, Credit, and Fiscal Policies: Hearings Before the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report, 81st Cong., 1st sess. (Washington, 1950), pp. 498-99.

[5] A Compendium of Materials on Monetary, Credit, and Fiscal Policies: A Collection of Statements Submitted to the Subcommittee on Monetary, Credit, and Fiscal Policies by Government Officials, Bankers, Economists, and Others, 81st Cong., 2d sess., Senate Document 132 (Washington, 1950), p. 55.

[6] Report of the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report, 81st Cong., 2d sess., Senate Document 129 (Washington, 1950), p. 32.

## The Transition

In making the transition from the existing system of member bank reserves to the one under discussion, the Board of Governors would probably set the legal reserve ratios at such a level that the aggregate of required reserves would be approximately the same as the aggregate of required reserves just prior to the transition. Otherwise there could be an unwarranted tightening or loosening of bank credit.

A transitional problem would be presented by the existence of country member banks who have net balances due to banks. The application of this reserve proposal would require them to maintain larger required reserves. Some of these banks might not have the volume of reserve balances necessary to meet the new requirement. Under present conditions, many banks could meet this need for larger reserves by selling some of their Government securities to the Federal Reserve. Banks that were unable or unwilling to make the adjustment in this way could do it through rediscounts and advances. However, these latter two are essentially short-term devices. Adjustment of their reserve position would require these banks to liquidate some of their assets and/or reduce their volume of deposits. The commercial bank's traditional dislike of borrowing from the central bank and

the interest cost on such borrowing would cause the banks to desire to reduce the volume of their loans and investments. For a bank to reduce sharply the volume of loans to its customers might harm customer relations and work hardships on legitimate customers.

To meet this situation, provision might be made for allowing banks to borrow reserve balances interest free from the Federal Reserve, pledging municipal or corporate bonds as security, for some stipulated period, during which time the bank could not increase its loans or investments. Another possibility would be to allow the banks to go unpenalized for a year for the reserve deficiency they had at the time the transition was made, but to require that they do not increase their loans or investments until the deficiency is made up.

## Advantages of this Proposal

Creation of money made equally expensive for all member banks. Since a primary function of legal reserve ratios is to restrict the expansion of bank credit, and practically all bank credit is extended in the form of demand deposits, it is appropriate to require higher reserve ratios against demand deposits than against time deposits. Even if the proportions of demand and time deposits that arise through extension of credit by banks

were nearly equal, there would be justification for requiring higher reserves against demand deposits. They have a higher velocity of circulation and since one dollar spent twice a week can do the work of two dollars spent once a week, it is more important to restrict the volume of demand deposits than it is to restrict the volume of time deposits.[7]

The present reserve requirement makes the holding of demand deposits more costly than the holding of time deposits, but it also makes the holding of demand deposits relatively more costly in some cities than in others. Intercity differences in reserve ratios on demand deposits are not based on differences in velocity of circulation nor on differences in the proportion of demand deposits that arise from the extension of credit. This reserve proposal would restrict the lending activity of all banks equally, regardless of location.

Cost of holding bankers' balances made proportional to the volume held. Robert G. Rodkey made a study of relative frequency of withdrawal of bankers' balances and

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[7] George Garvy, Debits and Clearings Statistics: Their Background and Interpretation (Washington: Board of Governors, 1947), p. 17n. He writes, "Data on debits to time deposit accounts at leading New York City banks during 1934-39 (unpublished) suggest that withdrawals from savings accounts have been a negligible proportion of total debits (less than half of one per cent)."

individuals' demand deposits.[8] He acquired information on daily balances of the two types of deposits and calculated the daily percentage change in the volume of each. He concluded, "Such comparisons serve to support the conclusion. . . that fluctuations of bankers' balances are much greater than those of individual deposits."[9] Further, "In no instance do we find the volatility of bankers' balances less than 1.7 times that of individual demand deposits, while in two of the four cases the susceptibility to decline was approximately twice as great."[10] Since bankers' balances have a higher velocity of circulation than individuals' demand deposits, a restrictive monetary policy calls for higher reserve ratios on them. The expenditure of these deposits does not contribute directly to higher prices for goods and services; it contributes indirectly by permitting banks smoother operation in their lending activities.

A possible reason for requiring banks to maintain higher reserves against bankers' balances is to reduce their competition with the Federal Reserve System. City banks perform various service for their correspondents,

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[8] Op. Cit.

[9] Ibid., p. 85.

[10] Ibid., p. 87.

many of them services that Federal Reserve banks perform for commercial banks. If acceptance of correspondent balances can be made sufficiently expensive through high reserve requirements, the willingness of banks to accept correspondent balances will be reduced. If a bank can find no other bank to perform the functions for it that its correspondent formerly performed, it will have to turn to the Federal Reserve System. This will not necessarily directly increase membership in the System because the System performs many functions for nonmember as well as member banks. However, presumably after banks use the services of the Federal Reserve and become accustomed to working with it in some areas, they will be more willing to join the System, or at least to be influenced by Federal Reserve decisions on monetary policy.

The introduction of this basis would increase reserves of country banks holding large correspondent balances and decrease required reserves of reserve city member banks holding relatively small correspondent deposits. The effect would be to make interbank deposits as relatively costly by whomever held. The price each bank would pay would be directly related to the volume of its correspondent balances.

Inclusion of vault cash in legal reserves. The proposal would allow member banks to count vault cash as

part of their required reserves. Some banks need to hold substantially larger amounts of vault cash than others, because of location or particular needs of their customers. The Report of the Committee on Bank Reserves states:

> . . . This investigation [of the daily vault cash holdings of member banks] showed that member banks situated close enough to Federal Reserve banks or their branches to be able to deposit surplus currency at the Reserve banks or to obtain additional currency supplies from the Reserve banks within a few minutes, maintained vault-cash holdings equal, on the average, to only 1.38 per cent of their net demand deposits. This group of member banks holds about 60 per cent of the total deposits of all member banks.
>
> During the same period, the remaining member banks held vault cash equivalent to 4.64 per cent of their net demand deposits, or more than three times the proportion that was held by member banks close to the Reserve banks. . . . The amount of vault-cash reserves which member banks find it necessary to hold at the present time, therefore, depends mainly on whether or not they are located in the immediate vicinity of the Reserve banks. If they are close enough, they can deposit with the Reserve banks for credit to their reserve balance a large proportion of the vault cash which their business would otherwise require them to hold.[11]

That a similar condition still exists is shown by Tables I and II. What this means can be demonstrated by an example. Consider the case of two banks, each with minimum legal reserve ratios of 20 per cent of demand deposits, one carrying vault cash equal to 1.8 per cent

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[11] Nineteenth Annual Report of the Federal Reserve Board (Washington: Federal Reserve Board, 1933), p. 270.

TABLE I

DEPOSITS OTHER THAN INTERBANK, AND CASH IN VAULT OF ALL INSURED COMMERCIAL BANKS IN THE UNITED STATES, BY CLASSES, JUNE 30, 1950

| Class of Bank | Deposits other than Interbank (In millions of dollars) | Cash in Vault (In millions of dollars) | Ratio of Cash in Vault to Deposits other than Interbank (In Per Cent) |
|---|---|---|---|
| All insured commercial banks | 130,731 | 1,801 | 1.4 |
| Member banks | 111,857 | 1,358 | 1.2 |
| Central reserve city banks | 24,722 | 118 | .5 |
| Reserve city banks | 42,118 | 428 | 1.0 |
| Country banks | 45,017 | 813 | 1.8 |
| Insured nonmember commercial banks | 18,891 | 442 | 2.3 |

Source: Federal Reserve Bulletin. 37:411-415, April, 1951.

of non-bank deposits, the other holding vault cash equal to .5 per cent of non-bank deposits. Suppose each receives an increase in demand deposits of one thousand dollars that increases its reserve balance at the Federal Reserve by a like amount. The first bank can now increase its demand deposits by $782.00 [$1,000 - (.218 x

TABLE II

RATIOS OF CASH ASSETS TO DEPOSITS OF ALL INSURED COMMERCIAL BANKS, BY CLASS OF BANK, JUNE 30, 1949--RATIOS TO TOTAL DEPOSITS
(In Per Cent)

| | Member Banks | | | | | Insured Non-member Banks |
|---|---|---|---|---|---|---|
| | Total | New York | Chicago | Reserve City Banks | Country Banks | |
| Cash in vault | 1.3 | 0.5 | 0.4 | 1.1 | 2.1 | 2.6 |
| Balances due from banks | 4.4 | .3 | 2.5 | 4.0 | 7.2 | 14.7 |
| Cash items in process of collection | 5.1 | 9.3 | 5.8 | 5.9 | 1.9 | .6 |
| Subtotal | 10.8 | 10.1 | 8.7 | 11.0 | 11.2 | 17.9 |
| Reserves with Federal Reserve Banks | 15.2 | 20.0 | 19.3 | 15.5 | 11.8 | ---- |
| Total, cash assets | 26.0 | 30.1 | 28.0 | 26.5 | 23.0 | 17.9 |

Source: Monetary, Credit, and Fiscal Policies: Hearings Before the Subcommittee on Monetary, Credit, and Fiscal Policies of the Joint Committee on the Economic Report, 81st Cong., 1st sess. (Washington, 1950), p. 475. Presented by Chairman McCabe of the Board of Governors.

$1,000)]; the second can increase its demand deposits by $795.00 [$1,000 - (.205 x $1,000)]. In other words, for every dollar increase in reserves that occurs in this fashion, the second can loan $.013 or about 1.8 per cent more than the first can.

This example is somewhat artificial for two reasons. First, it takes no account of a probable increase in balances with correspondent banks; this will be considered later. Second, two banks with such divergent ratios of cash in vault to deposits would probably not have the same legal reserve ratio. But this illustration more clearly demonstrates how the necessity for holding larger amounts of vault cash reduces a bank's earning capacity under present reserve legislation.

This is a minor discrimination, but there is no economic reason for its being. From the standpoint of monetary control, vault cash which banks need for operating purposes is the equivalent of reserve balances with the Federal Reserve bank. The need for an increased volume of vault cash can restrict a bank's lending power just as can an increase in legal reserve requirements. Both vault cash and legal reserve deposits are largely liabilities of the Federal Reserve banks. The entire volume of legal reserve balances is a liability of the Federal Reserve, and that portion of vault cash which consists of Federal Reserve notes is likewise a liability of the Federal Reserve. Other vault cash, directly or indirectly, comes into the hands of commercial banks from Federal Reserve banks. The present reserve legislation acts as a deterrent to membership in the Federal Reserve System

(though the deterrent may be slight) because in forty-six states, state nonmember banks are allowed to count vault cash as part of their legal reserve.[12] These facts furnish sound reason for including vault cash as part of a member bank's legal reserves.

Inclusion of a portion of balances due from banks in legal reserves. This proposal would allow a bank to count as part of its legal reserves that part of its correspondent balances which the correspondent holds as required reserves. Table II shows the proportion balances due from banks are to total deposits for various classes of banks; Table III shows the ratio of balances with domestic banks, excluding reciprocal bank balances, to total deposits other than interbank. Note that the rank correlation (Tables I and III) between classes of banks ranked according to proportion of cash in vault to deposits and according to the ratio of balances with domestic banks to deposits, is one. That is, the class of bank that has the highest proportion of the one also has the highest porportion of the other; the class ranking second in one also ranks second in the other; and so on down to the class with the lowest proportion of each. The same

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[12] B. Magruder Wingfield, "Deterrents to Membership in the Reserve System," Banking Studies (Washington: Board of Governors, 1941), p. 282.

TABLE III

DEPOSITS OTHER THAN THE INTERBANK, AND BALANCES WITH DOMESTIC BANKS, ALL INSURED COMMERCIAL BANKS IN THE UNITED STATES, BY CLASSES, JUNE 30, 1950

| Class of Bank | Deposits other than Interbank (In millions of dollars) | Balances with Domestic Banks[1] (In millions of dollars) | Ratio of Balances with Domestic Banks to Deposits other than Interbank (In Per Cent) |
|---|---|---|---|
| All insured commercial banks | 130,731 | 8,358 | 6.4 |
| Member banks | 111,857 | 5,478 | 4.9 |
| Central reserve city banks | 24,722 | 152 | .6 |
| Reserve city banks | 42,118 | 1,747 | 4.1 |
| Country banks | 45,017 | 3,579 | 7.9 |
| Insured nonmember commercial banks | 18,891 | 2,880 | 15.2 |

[1] Excludes reciprocal bank balances.

Source: Federal Reserve Bulletin. 37:411-415, April, 1951.

relationship holds for the data in Table II if New York and Chicago are classed together.

The information in Table III can be combined with that in Table I to illustrate how a country member bank's volume of deposits is reduced by its larger holdings of

cash in vault and balances with banks. Suppose there are two banks, each required to hold reserve balances with the Federal Reserve of 20 per cent, one having a ratio of cash in vault to deposits other than interbank of 0.5 per cent and a ratio of correspondent balances to deposits other than interbank of 0.6 per cent, the other having ratios of 1.8 and 7.9 per cent, respectively. Suppose each receives a $1,000.00 demand deposit that increases its reserve balance with the Federal Reserve by $1,000.00. The first can increase its loans by $789.00; the second can increase its loans by $703.00. The necessity for maintaining larger proportions of cash in vault and balances with correspondent banks reduces the lending power of the one bank to 89 per cent of the other bank's lending power.

This clearly illustrates how present reserve requirements for member banks result in discrimination between the various classes of member banks. Allowing member banks to count vault cash and the specified portion of their balances due from banks as part of their required reserve would eliminate part of this discrimination. For example, assume the same legal reserves and the same proportions of cash items as in the preceding example, but suppose member banks can

include vault cash and a specified portion (say one-fourth) of their balances with correspondents as part of their required reserves. The bank having the lower proportion of cash in vault and correspondent balances can now increase its deposits by $795.50 {$1,000.00 - $1,000.00[.20 + (.75 x .006)]} per thousand dollar increase in reserves, the other by $740.75. Now per dollar increase in reserves that arises from a primary demand deposit, the bank with the higher proportions of vault cash and balances due from banks can increase its deposits by 93.1 per cent as much as the other can increase its deposits, in comparison with 89 per cent as much when these two items were not counted as legal reserves.

A similar comparison can be made between country member banks and insured nonmember banks, using the data of Table II. Consider the nonmember bank to be allowed to consider the first two items listed in Table II as legal reserves, as nearly all of them are allowed to do.[13] For each dollar increase in reserves that arises from a primary demand deposit, the insured nonmember bank can increase its loans by $.827[$1.00 - ($1.00 x .173)], which is $.038 is 4.8 per cent more than the country member bank can increase its loans.[14] Now make the same comparison assuming

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[13] Wingfield, loc. cit.

[14] Cash items in process of collection do not reduce a bank's lending power.

the plan to base reserves on type of deposit to be in effect and further assuming the reserve against interbank balances to be 25 per cent. The country member bank need increase its reserve balances with the Federal Reserve by only $.079 {$.118 - [$.021 + (.25 x $.072)] = $.079}, for every dollar increase in deposits. For each dollar in reserves that arises in this fashion, the insured nonmember bank can still increase its loans by $.827. The country member bank can increase its loans by $.828 [$1.00 - $1.00(.079 + .021 + .072)]. Now, for each one dollar increase in demand deposits that increases its reserves by one dollar, the country member bank can increase its loans by slightly more than the insured nonmember bank can increase its loans.

This example illustrates how this reserve proposal would eliminate the discrimination against country member banks relative to insured nonmember banks. The elimination of this discrimination could result in increased membership in the Federal Reserve System.

Computation of required reserves. Before going into the manner in which this classification of deposits would remedy the situation whereby net changes in the volume of bankers' balances can affect the banking system's volume of excess reserves, it will be necessary to make a short detour to discuss how reserve requirements might be set under this plan.[15] This writer has found no more information

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[15] For the present system of computation of reserves, refer to Regulation D: Reserves of Member

on this subject than that already given; what follows is reasonable conjecture on the part of the writer. The volume of time deposits subject to reserve requirements will be computed on the same basis as at present. Demand deposits other than interbank deposits will be gross demand deposits as now defined by the Board of Governors in Regulation D, excluding "demand balances made by other banks." In the case of each bank, the amount of demand deposits other than interbank deposits subject to the applicable reserve ratio will be as defined in the preceding sentence minus "cash items in process of collection," as defined in Regulation D. For each member bank, the volume of interbank deposits subject to the higher reserve requirement will be "demand deposits made by other banks" minus "the amounts of balances subject to immediate withdrawal due from other banks." This basis of computation would require only minor revisions in the present definitions of the Board of Governors.

The present practice of allowing a bank to deduct the excess of balances due from banks over balances due to banks, from gross demand deposits to find net demand deposits would not be continued in the system under

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Banks. Washington: Board of Governors of the Federal Reserve System.

discussion here. A bank would be permitted to count as part of its required reserve that part of its balances with correspondent banks which the correspondent banks in turn must hold as reserves with Federal Reserve banks. That is, the reserves that a bank's correspondents must hold against the amount of its net balances due from banks can be deducted from the total required reserves of that bank to find the size of the reserve balances it must hold with the Federal Reserve. If the bank were also allowed to deduct its net due from banks from its nonbank demand deposits to find the volume of deposits it must hold reserves against, there would be a double counting of its net balances due from banks.

As an example, suppose a bank has $1 million due from banks and $.5 million due to banks and the reserve ratio on interbank deposits is 25 per cent. Suppose it has $5 million in demand deposits against which the reserve ratio is 15 per cent, and has $2 million time deposits on which the reserve ratio is 5 per cent. Its required reserves are $745,000, computed in this manner.

| | | |
|---|---|---|
| | $2,000,000 x .06 = | $120,000 |
| ( + ) | $5,000,000 x .15 = | $750,000 |
| | | $870,000 |
| ( - ) | $500,000 x .25 = | $125,000 |
| | | $745,000. |

There would be a double counting of its net balances due from banks if the bank computed its required reserves in the following manner.

$$\$2{,}000{,}000 \times .06 = \$120{,}000$$
$$(+)\ (\$5{,}000{,}000 - \$500{,}000) \times .15 = \$675{,}000$$
$$\$795{,}000$$
$$(-)\ \$500{,}000 \times .25 = \$125{,}000$$
$$\$670{,}000.$$

If expressed in a somewhat different fashion, the double deduction may be clearer. This system of computing required reserves is exactly equivalent to the following manner.

$$\$2{,}000{,}000 \times .06 = \$120{,}000$$
$$(+)\ \$5{,}000{,}000 \times .15 - \$500{,}000 \times .15 - \$500{,}000 \times .25 = \$550{,}000$$
$$\$670{,}000.$$

Required reserves not affected by changes in volume of bankers' balances. Under present conditions, when a country member bank increases its net correspondent balances with central reserve city member banks or reserve city member banks by one thousand dollars, its net demand deposits are decreased by an equivalent amount and its required reserves are reduced by $140. Net demand deposits of the central reserve city or reserve city bank are increased by one thousand dollars and required reserves, by $240 or $200, respectively. Excess reserves of the banking system are reduced, and

required reserves are increased, by $100 or $60, respectively, while there has been no change in the volume of bank credit.

Under this plan, shifts of funds into or out of bankers' balances do not affect the volume of excess reserves of the banking system. Suppose the required reserve ratio against interbank balances is 25 per cent. Suppose a bank deposits one thousand dollars of its excess reserves with a correspondent bank. This will not affect the volume of reserves required against nonbank demand and time deposits in either the depositor bank or its correspondent. The deposit will increase the "due to banks" liability of the correspondent by one thousand dollars, and its required reserve by two hundred fifty dollars. It will increase the "due from banks" account of the depositor by the amount of the deposit, thereby reducing the excess of "due to banks" over "due from banks," or increasing the excess of the latter over the former, by one thousand dollars and decreasing the bank's required reserves by two hundred fifty dollars.[16]

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[16] Balances due from Federal Reserve banks or branches thereof do not at present, and would not, be included in due from banks.

# CHAPTER V

## SUGGESTION THAT LOWER RESERVE RATIO BE REQUIRED AGAINST LOANS TO TREASURY THAN AGAINST OTHER LOANS

### Historical Review

The purpose of allowing commercial banks to maintain lower reserve ratios against loans to the Treasury than against other loans is to separate the money market into two markets--a market for Federal securities and a market for all other loans and investments--in order that the central bank can influence the latter without seriously disrupting the former. A similar purpose underlay Federal legislation nearly nine decades ago. One motive for passage of the National Bank Acts of 1863 and 1864 was to furnish a stable, assured market for Treasury bonds. National banks chartered under those Acts had to deposit with the Federal Government, Federal bonds equal to one-third of the bank's capital. Upon depositing bonds with the government, a bank could receive circulating notes up to 90 per cent of the current market value of the bonds deposited (not exceeding 90 per cent of the par value). Under the National Bank Act, the public debt provided the principal basis for the money supply of this country until the passage of the Federal Reserve Act.

The Federal Reserve's proposal to require commercial banks to maintain secondary reserves of short-term Treasury securities was aimed at splitting the money market. This plan was intended to permit low-rate marketing of Federal securities while making way for higher rates on, and a restricted market for, private paper. Requiring a higher reserve against private deposits is not a new idea. During the period April 13, 1943, to June 30, 1947, banks were not required to maintain reserves against war loan and series E bond accounts.

## Results of Differential Reserve Requirements

The plan can be analyzed from the standpoint of its effect on bank earnings. With a given volume of excess reserves, a bank can now increase its income by a much greater amount if it invests in loans than if it purchases Treasury securities. Under this plan, the amount that a dollar of excess reserves will earn the bank if used as the basis for a loan may or may not exceed the amount it will earn for the bank if used as the basis for a purchase of Treasury securities, depending upon the reserve ratios.

For 1950, the data for all member banks shows an average rate of return on United States Government obligations of 1.57 per cent, a rate of return on all

securities of 1.64 per cent, and a rate of return on loans of 4.17 per cent.[1] These averages will be used in the illustrations.

Consider a bank with a ratio of cash in vault to total deposits other than interbank deposits of 1.4 per cent and a ratio of bank balances to deposits other than interbank of 6.4 per cent. Assume the required reserve against loans to the Treasury is 5 per cent; the reserve against other loans and investments is 50 per cent. Suppose the bank receives a deposit which increases its reserves by $1,000.00. If the bank uses these reserves as the basis for a purchase of Treasury securities, it can increase its deposits $872.00, on which it can earn $13.69 yearly. If the bank uses its reserves as the basis for a loan to non-Treasury borrowers, it can lend $422.00, on which it can earn $17.60 yearly. Now suppose the reserve ratio against all demand deposits is 20 per cent. The bank could lend $722.00; if lent to non-Governmental borrowers, it could earn $30.11 yearly on this loan; if lent to the Treasury, it could earn $11.34 yearly. Under the 20 per cent reserve requirement, the bank's earnings if the reserves are used as the basis for a loan to non-Governmental borrowers are 166 per cent

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[1] Federal Reserve Bulletin, 37:581, May, 1951.

greater than if used as the basis for a purchase of Treasury securities. Under the differential reserve requirement, the first is only 90 per cent greater than the second. If the reserve against Treasury loans were 5 per cent and that against others were 60 per cent, a bank's earnings per dollar of reserves would be greater if the bank used its reserves to purchase Treasury securities at a 1.57 per cent yield than if it lent to non-Treasury borrowers at a yield of 4.17 per cent.

If the banks felt it necessary to earn the same amount of income per dollar of reserves when the reserves are used as the basis for a loan against which a 50 per cent reserve is required as when used as the basis for a loan against which a 20 per cent reserve is required, they would raise the average rate on non-Treasury loans to 7.14 per cent (.0417 x $722.00 = .0714 x $422.00 = $30.11). This illustrates how a differential reserve requirement would affect interest rates and bank earnings. It could have the effect of encouraging bank investment in Treasury securities, of raising interest rates on non-Treasury obligations, or a combination of the two. The latter seems the more likely result.

Raising interest rates on loans would have an anti-inflationary effect. This would be particularly true if the increase were sufficiently sharp and rates

stayed up long enough to affect the rate on long-term securities, because a rise in long-term rates has a stronger anti-inflationary effect than a rise in short-term rates. However, even if the most optimistic assumption as to the influence of interest rates is made, they must be considered to have a relatively slight restrictive effect in time of inflation. A more considerable effect would arise, not from the requirement's effect on the demand for credit through the interest rate, but from its effect on the supply of credit through banks' restricted ability to extend credit. A sharp limitation on the expansion of bank credit would have a strong restraining influence on an inflationary price rise. This reserve suggestion would permit a rise in the interest rate on private paper and a restriction of bank lending power without necessitating a rise in yields on United States Government obligations.

Taking into consideration the existence of non-member banks, and the increases in currency in circulation, in time deposits, and in working reserves that accompany an increase in demand deposits, the present deposit creation multiplier for each dollar of excess reserves is approximately three and one-tenth.[2] If

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[2] Albert G. Hart believes the deposit creation multiplier to be about three to three and one-half. Money,

differential reserve ratios of 5 and 50 per cent were in effect against Treasury and non-Treasury loans, respectively, and banks increased their total assets in such a way as to maintain the present proportions of total assets in the form of United States Government obligations, the deposit creation multiplier would be about three and one-half times the volume of excess reserves.[3] Under these conditions, differential reserve ratios would permit a slightly greater expansion of the money supply per given quantity of excess reserves than the present legal reserve ratios permit.

If the volume of Treasury securities (purchased directly from the Treasury) that banks held expanded less than proportionately with the expansion in the volume of other bank earning assets, the multiplier would be reduced. If their volume expanded more than proportionately, the multiplier would be increased. How rapidly banks holdings of Treasury issues expand in relation to bank holdings of other debt will depend on the volume of

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Debt and Economic Activity (New York: Prentice-Hall, Inc., 1948), pp. 74, 452. Cf. Infra, Appendix, for derivation of the value of three and one-tenth.

[3] On February 28, 1951, 47 per cent of the total of all member banks' loans and investments was in the form of United States Government obligations. Federal Reserve Bulletin, 37:411, April, 1951.

Federal deficit financing and the effectiveness of this proposal in restricting the extension of credit by banks.[4]

## Nonbank Holdings of Treasury Securities

A factor that must be considered in connection with this plan is the existence of large nonbank holdings of Treasury securities. If the plan is highly successful in encouraging bank purchases of Treasury paper and in raising interest rates on other paper, the result may be at the expense of a diminished nonbank market for Treasury securities. A respectable spread between the yields on Federal paper and the yields on other paper will result in sales of nonbank holdings of Government obligations to the Federal Reserve in order to acquire funds to invest in higher yielding non-Governmental securities. And nonbank holders will be purchasing a smaller proportion of the new issues of the Treasury.

Sales of nonbank holdings to the Federal Reserve will increase bank reserves. What will happen if the Treasury is making no offers of new (not refunding)

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[4] If banks used all their excess reserves as the basis for the purchase of Treasury securities directly from the Treasury, the deposit creation multiple would be about eight times the volume of excess reserves; if used as the basis for loans, the multiple would be about one and seven-tenths.

issues? Rather than use the reserves to buy already existing Treasury securities from nonbanks (this would require the same reserve ratio as loans to non-Federal borrowers), the banks will make loans to non-Federal borrowers, thus expanding the volume of bank credit. The same result can follow if the Treasury offers refunding issues of securities. The banks will then acquire reserves from two sources: the sale of nonbank holdings of Treasury securities to the Federal Reserve and the taking up of maturing issues by the Treasury. Only a small portion of the balances with the Reserve banks that the commercial banks receive from the Treasury for the matured issues will become required reserves when the banks credit the Treasury deposit accounts to pay for the new issues, unless the Treasury transfers some of its receipts to accounts in Reserve banks. However, nonbank investors will be taking a smaller proportion of the new Treasury issues; this will mean a larger proportion will be purchased by banks. But due to the small reserve ratio required against Treasury securities, banks may still have excess reserves that will support loans to non-Treasury borrowers. In a period when the Treasury is doing a large volume of deficit financing, the Treasury will be offering new issues on the market quite frequently. Then nonbank sales to the Federal Reserve will furnish

banks reserves that can largely be absorbed by bank purchases of Treasury issues. This assumes a positive reserve ratio on Treasury paper. If no reserves are required on Treasury loans, all reserves acquired from these two sources will be available as the basis for loans to non-Treasury borrowers, except insofar as the Treasury transfers its balances to Reserve banks. This indicates it would be wise if the Treasury transferred receipts from sales of refunding issues to accounts in Reserve banks.

In order to increase their volume of loans, the banks can sell part of their holdings of municipal and corporate securities. If a large volume is sold, the prices of these securities will be depressed and nonbanks will sell Government obligations to the Federal Reserve to acquire funds with which to buy these municipal and corporate securities. However, the volume of these operations will be limited. To the extent that this proposal raises interest rates on private paper, the prices of the lower-yielding securities already outstanding will decline. Then sales by the banks will involve capital losses, and nonbank purchases of these securities will not be made until the prices have fallen sufficiently to make the yields on these securities attractive compared to the higher yields on new issues.

## Basis for Computation of Reserves

For greater efficiency as a credit control device, the differential reserve ratios should be applied to earning assets rather than to deposit liabilities. The volume of a bank's required reserves would be calculated on the volume and composition of its assets rather than on the volume and composition of its liabilities. For the reason for this, consider what would happen in case of a large increase in Treasury deposits at the expense of other deposits, if reserves were computed on the basis of deposit liabilities. At quarterly tax dates, at the March income tax deadline, or during a Savings Bond drive, individuals and corporations draw down their bank deposits to pay the Treasury. This increases Treasury deposits, against which a low reserve would be required, and reduces other deposits, against which a higher reserve would be required. For the banking system as a whole, the volume of excess reserves would rise, increasing banks' lending ability. Then as the Treasury spent the proceeds, its deposits would decline, the deposits would return to non-Treasury owners, and the volume of required reserves would rise sharply. Since there is a time lag between Treasury receipts and expenditures, banks can increase their deposits on the basis of these excess reserves. Thus the banking system's

power to extend credit would be alternately expanded and contracted without regard to the credit situation.

It can be argued that, even though reserves were applied against deposits, the Treasury's operations would cause no upset. Bankers would realize that a major proportion of the Treasury deposits would soon be spent and pass into the possession of other owners. In the meantime, banks would continue to maintain large reserves against these deposits, but in the form of working reserves rather than in the form of legal reserves. In other words, bankers would not, in effect, consider a large increase in Treasury deposits as freeing a proportion of required reserves, because they would realize that as soon as these deposits were spent, the higher reserve ratio would again apply to them.

However, because of the time lag between Treasury receipts and expenditures, bankers are liable to decide that the increase in Treasury deposits has freed at least a portion of their reserves and they can increase their loans. This writer doubts the wisdom of presenting bank management with the opportunity to decide whether or not such an operation has added to its lending power. It would be especially unwise at a time when there is a strong demand for credit.

If the reserve ratio were based on type of asset, Treasury operations would not have this effect of alternately expanding and contracting the volume of excess reserves. A shift of deposits from other owners to the Treasury would not change the volume of required and excess reserves because the banking system's assets would undergo no change. On the other hand, if the bank purchased Treasury obligations, it would have to hold a certain fixed quantity of reserves against those securities (not against their equivalent in deposits) as long as it held the obligations, regardless of changes in ownership of the deposits the bank credited to the Treasury in the first place. Similarly, if the bank makes a loan to an individual it will have to hold reserves equal to some fraction (say 50 per cent) of the size of the loan until it is repaid, even if the individual borrowed to pay Federal taxes.

What of deposits that arise from the actual bringing of money to the bank--primary deposits? These would not change the composition or the value of the loans and investments portfolio and so would not affect the bank's reserve position. The effect on the bank's reserve position would depend on what the bank did with the funds arising from the deposits. If it invested in Government obligations, a 5 per cent reserve would be

required against the amount of the investment; if it lent to non-Treasury borrowers, the reserve would be 50 per cent of the amount of the loan.

Under this system of computing required reserves, there arises the problem of deciding on what reserve ratio to require on Treasury securities purchased from nonbanks. Since such a purchase is more nearly comparable to an extension of credit to a non-Treasury borrower than to an extension of credit to the Treasury, it would be appropriate to require the same reserve on Treasury securities purchased from non-banks as on loans to individual borrowers. Bank bookkeeping systems would then have to separate their Treasury securities into two accounts, one consisting of securities purchased from the Treasury and from other banks, the other comprising all other Treasury securities.

As a safeguard against banks listing Treasury securities purchased from nonbanks as purchased from the Treasury, it could be required that all banks turn the Treasury securities they hold at the close of business on the day before the proposal goes into effect over to the nearest Federal Reserve bank, where each security would be appropriately stamped. No other Treasury securities outstanding on that date would be so marked. It would also be necessary for all Treasury securities issued

after that date to be appropriately stamped if their original purchasers are commercial banks. Then it would be relatively simple for bank auditors and bank examiners to separate a bank's portfolio of Treasury securities into those purchased from nonbanks and those purchased from other banks or the Treasury.

Stamping the outstanding securities would involve some expense for Reserve banks, and stamping new issues would involve a small expense for the Treasury. However, this expense seems a small price to pay for greater efficacy of the requirement. The expense to the Treasury would be offset by the certainty of having a stable, absorptive market for its securities.

This method of handling Treasury securities would meet another need. Banks in some sections of the country are expanding their loans more rapidly than banks in other sections. Defense activity tends to concentrate in certain areas and the tempo of industrial activity is speeded up in these regions. To finance this industrial activity, banks are called on to increase their volume of loans. If some banks are expanding their loans faster than the banking system as a whole is expanding its loans, this group of banks loses reserves. Even if this did not happen, they would be exhausting their excess reserves more rapidly than banks

that were not expanding their loans so rapidly. With this method of handling Treasury securities, banks that were losing reserves could acquire reserves by selling Treasury securities to other banks that might not have the opportunity to lend all that they desired to.

This reserve requirement would make it preferable for banks to purchase Treasury securities from other commercial banks than from non-banks. If a bank procured Treasury securities from the Treasury or from another bank, no reserves, or a very low reserve, would be required on them. If it bought them from nonbanks, a much higher reserve would be required. If it acquired them from the Federal Reserve, it would lose reserves to the amount of its purchase.

### Apply Differential Reserve Requirements to Increases in Assets after a Certain Date

On February 28, 1951, member banks held total loans and investments of $105,655,000,000, of which $49,415,000,000 were United States Government obligations and $56,240,000,000 were all other loans and investments.[5] On this same date, member bank reserve balances with

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[5] Federal Reserve Bulletin, 37:411, April, 1951. Preliminary figures.

Federal Reserve banks amounted to $19,066,000,000.[6] If a 5 per cent reserve had been in effect on United States Government obligations in bank portfolios on that date, the required reserve on them would have been $2,470,750,000. A required reserve ratio of slightly over 29 per cent applied on bank holdings of all other loans and investments would have required the remaining $16,595,250,000 of reserve balances. A 35 per cent reserve ratio on all non-Treasury loans and investments would have put member banks in the position of having a $3,089,000,000 deficiency in required reserves.

If a similar condition prevailed when the differential reserve requirement went into effect, and the reserve ratio on non-Treasury loans and investments were very much above 30 per cent, the banking system would be forced to sll several billion dollars' worth of Treasury securities to the Federal Reserve and/or sharply reduce their volume of loans and other investments. Inasmuch as the reserve ratio on obligations of non-Treasury borrowers must be relatively high, it would be wise to continue to apply the reserve requirements existing at the time the proposal is enacted to the volume of deposits outstanding at some specified date.

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[6] Ibid., p. 400.

The differential reserve ratios would be applied to increases in assets that occur after that date. This would require calculating a bank's required reserves partly on deposit liabilities and partly on loan and investment assets, thereby complicating the administration of the requirements. In spite of its disadvantages, the effect of Treasury operations on bank reserve positions if reserves are required against deposits, makes this method of computing required reserves the sounder one. It should be possible to adjust bank accounting methods to this system of computing reserve requirements. To reduce the amount of work, it would be possible to lengthen the time period for computing required reserves by one week or so from the present weekly and semi-monthly periods.

### Marginal Reserve Ratio Based on a Sliding Scale

The preceding discussion has illustrated the operation of this type of reserve requirement. An alternative method of computing required reserves will now be considered. This method would operate in the following manner. The present reserve ratios would be required against the volume of deposits a bank held at the close of business on, say, August 31, 1951. No reserves would be required on purchases of Treasury securities that increased a bank's holdings above the volume held on that

date. The plan might also permit banks to hold no reserves against Treasury securities acquired before that date.

Every dollar increase in a bank's holdings of non-Treasury obligations above the quantity held at close of business August 31, would require reserves of the present amount plus 15 per cent. For example, reserve city member banks are now required to maintain 20 per cent reserves on demand deposits. For every dollar the bank increased its holdings of non-Treasury debt above its base amount, its required reserves would rise by $.35. As soon as a bank's volume of non-Treasury paper was 10 per cent above its volume on August 31, every further increase would require reserves of the present amount plus 30 per cent, until the bank's holdings of non-Treasury obligations was 20 per cent above the base figure. Then further increases in loans and non-Treasury investments would require legal reserves of the present proportion plus 45 per cent. This progression could continue by stages until the reserve ratio required on increases in credit above a certain amount would be 100 per cent.

The form that the progressive increases in reserve ratios would take and the points at which the increases would come into effect would depend on how strictly the

central bank felt it necessary to limit the expansion of bank credit and how strongly it wished to encourage bank purchases of Treasury securities. Under a requirement such as this, the extension of bank credit would become relatively more costly to the individual bank as its portfolio of non-Treasury paper grew. Increases in legal reserve ratios would be based, not on increases in total bank credit outstanding, but on increases in the individual bank's holdings of non-Treasury obligations. If changes in legal reserve ratios were based on changes in the total volume of bank credit, extending credit would be as costly, per dollar of credit extended, for banks that cooperate with the central bank by limiting their lending activities as for banks that do not cooperate and continue to expand their volume of loans rapidly. When the total volume of bank credit had increased by 10 per cent, some banks might have increased their holdings of non-Treasury paper by 15 per cent, and others, by only 5 per cent. The proposal's effect would not be uniform on all banks.

The plan would lose much of its effectiveness if it applied only to member banks. It would offer a strong inducement to state member banks to relinquish membership in the Federal Reserve System in order to operate under the less stringent state reserve requirements.

The application of this differential reserve requirement to nonmember banks would introduce administrative problems. These problems were bypassed in this chapter, along with other details, in order to concentrate on the major aspects of the idea.

# CHAPTER VI

## SUMMARY AND CONCLUSIONS

### Security Reserve Proposal

The proposal to require commercial banks to maintain secondary reserves of short-term Treasury securities and/or certain cash items against their deposits could be rendered largely ineffective by the existence of large bank holdings of Treasury bonds, municipal bonds, and corporate securities, and nonbank holdings of United States Government obligations. A Federal Reserve policy of allowing the prices of Treasury securities to decline to par or below would contribute to the effectiveness of this proposal; but it would also add to the effectiveness of existing Federal Reserve monetary controls, without the enactment of a proposal such as this. This plan does not reconcile the conflict between monetary policy and the debt policy of this country; nor does it solve the Federal Reserve's problem of deciding on a policy on the prices of Federal obligations.

The psychological effects on the banking community of changes in two sets of reserve ratios might be sufficiently disrupting to the economy to outweight the benefit of the relatively weak restraint imposed on bank

credit by this proposal. The greatest utility of a secondary reserve requirement would appear not to lie in its use as a monetary control device, nor as a device to insulate Government securities from conditions in the money market, but as a device to contribute to the soundness of the banking system.[1]

Proposal to Base Reserves on Type of Deposit

This proposal is not a fundamental reform nor a major change, but its enactment would have some worthwhile results. It would remove some noneconomic weaknesses and discriminations in our commercial banking system. It would eliminate the present discrimination against country member banks that arises from their holding a larger proportion of total deposits in the form of cash in vault and correspondent balances, which at present do not count as part of a member bank's legal reserves. If this reserve requirement were in effect, the banking system's volume of excess reserves would not be affected by net movements of deposits from one location to another, or by changes in the volume of correspondent balances.

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[1] Edward C. Simmons, "Secondary Reserve Requirements for Commercial Banks," The American Economic Review, 41:123-138, March, 1951.

The enactment of this proposal would eliminate the discrimination against reserve city and central reserve city member banks which do not carry bankers' balances, but which are required to maintain the higher reserve ratios intended for correspondent banks. Under this system of computing required reserves, the price that each bank would pay for the privilege of accepting correspondent balances would be directly proportional to the volume of such balances the bank held. No bank would have to maintain higher reserves, per dollar of credit extended, than would any other bank.

## Differential Reserve Requirements

If the interest rate is to contribute its bit to the fight against inflation, it must be free to rise; but under present conditions, a rise in the interest rate on private paper results in a rise in the interest rate on United States Government obligations. This proposal would clear the way for the Federal Reserve to exert its authority over the "cost and availability of money and credit" and at the same time would insulate the issues of the Treasury from the effects that the central bank's credit controls have on the money market. It would permit restricting the volume of bank credit extended to non-Treasury borrowers, and would cause a rise in interest

rates on non-Treasury obligations. These two results could be accomplished without necessitating a rise in the interest rates on Treasury securities.

It would be soundest to apply the present type of reserve requirements to the volume of bank deposits outstanding at some specified date and to apply differential reserve requirements to increases in bank earning assets after that date. The requirement should be based on bank earning assets rather than on deposit liabilities, even though such a provision would cause administrative problems.

# APPENDIX

## APPENDIX

The problem here is to compute by how much the commercial banking system can increase the money supply per dollar of excess reserves.[1] First is found a general formula for the total drain on the banking system's volume of excess reserves for each unit increase in the money supply. Then this is applied to this particular case. Following are the symbols that will be used, their definitions, and their algebraic values.

$P$ = amount of earning assets the banking system buys = $1,000.00.

$r$ = legal reserve ratio on demand deposits = .17.

$r'$ = working reserve ratio on demand deposits = .014 + .064 = .078.

$r''$ = legal reserve ratio against time deposits = .06. (It is assumed that banks hold no working reserves against time deposits.)

$s$ = proportion of the money supply comprising time deposits = .23.

$c$ = proportion of the money supply comprising coin and currency outside banks = .16.

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[1] In this discussion, the money supply is defined to include demand and time deposits with commercial banks and coin and currency outside banks.

d = proportion of the money supply comprising demand deposits = .61.

s + c + d = 1.

On a given day, the commercial banks purchase P amount of earning assets, in payment for which they credit the demand deposits of nonbanks. The banking system must set aside [P (r + r')] as legal and working reserves on these deposits. Some proportion (s) of these deposits finds its way into time deposits. Now the banking system needs to hold only [(1 - s) (P) (r + r')] reserves against demand deposits, but it needs (s P r'') legal reserves against the time deposits. Some portion (c) of the deposits finds its way into the hands of the public as coin and currency. This will reduce banks' excess reserves by (c P). Now the total drain on the banking system's excess reserves is, (since d = 1 - s - c):

$$d\,P\,(r + r') + s\,P\,r'' + c\,P.$$

To find (s), (c), and (d), data for June 30, 1950, giving all commercial banks' demand and time deposits and currency outside banks were used.[2] These three items were added together, and the sum then divided by each of the components. The values found are given above. The

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[2] Federal Reserve Bulletin, 37:410-411, April, 1951.

value of 17 per cent for the legal reserve ratio against demand deposits was assumed, as was the value for the legal reserve ratio on time deposits. The value of (r'') is the sum of the ratios of cash in vault and balances with domestic banks to total deposits other than interbank. The data is for all insured commercial banks, and is taken from Tables I and III. These reserve ratios are assumed to represent weighted arithmetic means of the ratios for all commercial banks in this country.

Substituting these values in the above equation, it becomes: .61 x $1,000.00 x .248 + .23 x $1,000.00 x .06 + .16 x $1,000.000. The solution is $325.08; this tells us how much the banking system's excess reserves are reduced for each $1,000.00 bank supplied increase in the money supply.

Shortening the general formula above to RD, the amount by which the banking system can increase the money supply for each dollar of excess reserves is (P ÷ RD). In our case, this becomes $1,000.00 ÷ $325.08, which equals approximately 3.1.

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