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Volume Title: The Federal Reserve System in Wartime

Volume Author/Editor: Anna Youngman

Volume Publisher: NBER

Volume ISBN: 0-87014-336-0

Volume URL: <http://www.nber.org/books/youn45-1>

Publication Date: 1945

Chapter Title: Wartime Problems of Providing Member Bank Reserves

Chapter Author: Anna Youngman

Chapter URL: <http://www.nber.org/chapters/c5877>

Chapter pages in book: (p. 19 - 31)

The Federal Reserve Banks cooperate, too, with the agencies conducting economic warfare, by administering the Foreign Funds Control under general authorization from the Treasury. This involves control of all transactions affecting the "nationals" of blocked countries, as well as the control of all imports of dollar currency into the United States. Another activity, initiated early in 1942 at the request of the Treasury, is the administration by the Federal Reserve Bank of San Francisco of the property of evacuated Japanese in the Twelfth District. Finally, the Federal Reserve Board of Governors and the Reserve Banks collaborate with other government agencies in research activities pertinent to the war effort and to the solution of postwar problems.

These varied fiscal, depository, custodial and collaborative research functions become especially important in wartime because of the rapid expansion of the government's spending, borrowing, lending and taxing activities. They do not involve decisions as to credit policy, but they do emphasize the subordination in wartime of the Federal Reserve Banks' role as bankers' banks to their role as bankers to the government. Moreover, these numerous and varied functions effect closer working contacts between the Reserve Banks and other public agencies, and should help to bring about a more consistent and better coordinated plan of fiscal and credit operations.

WARTIME PROBLEMS OF PROVIDING MEMBER BANK RESERVES

The key policy problem of the Federal Reserve authorities in aiding the war financing program is the selection of the method to be followed in supplying member banks with reserves needed to finance their purchases of government securities and to meet the wartime growth of currency in circulation. There are a number of methods that may be used to meet this problem, and in making their choice the officials must not only deal with the immediate situation but must make provision for future developments. Consequently, the method adopted must establish a position that gives the utmost latitude for changes in policy when circumstances warrant such changes. In addition to monetary expansion, particular attention

has to be paid to the political and social effects of extreme concentration of government obligations in the banking system.

NEED FOR ADDITIONAL RESERVES

Banks without excess reserves may be reluctant to shift the composition of their earning assets by subscribing to wartime offerings, because they cannot count upon an inflow of funds to offset withdrawals by the Treasury and because they wish to avoid borrowing reserves. Other banks, possessing excess reserves, might not wish to invest them because such reserves, considering the composition of assets with respect to maturity and general liquidity, constitute a protection against an unexpected outflow of deposits. Under these circumstances, if an expansion of bank loans or investments is desired, it becomes necessary for the Federal Reserve Banks to make reserves available.

EFFECT OF CURRENCY INCREASE

The rise in required reserves resulting from bank purchases of government securities and from the simultaneous expansion of bank deposits has been a much less important factor than the increase in currency in circulation in creating a need for additional member bank reserves. During 1942, for example, the amount of required reserves against member bank deposits rose by nearly \$1.4 billion while in 1943 this increase amounted to \$900 million and for the first six months of 1944 the increase totaled \$700 million.²³

The volume of excess reserves has become highly variable owing to the elimination in April 1943 of reserve requirements against war loan deposit accounts. These accounts are Treasury deposits in commercial banks arising from subscriptions by the public and by the banks to government security offerings.²⁴ Since that time,

²³ The increase in required reserves in 1942 would have been greater if it had not been for successive reductions in the reserve requirements at central reserve city banks, the effect of which was to release \$1.2 billion of reserves.

²⁴ The Wagner-Steagall bill eliminating reserve requirements against war loan deposit accounts was passed April 13, 1943. War loan deposits are credits for the account of the government set up by banks purchasing government securities for themselves and their customers. Each bank may deposit to the credit of the government the amounts of its own purchases and that of its customers. In order to minimize any disturbance to the money market, funds are then withdrawn by the Treasury in accordance with an announced schedule.

reserve requirements are reduced during the period of war loan drives as subscriptions are received, and funds are accordingly shifted from individual and corporate balances to war loan deposit accounts. Subsequently, as the government withdraws funds from these accounts, private deposits (and reserve requirements) again expand.

The reduction that has occurred in the volume of excess reserves has been accompanied by a shift of reserves from New York—and to a lesser extent from Chicago—to other parts of the country. By July 1942 the excess reserves of these central reserve city banks were close to a disappearing point. Their reserve requirements were subsequently reduced, but by the end of February 1943, their excess reserves were again virtually exhausted. Government balances built up by large sales of securities in New York City have been steadily drawn away by Treasury disbursements where war production has been concentrated. Consequently, the New York banks have constantly had to be prepared to adjust their reserve positions by selling securities, principally Treasury bills and certificates of indebtedness, to the Federal Reserve Bank. They have also had to borrow at times from the local Reserve Bank. The reserve city banks have also experienced a sharp decline in excess reserves, while those of country banks have changed little since the end of 1940, fluctuating within a comparatively small range.²⁵ The primary cause of the rapid shrinkage in member bank excess reserves has been the continuous increase in currency in circulation. When currency enters circulation by withdrawal of deposits, the banks have to draw against their reserve balances, dollar for dollar, to meet that demand. Member banks still had excess reserves amounting to more than \$3 billion at the time the United States entered the war. However, in the calendar year 1942 there was an increase of currency in circulation of \$4.3 billion and in 1943 of \$5 billion. Consequently, the greatest proportion of the additional reserves made available to member banks by Federal Reserve Banks has been required to offset this increase.

²⁵ Excess reserves were as follows:

	<i>Dec.</i> <i>1940</i>	<i>Dec.</i> <i>1941</i>	<i>Dec.</i> <i>1942</i>	<i>Dec.</i> <i>1943</i>	<i>June</i> <i>1944</i>
			(in millions)		
Central reserve city banks	\$3,919	\$1,284	\$451	\$34	\$23
Reserve city banks	1,887	1,303	1,020	302	312
Country banks	840	804	904	712	746

METHODS OF MAKING RESERVES AVAILABLE

There are three generally approved ways by which the Federal Reserve Banks make reserves available to member banks:

- (1) The Federal Reserve Banks may increase member bank reserves by buying government securities and acceptances from banks and dealers.
- (2) The Federal Reserve Board of Governors may reduce member bank reserve requirements within the limits set by the law.
- (3) Member banks may discount eligible paper with the Federal Reserve Banks or borrow from the Banks on promissory notes secured by eligible paper or by government securities.

Commercial bank reserves are likewise increased whenever the government spends the sums put at its disposal by direct sales of federal obligations to the Federal Reserve Banks. The reserves of commercial banks as a whole may also be increased by Treasury purchases of gold, foreign or domestic, by Treasury issuance of new currency, such as silver certificates, by declines in the volume of currency circulating outside the banks, and by the release of foreign central bank deposits held by the Federal Reserve Banks.

Open Market Operations

Originally employed as a means of acquiring assets to augment earnings, open market operations have come to be regarded by some banking students as the most important instrument of general credit policy at the disposal of the Federal Reserve System. During World War I the amount of bills (bankers' and trade bills) and government securities bought in the open market was relatively small compared to the volume of loans to member banks. At the time of the Armistice, for instance, only 16.5 percent of the \$2.3 billion of discounts, advances, loans and securities held by the Federal Reserve Banks were in commercial bills bought in the open market and 5.7 percent were in federal obligations. The remaining 77.8 percent consisted of advances and discounts. At the end of June 1944 Reserve Bank holdings of government obligations amounted to more than 99 percent of the \$14.9 billion of their earning assets.

During 1942 when open market buying began in volume Federal Reserve Bank holdings of government securities increased by \$3.9 billion, with Treasury bills and certificates of indebtedness

accounting for a billion each of this increase. Treasury notes and bonds maturing in 5 years accounted for another billion of the increase, while medium- to long-term bonds increased by \$900 million. In 1943 additions to bill holdings amounted to \$6.1 billion and certificate holdings increased by \$1.4 billion, whereas bond and note holdings declined by \$1.8 billion. For the next six months to June 30, 1944 the Federal Reserve Banks added \$2.1 billion to their bill portfolio, increased their certificate holdings by \$914 million and their holdings of notes and bonds by \$340 million.

A rapid increase in bill holdings followed an extension of open market operations in April 1942 to include purchases of Treasury bills directly from banks and other holders at a fixed buying rate of $\frac{3}{8}$ percent. In August of the same year sellers of bills were given an option to repurchase at the same rate. As a result bill holdings became virtually the equivalent of cash.

Outstanding bills increased from \$2.5 billion in mid-1942 to \$13 billion in September 1943 when the expansion was halted by limiting weekly bill issues to the amount of maturing issues. On May 11, 1944 weekly bill offerings were temporarily raised from \$1 billion to \$1.2 billion, with the result that during the ensuing 13 weeks outstanding bills increased \$2.6 billion. Early in October this figure was raised to \$1.3 billion where it stood for seven weeks and then dropped to \$1.2 billion. By the end of October 1944, the Federal Reserve Banks held 72 percent of the total bills outstanding, whereas a year earlier they had held 42 percent. This gain in the share held by Federal Reserve Banks reflected both a saturation of the bill market and a preference of banks for longer-term, higher yield securities.

It is evident from the weekly fluctuations in the bill holdings of the commercial banks and the Federal Reserve Banks that sales of bills are extensively relied upon to supply member banks with reserve funds, especially in the New York and Chicago Districts. Member banks wishing to acquire reserves have done so chiefly by selling bills to the Reserve Banks. Since the Reserve Banks are pledged to buy bills at a predetermined rate, they have been compelled to take over what the market does not want. In other words, in World War II member bank initiative rather than that of the Open Market Committee has chiefly determined the composition of securities acquired by the Federal Reserve Banks.

As previously pointed out Federal Reserve officials have acknowledged responsibility for maintaining an orderly and stable government bond market in wartime. The huge size of wartime budgetary deficits and government borrowing demands has emphasized the importance of open market operations as a stabilization factor, as well as a means of affecting the volume of member bank reserves. Open market operations have been increasingly employed to influence the pattern of market interest rates on government securities and the placement of new issues with both bank and nonbank investors.

It is argued that open market buying as an alternative to lowering reserve requirements is a comparatively flexible and discriminating expansionary device. Instead of a general release of reserves for a given class of banks—central reserve city, reserve city or country banks—such as occurs when reserve requirements are lowered, open market purchases, including bill buying, can be carried out so as to relieve the pressure upon particular banks and particular areas.²⁶

Another reason advanced on behalf of open market buying as an alternative to lowering reserve requirements is that it reduces the volume of federal debt lodged in member banks. Furthermore, open market buying concentrates a larger proportion of this debt in the Federal Reserve Banks and supplies them with “ammunition” for enforcing restrictive credit policies (should they become necessary) after the war. By allowing issues to run off, and by selling limited amounts of securities from time to time to banks with surplus funds to invest, it is argued that the Federal Reserve might bring about a desired tightening of money market and banking conditions without forcing indiscriminate liquidation of bank-held securities.

Changes in Reserve Requirements

The general reduction of reserve requirements provides a quick and easy method of putting member banks in a position to buy government securities or to meet currency demands. However, as an instrument of credit policy applicable to the banking system as a whole, the raising or lowering of reserve requirements has been neither a flexible nor a discriminating device. An increase in re-

²⁶ Whittlesey, *op. cit.*, makes a distinction between open market operations and bill policy.

quired reserve ratios has "squeezed" some banks severely and left others unaffected. Contrariwise, lowering of reserve requirements has brought relief to some banks but has provided others with more reserves than they could employ. It was only because of the excess reserves resulting from gold inflows in 1933 and subsequent years that reserve requirements could be raised sharply in 1936 for all member banks as a group, with a minimum amount of disturbance to the banking system.²⁷ But even in these circumstances, difficulties arose for individual banks. To replace reserves absorbed by the raising of reserve requirements, some banks began to sell securities.²⁸ Consequently government bond prices declined abruptly in the early part of 1937 and interest rates rose accordingly. To stem the tide of liquidation and stabilize the bond market the Federal Reserve Banks began to buy government securities in the open market. The subsequent business recession, attributed by some critics to the raising of reserve requirements, led the Federal Reserve officials to reduce required reserve percentages slightly in the spring of 1938, even though the volume of excess reserves had begun to mount rapidly. Effective November 1, 1941, reserve requirements were again raised to the statutory maxima for the declared purpose of controlling inflation and establishing better contact between the Federal Reserve Banks and the money market.

Because of the demands of wartime deposit expansion and currency drains, the aggregate volume of member bank excess reserves declined about \$1.1 billion during 1942. Most of this decline occurred in New York City and Chicago, and resulted from heavy

²⁷ By 1936, the steadily mounting volume of excess reserves was causing anxiety because member banks had been released from dependence upon the Federal Reserve Banks at a time when business activity was increasing and speculative advances in prices on certain raw materials and securities were occurring. As a precautionary measure, therefore, the Board of Governors of the Federal Reserve System used its recently acquired power to change member bank reserves by ordering a 50 percent advance in reserve ratios in August 1936. Further advances of reserve requirements in the spring of 1937 brought reserve ratios against demand deposits up to the maximum level permitted by law — 26 percent, 20 percent and 14 percent for central reserve, reserve city and country banks, respectively. Reserve ratios against time deposits were likewise raised to 6 percent.

²⁸ At the end of December 1936, the Treasury inaugurated a policy of setting aside in an inactive account all gold purchases, thereby preventing the further acquisition of gold from increasing bank reserves. When reserve requirements were reduced in the spring of 1938, the Treasury discontinued its policy of putting incoming gold into an inactive account.

sales of Treasury obligations in these areas.²⁹ Consequently, it became necessary to relieve the strain on the central reserve city banks. Legislation was passed in July 1942 enabling the Federal Reserve Board of Governors to change separately the reserve requirements of central reserve city banks, reserve city or country banks.³⁰ This legislation avoided releasing reserves generally through the banking system and gave this instrument a greater degree of flexibility. Previously the Board's powers had been restricted to changes in reserve requirements of central reserve *and* reserve city banks, of country banks, or of all member banks.

Three successive reductions in reserve requirements, applicable only to the central reserve city banks, followed between August 3 and October 3, 1942, bringing reserve ratios for New York and Chicago banks down to the 20 percent level of the reserve city banks.³¹ The reductions released about \$1.2 billion of reserves for the central reserve banks. But notwithstanding the relief afforded by this action, as well as by heavy open market purchases of securities in the central money market, New York City banks suffered a decline of \$800 million in total reserves during 1942 and their excess reserves dropped from \$989 million to \$416 million. Since early in 1943, New York City banks have frequently shown small deficiencies in reserves.

No general reductions in reserve requirements have been ordered since our entry into the war, probably because open market operations have been considered a preferable method of procedure for reasons previously indicated. Since the volume of wartime bank investments in government securities is primarily related to the government's fiscal program a general lowering of reserve require-

²⁹ For example, the Federal Reserve Bank of New York stated in its *Monthly Review* (November 1943) that ". . . while a definite improvement in the geographical distribution of Government security sales has occurred, the proportion of non-banking investors' funds actually coming out of the Second Federal Reserve District in connection with the War Loan drives has not declined in the degree indicated by the reduction in the percentage of sales credited to the District." It added that the proportion of government securities taken by the commercial banks in the District ". . . has shown no definite tendency to decline."

³⁰ Act of Congress approved July 7, 1942 amending the sixth paragraph of Section 19 of the Federal Reserve Act.

³¹ Subsequently, in the money centers the maintenance of large war loan balances not subject to reserve requirements has made it possible to avoid a further reduction in requirements.

ments would not necessarily add to the inevitable inflationary volume of credit resulting from sales of government securities to commercial banks. However, a reduction of reserve requirements would provide additional reserves for all member banks regardless of need. There would be no assurance that banks already in possession of substantial amounts of uninvested funds would expand their holdings of government securities if supplied with an even larger amount of excess reserves.

A general reduction of reserve requirements would increase the leverage effect of open market or discount operations of the Federal Reserve Banks, since every dollar of additional reserves would provide a basis for a larger multiple expansion of deposits. For example, with required reserves of 2 percent, one dollar of additional reserves would support an increase of \$50 in deposits, whereas with required reserves of 20 percent, a dollar of additional reserves permits an increase of only \$5 in deposits. It is evident, therefore, that a general reduction of reserve requirements would reduce the volume of open market or discount operations required to influence the volume of commercial bank credit.

Provided the resulting leverage were not too powerful, lowered reserve requirements might be advantageous to the Federal Reserve System. However, conditions might arise after the war to bring about sudden unexpected increases or decreases in member bank reserves, affording a basis for an undesired expansion or contraction of credit. For example, currency in circulation might be returned to the banks in large amounts or there might be a substantial inflow of gold. The lower the level of required reserve percentages, the greater the potential expansion or contraction of bank credit resulting from such developments. While the correct step for the Federal Reserve System to take under these circumstances would be to increase reserve requirements, technical and political considerations might deter action until it was too late.

Another objection to substantial reductions in percentages of required reserves is the fact that the banking and business community has become accustomed to fairly high ratios and considers them to be safeguards against an unsound expansion of banks' assets and deposits. While a lowering of required reserve percentages to the existing statutory minima might not have adverse effects on public opinion, enactment of legislation reducing the statutory minimum

requirements or eliminating reserve requirements altogether might impair confidence in the strength of our banking and currency system.

Member Bank Borrowing

During World War I the reserves needed to enable member banks to buy government securities, finance purchases of securities by their customers and meet heavy currency demands were obtained chiefly by borrowing from the Federal Reserve Banks. Borrowing which usually took the form of collateral notes secured by government obligations was encouraged by the establishment of preferential rates for such loans below the prevailing coupon rates on government issues. At the end of December 1918 loans to member banks secured by government obligations amounted to \$1.4 billion. Member banks' collateral notes secured by eligible paper and loans discounted by member banks amounted to \$302 million. In May 1919 the volume of loans against government securities reached a peak of nearly \$1.9 billion, while the volume of member bank loans secured by eligible paper and direct discounts had been reduced to \$179 million.

In World War II member bank borrowing from Federal Reserve Banks has been very limited, although a slow increase has occurred since the beginning of 1942.³² Discounts and advances rose from a negligible figure at the beginning of 1942 to \$84.3 million at the end of 1943 and stood at \$158.8 million at the end of June 1944. The limited volume of borrowing is explicable on a number of grounds. During the period of multiple bank failures between the two wars, the public came to regard borrowing from the Federal Reserve Banks as an evidence of weakness. Consequently the stronger banks were reluctant to resort to this method of obtaining funds. Also, the Federal Reserve officials frowned on rediscounting as a continuous means of supplementing member bank reserves. Moreover, after 1932 a huge volume of excess reserves was built up by a heavy inflow of gold from abroad and to a lesser extent by the issuance of silver certificates in payment for silver bullion. As a result most member banks had no occasion to borrow until their

³² The practice of borrowing so-called federal funds developed in the late twenties has also been used by the banks to a considerable extent in the past to replenish reserves but its importance has diminished greatly since that period.

superabundant reserve funds were reduced. Another factor that may have contributed to the reluctance of member banks to borrow was the experience of World War I. Banks that discounted heavily at that time were put under severe pressure by a sharp postwar rise in discount rates. In New York, for instance, discount rates advanced from 4 to 7 percent between October 1919 and June 1920 while bills discounted rose simultaneously from \$2.1 billion to \$2.5 billion. The fear of being placed in a similar position at the end of the present war may have influenced some banks to refrain from borrowing. Finally, stabilization of the market for government securities has enabled banks to sell securities of all maturities as a means of obtaining funds without risk of loss, and many banks have preferred this mechanism for adjusting their reserve position to rediscounting.

This attitude of the member banks may change if their excess reserves continue to shrink. The fact is that member banks have been encouraged to borrow for the purpose of furthering the war financing program; a joint public statement to this effect was issued at the end of November 1942 by the Federal Reserve Board of Governors, the Comptroller of the Currency, the Federal Deposit Insurance Corporation and the executive committee of the National Association of Supervisors of State Banks. Their statement declared that banks would not be subject to criticism for investing unemployed funds or lending such reserves upon any government securities, nor for availing themselves of the privilege of borrowing temporarily from, or selling Treasury bills to the Reserve Banks, when necessary to restore their required reserves.

So far, there has been little response to this invitation. Instead the banks have, as previously indicated, relied chiefly upon sales of Treasury bills to the Federal Reserve Banks. The ease with which banks can obtain funds by selling bills at a fixed rate of discount does not, however, afford an adequate explanation of the restricted volume of borrowing against other types of government obligations. For example, in conformity with the Treasury's low rate borrowing policy, $\frac{7}{8}$ percent certificates of indebtedness can be discounted at the Federal Reserve Banks at the rate of $\frac{1}{2}$ percent while rates on advances secured by government issues of longer maturity have been set at 1 percent in all Federal Reserve Districts. The spread between the 1 percent discount rate and coupon rates on govern-

ment securities makes borrowing a more profitable operation as a means of obtaining temporary accommodation than bill sales.³³ The evidence indicates, therefore, that the banks are still hesitant to borrow, even in an emergency, so long as other penaltyless means of obtaining needed funds from the Federal Reserve Banks are open to them.

Direct Purchases of Government Securities

In addition to providing the Treasury with funds the Federal Reserve Banks are permitted to buy newly issued certificates directly from the Treasury, giving the government credit on its books for such purchases. The amount held at any one time is limited to \$5 billion.³⁴ Checks drawn against these balances are deposited in commercial banks by the recipients, giving the banks claims against the government. This enables them to build up their reserve balances, and provides a basis for an expansion of bank loans and investments.

Direct borrowing by the Treasury from the Federal Reserve Banks has so far been limited to sales of special certificates of indebtedness to the banks to relieve temporary strains on the money market. In advance of heavy income tax collections Treasury borrowing on special short-term certificates of indebtedness has been employed as an alternative to withdrawals from war loan deposit accounts. As receipts from taxes begin to flow in, this special borrowing is liquidated.

The chief objections usually raised to direct sale of government securities to the Reserve Banks except to meet temporary needs of the Treasury are: (1) that it is a highly inflationary financing expedient and (2) that it is likely to encourage extravagant expenditure and an unnecessarily rapid increase of federal debt.

In refutation of the first argument, Chairman Eccles of the Federal Reserve Board, testifying before a Congressional Committee, said: "It is no more inflationary for the Federal Reserve System to purchase directly from the Treasury than it would be for the Federal Reserve System to purchase securities in the open market. If we purchase securities in the open market, we put funds

³³ W. Braddock Hickman, *The Interest Structure and War Financing* (National Bureau of Economic Research, Financial Research Program, ms. 1943).

³⁴ Purchases authorized under Title IV of the "Second War Powers Act of 1942," passed March 27.

into the banking system. That is the purpose of it; by purchasing securities we put funds into the banks and thus make funds available for the purchase of Treasury securities or otherwise. If we purchase directly from the Treasury and the Treasury spends that money exactly the same thing happens.”⁸⁵

The argument that extravagance in government would be encouraged by relying upon direct sales of securities to the Federal Reserve Banks assumes that the choice of methods of borrowing will influence the total amounts spent and the amounts borrowed. That seems unlikely under war conditions when the size of the spending program is almost wholly determined by the demands of war. When war spending is a thing of the past, however, the establishment of a precedent for direct borrowing might have serious consequences. Reliance upon this easy method of financing as a means of avoiding retrenchment or escaping heavier taxation is dangerously tempting. It is the kind of borrowing that brought about uncontrollable inflation in Germany and other countries after World War I. Banking and business circles in this country are, therefore, especially fearful of the after-effects of the adoption of such financing methods in the United States except to relieve temporary stringencies.

SPECIAL PROBLEMS RESULTING FROM WAR FINANCING

Associated with this primary wartime necessity of providing member banks with reserves are a number of related problems growing out of the current demands upon the banking system. Their nature is indicated by the following questions:

1. How may the choice of methods by which reserves are provided affect the character of the assets held by the Federal Reserve Banks and the member banks?
2. How may the choice of methods influence the earnings of the Federal Reserve Banks?

⁸⁵ Testimony before the House Committee on the Judiciary (January 30, 1942). There is, however, a difference in the reserve-creating effect of direct sales of government securities to the Reserve Banks and sales to commercial banks. Unless the Federal Reserve Banks simultaneously add to the reserves of commercial banks by purchasing securities in the open market, sales of securities to the commercial banks increase their deposits but do not add to their reserves, thereby reducing the volume of excess reserves. On the other hand, direct sales to the Federal Reserve Banks result in an increase not only of the deposits but of the reserves of commercial banks, and hence build up excess reserves.