

A HISTORY OF FEDERAL RESERVE
POLICY, 1914-1946

by

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A THESIS

Presented to the Department of Economics
and the Graduate School of the University of Oregon
in partial fulfillment
of the requirements for the degree of
Master of Arts

June 1950

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To Lillie,
Terry and Patty

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PREFACE

The purpose of this paper is to review the history of action taken by the Board of Governors of the Federal Reserve System with regard to credit policies, and when there was no definite policy stated, emphasis is placed on credit statistics as have been compiled by the Board and on any statement which was deemed significant. Since the quantity of reserve funds available to the commercial banks is of major concern, discussion of gold flows and government financing which affected the quantity of reserves is vital. However, the causes of gold flows and government finance are taken as facts and are not discussed for their merits or demerits.

Also, factors influencing the policies of the Board which do not lend themselves to a discussion in purely monetary terms are taken as fact, i.e. recessions, depressions, Bank holiday, etc. The discussion necessarily runs in monetary terms, but it should not be construed as considering the writer believes monetary policies are panaceas for economic ills. Policy decisions of the Board of Governors are being discussed in the light of the then present general economic conditions existing in the country.

INTRODUCTION

With the passage of the Federal Reserve Act in 1913 it was hoped that some major problems confronting the banking system under the National Banking Act would be eliminated. Money panics, which came when demands for credit were such as to drain money-market banks of their reserves and force those banks to sharply curtail credit, were the major source of concern. The causes of these money panics were inherent in the National Banking Act. While note issue had its legal limits, determined by the amount of government bonds bearing the circulation privilege held by the banks and those limits were too restrictive in times of active business conditions, the major problem was gold and the inelasticity of reserves.

Some economizing of gold was possible since reserve city and country banks were permitted to carry reserves with approved agents, those agents being banks in central reserve and reserve city banks. This pyramiding of reserves and economizing the use of gold proved to be a major weakness of the National Banking Act, however. Money tended to gravitate, when not needed by the banks, to money centers where there was a demand for loans. Money flowed to those centers in the spring and summer of the year; and in the autumn, when the crops were being harvested, there was a return flow from the money-market banks to the interior. This drain of

currency tightened conditions in the money markets.

The Treasury department attempted to exercise some functions of a central bank by making deposits in or withdrawing money from commercial banks in attempting to alleviate the situation. Under the Independent Treasury system this was effective as long as the Treasury had sufficient funds to ease conditions. The Treasury could ease the autumnal drain from the money-market banks, but in periods of acute crisis the Treasury did not have sufficient funds to avert bank runs.

With the banking reserves of the country held mainly in New York City banks, the banking system was particularly sensitive to wide fluctuations in the stock market. Over-extension of call loans and security loans by money-market banks created a shaky foundation to the banking system. If those banks could not withstand runs or the autumnal drain of currency and were forced to close their doors or suspend payment temporarily, reserve city and country banks would have their reserves and other deposits tied up or lost. Thus the effect would be felt throughout the country.

Generally speaking, this is what happened when the Knickerbocker Trust Company failed in 1907. Runs on other New York banks caused them, in the main, to suspend payment in gold. This tied up the funds of banks throughout the country, causing an acute lack of money, including currency. Many

clearing houses issued their own notes to ease the situation. This prompted a Congressional inquiry into the banking systems of this and other countries with a view to enacting legislation designed to eliminate money panics.

The National Monetary Commission, created by Congress, had studies made of various banking systems and held hearings in this country and abroad on possible remedies to the National Banking Act. The report of the Committee and the bill put before Congress, sponsored by Senator Aldrich, as a result of that report, was to provide a central bank with branches in various parts of the country. The central bank was to hold the gold reserve of the banks of the country; have powers of a bank of issue, and discount; and engage in open-market buying of bills, acceptances, and government securities.

Opposition to a central bank was strong. In the Senate Carter Glass led the opposition to the bill. There were differences over other features of the bill, but the compromise bill that was passed, the Federal Reserve Act, retained nearly all the provisions of the Aldrich plan with minor modifications. Defeated was the provision of obviously creating a central bank; in its place provision for regional banks was made with a coordinating board to head the System. Autonomy of the Reserve banks was retained by provisions in the Act, but the necessary machinery was provided to convert the System into a central bank.

The theory behind the new act was that of basing the creation of deposits and currency on the legitimate needs of business, as evidenced by the demand for loans of the self-liquidating type. Working capital loans, which were for short periods of time, fit into that category. The collateral behind those notes—mainly the inventory of the producers—have a high turnover, thus assuring the bank of relatively rapid repayment. Long-term loans are the antithesis of that, as the possibility of repayment is far from being assured. The commercial banks would then be suppliers of business capital. The commercial banks, as holders of deposits, had to be liquid as well as solvent. Tying up funds for long periods of time would have caused difficulties whenever there was an abnormal drain on the banks' reserves. Long-term loans and liquidity are not co-partners when the collateral for the loans has no fixed selling price.

Aside from the condition of liquidity, long-term loans would exert an upward pressure on prices. Funds used for capital purposes would be outstanding in the economy for long periods of time, and the flow of goods from those capital goods would not be immediate. There would then be an increase in the money supply without any corresponding increase in the amount of goods. Also the length of time required to produce goods equal in value to that of the capital goods would be longer than the average period of time an individual

receives and spends his income. This increases velocity with an increased upward pressure on prices.

This commercial loan theory, it is believed, would be neither inflationary nor deflationary. As the needs of business for additional credit develop—by an upsurge in business activity—more notes, drafts, and bills of exchange are presented to the banks for discount. This puts additional funds onto the market to finance the increased business activity. Since the goods are forthcoming in a relatively short period of time, there is no inflationary pressure on prices.

It is also claimed that there will not be an upward pressure on prices working through velocity. To illustrate, let the following conditions be assumed: (1) that a coal producer makes a bank loan to pay current wages to his miners;¹ (2) that this loan increases the amount of money (demand deposits) in circulation; and (3) that all producers in the process of production necessary to place the coal in the hands of the consumer finance this increase in business

¹For the sake of avoiding any difficulties let it be further assumed that the coal will not be stockpiled, but shipped to fulfill existing contracts.

activity by bank loans.¹

This deposit is then used to pay the wages of the miners, who in turn will make purchases of consumers goods and, perhaps, save a part of it. When the producer sells the coal to a wholesaler, he then has sufficient funds to repay the bank loan, thus cancelling the initial credit outstanding. When the coal reaches the hands of the final consumer, the money originally paid to the miners plus the profits of the producers at each stage is available to purchase it. That money is then used to replenish the bank balance of the retailer or to repay the bank loan, whichever the case. Active money is then transferred to idle balances or cancelled.²

The Reserve System was to affect this process through the use of the discount rate. Two other quantitative control measures—open-market operations and changes in the reserve requirements—were not considered as control devices at first. Provisions for open-market operations were made in the Act, but they were conceived of as a method for the Reserve banks to acquire earning assets, while changes in reserve requirements were not permitted until two decades later. Discount rate changes, by increasing the cost of Reserve bank

¹The effect on prices would not be different if some producers financed their purchase out of savings. The amount of money in circulation would not be increased, however, but the velocity of money would.

²This point will be more fully discussed later.

funds to the bankers, were to affect the desired results on the money supply. Increasing the cost of credit to the bankers would cause them to increase their rates to their customers. This in turn would cause a decrease in the amount of credit demanded by those customers who were "at the margin." Only later, after credit statistics were available, did the Board shift the emphasis from cost of credit to availability of credit. It was found that customer rates were relatively stable even when changes were made in the discount rate. The credit control was then a qualitative control exercised by the bankers themselves. A rise in the discount rate was interpreted by the bankers as a tightening of credit conditions, and instead of raising the rates to their customers, the amount of loans at the existing rates was curtailed.

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CHAPTER I

CREDIT POLICIES: 1914-1933

The Beginning Period: 1914-1917

In the summer of 1914, when the Reserve Board was making arrangements for the opening of the Reserve banks, the outbreak of the war in Europe seriously disrupted American foreign trade and financial markets collapsed with serious effects on the credit system.¹ An import surplus and large sales of American securities in the U. S. market by foreigners caused a drain of \$68.7 million of gold out of a total gold stock of \$1,600 million.² As a result of this the stock exchanges were closed throughout the country. High grade securities were unmarketable and call loans were unavailable.³ Country banks began to hoard cash and restrict loans. This put pressure on their correspondent banks with a consequent

¹Annual Report of the Federal Reserve Board (Washington: U. S. Government Printing Office, 1914), p. 6. (Hereinafter designated as Annual Report.)

²Banking and Monetary Statistics, Board of Governors of the Federal Reserve System (Washington: The National Capitol Press, 1943), p. 536, Table 156.

³Annual Report, 1914, p. 6.

tightening of the money market.¹ To offset this and to relieve the situation, emergency currency was issued by the Treasury to the extent of \$380 million and issues of clearing house gold certificates were made.²

With a net gold outflow, with indebtedness to foreign countries about \$500 million, and with rates for drafts and cable transfers at a substantial premium in gold, the Secretary of the Treasury called a meeting of clearing house representatives from the reserve cities to formulate a plan to meet the situation.³ As a result, an exchange fund of \$100 million in gold was created to ease the pressure on exchange rates.⁴ But this downward pressure on the dollar was short-lived, as a large foreign demand for American goods began in the late fall of 1914.⁵ Thus when the Reserve banks opened on November 16, conditions had substantially changed from the summer months. Although the stock exchanges were still closed at the time the Reserve banks began operations, they were opened the following month, and stock prices remained firm during December, 1914, and then increased sharply during 1915.⁶

¹Ibid. ²Ibid., pp. 6, 16. ³Ibid., pp. 12-13.

⁴Ibid., p. 13.

⁵Cf. Federal Reserve Charts on Bank Credit, Money Rates and Business, (Washington: Board of Governors of the Federal Reserve System, February 11, 1941), p. 60. (Hereinafter designated as Federal Reserve Chart Book.)

⁶Ibid., p. 30.

The Place of the Reserve Banks in the Banking System.

At the outset there was a controversy over the part to be played by the Reserve banks in the banking system and what effect the Reserve banks should exercise on the supply of money and credit. The Reserve Board took the position that the Reserve banks were not just emergency institutions, to enter the picture only when emergencies existed, but to anticipate emergencies and attempt to do what the System could do to prevent them.¹ The Board said that the resources of the Reserve banks should always be available and that

the more complete adaptation of the credit mechanism and facilities of the country to the needs of industry, commerce, and agriculture—with all their seasonal fluctuations and contingencies—should be the constant aim of a Reserve bank's management.²

The Board said further that in order to influence the market the Reserve banks had to be in the market. "They should not stand aside when there is no need for them."³ This early statement by the Board was to be the main guiding force of credit policy throughout the history of the Reserve System, and the needs of commerce, industry, and agriculture were the main causes of changing the volume of Reserve bank credit up to the stock market crash in 1929.

¹Annual Report, 1914, p. 17.

²Ibid.

³Ibid.

Early Credit Policies. With the opening of the Reserve banks on November 16, reserve requirements of member banks were automatically lowered to 18, 15, and 12 per cent for demand deposits for central reserve city, reserve city, and country banks respectively, and to 5 per cent for time deposits. This relieved the position of New York City banks whose reserves under the old law were deficient because of the drain of gold abroad and the withdrawal of deposits by their correspondent banks in the interior.¹ The releasing of reserves and the opening of a rediscount market put a downward pressure on interest rates and loans increased.²

While the Board took a cautious policy in setting the first rates, because it wanted to protect the accumulated strength and resources of the banks from being drained,³ the Board quickly adopted an easy discount policy to depress money rates,⁴ acquire earning assets, and build up a discount market.⁵ Discount rates which had been 6 and 6½ per cent in November, 1914,⁶ were lowered steadily until a uniform rate of 4 per cent was reached by June, 1915.

¹Ibid., p. 11. ²Ibid. ³Ibid., p. 7.

⁴Seymour E. Harris, Twenty Years of Federal Reserve Policy (Cambridge: Harvard University Press, 1933), Vol. I, pp. 90-91.

⁵Annual Report, 1923, p. 12.

⁶Six and one-half per cent rates were in effect at Atlanta, Minneapolis, Kansas City, Dallas, and San Francisco.

The ease that existed in the money-market in 1915 and 1916, was the result of gold flows to this country as well as the extension of Reserve bank credit. Gold flows which had been directed from this country in 1914, changed in 1915 and 1916, when there was a \$1,030 million increase in the gold stock of the United States.¹ Reserve bank credit during this period reached \$212.9 million.² As a result of the war in Europe and the larger amount of Reserve bank credit outstanding, total loans and investments increased by \$2,700 million from March 4, 1915, to December 27, 1916, while total deposits rose from \$8,666 million to \$12,661 million during the same period.³ These additions to the money supply, coupled with the enlarging export demand for American goods, forced a sharp rise in the wholesale prices of all commodities. The index number of all commodities which stood at 68 at the beginning of 1915, had risen to 100 by the end of 1916.⁴

This condition of monetary ease by the end of 1916 was causing the Board some concern. Government bonds and warrants which had been held for income purposes were liquidated

¹Banking and Monetary Statistics, p. 536, Table 156.

²\$129.0 million in bills bought; \$28.5 million in bills discounted; and \$55.4 million in government securities purchased. Ibid., pp. 330, Table 85.

³Ibid., pp. 72-73, Table 18.

⁴Federal Reserve Chart Book, p. 34.

in an attempt to offset the inflow of gold and reduce the dangers of monetary ease.¹ While this open-market policy was carried over into 1917, war finance caused its abandonment.

Proposed Amendments. The proposals set forth in 1915, and their subsequent passage in September, 1916, were important amendments to the Act, not only as regards Reserve bank accommodation of member banks during the war period but also as a fundamental change in the philosophy of the Federal Reserve Act. The Board proposed that, in order for banks to obtain prompt and low cost accommodations for periods not to exceed 15 days, the Reserve banks should be permitted to make advances to member banks against their promissory notes, secured by government obligations. This proposal also provided that these notes should be eligible as security for note issue.

Whereas the original philosophy of the Act was concentrated on commerce, industry, and agriculture, this ignored that. Banks could be less cautious in making loans; less cautious from the standpoint that the paper (note) received need not necessarily be eligible for rediscount. While it was true that there was being built up a tradition against utilizing Reserve bank funds continuously, and increasing borrowing when member banks were in debt to the Reserve banks,

¹Annual Report, 1917, pp. 1-2. Cf. also Karl R. Bopp, "Central Banking at the Crossroads," American Economic Review, Vol. 34, March, 1944, p. 148.

nevertheless an additional way was opened for that possibility.

In 1916 proposals were concerned more with the easy conditions in the money market and the power of the Reserve banks. The Board asked that it be permitted to raise reserve requirements in cases of emergencies and that banks be required to hold 7, 10, and 13 per cent reserves against demand deposits for country, reserve city, and central reserve city banks respectively in the Reserve banks and 5 per cent in specie or currency in their own vaults. The latter part of this proposal would not change the reserve requirements for member banks, but would require them to keep a larger percentage of their reserves in the Reserve banks.

While the Board had asked for the power to increase their power to control credit expansion in 1916, the Act of 1917 liberalized reserve requirements and the ability of commercial banks to acquire deposits in the Reserve banks. Reserve requirements were lowered to 13, 10, and 7 per cent on demand deposits, all of which had to be held in the Reserve banks. Though the amount of reserves required to be held in the Reserve banks was increased, commercial banks could build up their balances in the Reserve banks by depositing lawful money, National bank notes, Federal Reserve notes, checks and drafts payable upon presentation, and maturing bills and notes. This had the effect of allowing

banks to expand credit even in times of outward gold flows, since Reserve bank credit would be substituted for gold, which had formerly been required. Currency, which had heretofore circulated outside of the Reserve banks, could now be used to secure deposits in the Reserve banks. Any increase in the amount of Federal Reserve notes outstanding could become the basis for a multiple credit expansion.

Wartime Credit Policy

To aid the Treasury in its financing the Board formed a discount policy so that the government securities' market would be free from disturbances. To the Board this meant that ". . . interest rates should be normal and as free as possible from fluctuation."¹ This ambiguous wording meant that the Board, in cooperating with the Treasury, would hold interest rates at a level desired by the Treasury in its financing. To accomplish this objective, the Board established preferential discount rates on member bank obligations secured by government securities. Reserve banks were also authorized by the Board to discount notes for non-member banks, if endorsed by a member bank; and bank customer notes, when arising out of the purchasing or carrying government obligations.

¹Annual Report, 1917, p. 5.

The preferential rate served still another purpose; it enabled the Treasury to dispose of the new issues of obligations immediately. The mechanics of selling the obligations usually followed closely along these lines: Obligations of the government were first bought in toto by commercial banks and were then sold to their customers. Banks had no fear of loss as the discount rate of the Reserve banks was determined in relation to a particular issue by the Treasury, taking into account the yield of the obligations.¹ This amounted to temporarily pegging the prices of government obligations.² Member banks then disposed of the obligations to the public, making loans, when necessary, for purchasing or carrying the securities.

Encouragement of non-bank investors to buy securities was given by easy availability of credit and the preferential rate. When the banks made loans for carrying or purchasing government obligations, they charged a rate of interest equal to the coupon rate. This permitted easy bank financing to purchase the securities. This was possible as long as the preferential rate was in effect. Interest rates which had been $3\frac{1}{2}$ per cent on obligations offered during the first Liberty loan on June 15, 1917, were raised during

¹Cf. *ibid.*

²Harris, op. cit., Vol. 1, p. 114. Cf. also Annual Report, 1919, p. 2.

subsequent loans until they were $4\frac{1}{2}$ per cent on the Victory loan of May 20, 1919. (See Table I.)

Table I: Amount of Securities Offered during the Liberty Loans, Rate of Interest, and Date of Loans.¹

Liberty loans	Amount of Securities offered (thousands of dollars)	Interest rate	Date of loans
1st	1,989,456	$3\frac{1}{8}$	June 15, 1917
2nd	3,807,865	$4\frac{1}{8}$	November 15, 1917
3rd	4,175,650	$4\frac{1}{4}$	May 9, 1918
4th	6,964,581	$4\frac{1}{4}$	October 24, 1918
Victory	<u>4,495,373</u>	$4\frac{1}{2}$	May 20, 1919
Total	21,432,925		

Bank credit during the War Period. While the data for the war years is available only on call dates, the effect of war finance on credit can clearly be seen. Loans, which amounted to \$9,096 million on March 5, 1917, had increased to \$18,149 by December, 1919. (See Table III.) Investments, which rose more spectacularly percentagewise, had a much smaller absolute increase. This expansion of credit was mainly financed by the discounting of member bank collateral notes secured by U. S. government obligations. (See Table II.) Discounts of that type of note which amounted to \$25.6 million in June, 1917, rose to \$1,037.3 by December, 1918, and to

¹E. A. Goldenweiser, Federal Reserve System in Operation. (New York: McGraw-Hill, 1925), p. 25.

\$1,157.8 million the year following. Member bank collateral notes secured by other eligible paper showed the reverse trend. Whereas the amount outstanding of that type of note was only \$90.3 million in December, 1917, their amount declined to \$8.3 million two years later.

Table II: Reserve Bank Discounts of Bills by Class of Paper.
June and December, 1917-1920.¹

(Millions of Dollars)

Year and month	Rediscounted Bills		Member Bank Collateral Notes	
	Secured by U. S. Government obligations	Otherwise secured and unsecured	Secured by U. S. Government obligations	Secured by other eligible collateral
1917- June		81.2	25.6	90.3
December	132.7	309.5	150.6	87.8
1918- June	114.1	388.5	310.3	56.3
December	363.0	281.0	1,037.3	21.6
1919- June	232.8	230.6	1,340.7	14.0
December	352.6	676.3	1,157.8	8.3

Rediscounted bills both secured by government obligations and otherwise secured showed an almost steady rise. (See Table II.) These figures, along with statistics on deposits, tend to show that the government was not very successful in

¹Banking and Monetary Statistics, p. 340, Table 88.

placing government obligations in the hands of non-bank investors. Demand deposits which amounted to \$7,503 million on March 5, 1917, increased to \$16,094 million by December 31, 1919, an increase of 115 per cent. (See Table III.) Time deposits increased 156 per cent during this same period, amounting to \$5,217 million on December 31, 1919, as compared with \$2,039 million on March 5, 1917.

Table III: Loans, Investments, and Deposits of Member Banks of Call Dates, 1917-1920.¹

(Millions of Dollars)

Call date	Loans	Investments		Deposits ²	
		U. S. Government obligations	Other securities	Other demand	Other time
1917-					
March 5	9,096	687	1,918	7,503	2,039
May 1	9,208	748	2,029	7,915	2,175
June 20	9,370	1,065	2,018	7,856	2,211
Dec. 31	12,316	1,759	2,820	11,220	3,057
1918-					
May 10	12,667	3,203	2,803	11,087	3,249
June 29	13,233	2,465	2,809	10,786	3,295
Nov. 1	14,550	3,591	2,840	12,070	3,554
Dec. 31	14,224	3,472	2,896	13,357	3,732
1919-					
Mar. 4	13,877	4,652	2,955	12,737	3,992
June 30	15,414	3,803	3,024	13,937	4,249
Nov. 17	17,423	3,494	3,271	15,668	4,962
Dec. 31	18,149	3,324	3,306	16,094	5,217

¹Banking and Monetary Statistics, pp. 72-73, Table 18.

²Excludes interbank, U. S. government and postal savings.

Thus the attempt by the Treasury and the Federal Reserve system to keep down inflationary pressures in war financing was not successful. Had the Treasury been able to finance the sale of its obligations out of current income or past savings, the large increase in demand and time deposits would not have taken place. Whether the Treasury could have received sufficient funds from those sources as well as from taxation is a different matter, but one which undoubtedly received much attention. But regardless, the effect of the Treasury financing was inflationary, and the use of the preferential rate, while it may have meant quick sale of the securities, did not tend to place the securities in the hands of investors and keep them there. It was an expedient way of disposing of an issue of securities.

Once the loan had been placed, the Treasury was then free to change the conditions (interest rate) of the next loan, with the result that increases in interest rates were expected. Instead of encouraging investment this would discourage the investor from purchasing the security until it had gone to a discount. Even then as long as there was uncertainty about the future rate of interest the government would pay on its obligations, there would be no large inducement to purchase and hold them.

Postwar Credit Inflation and Its Collapse: 1919-1921

With the removal of price controls in 1919 there was a rapid rise in prices; and a consumer buying spree and a business restocking boom increased the upward pressure on the prices.¹ The Board recognized the dangers in the rapid price rise, but could not act because the government was floating the Victory loan.² Had the Board and the Reserve banks raised their rates, including the preferential rate, while the government was floating its Victory loan, the securities would immediately go to a discount. This would probably have meant that the government would have not been able to place all the securities, since there was a large dependence on the banking system to make the sales successful.

When the final payment date for the Victory loan had passed in November, 1919, rates were raised moderately. In New York this raise was from 4 to 4 3/4 per cent.³ This caused a flurry on the stock market and call loans went to 30 per cent, but member bank and Reserve bank credit continued to expand.⁴

The large credit expansion during the war and early post-

¹Goldenweiser, op. cit., pp. 27, 30.

²Ibid., p. 30.

³Ibid., p. 41.

⁴Ibid.

war period decreased the Reserve banks' ratio¹ sharply, which had been maintained during the war years by an embargo on gold.² With this lifted on July 9, 1919, the United States lost \$292.3 million of gold in the remaining five months of the year.³ These two factors reduced the reserve ratio of the Reserve banks from 59.1 at the end of 1917, to 39.6 at the end of 1919,⁴ which left the banks with an extremely small operating ratio. Further extensions of credit would have lowered the ratio commensurate with or below the minimum required by law. Subsequently, in January, 1920, rates on eligible paper were raised to 6 per cent at all banks except Dallas and San Francisco, with these two banks conforming in February.⁵

Collapse of the Boom. In May, 1920, foreign demand for American goods declined sharply. Those countries that had heretofore been heavy buyers of American goods could not pay the high prices for the goods with the curtailment of public and private credit of the United States.⁶ With this decrease

¹The Reserve banks' ratio or operation ratio is the ratio of their total credit outstanding to their gold stock. It is a hybrid affair which is not sanctioned by law but is used as a guide to policy.

²Annual Report, 1919, p. 69.

³Banking and Monetary Statistics, p. 536, Table 156.

⁴Ibid., p. 330, Table 85.

⁵Ibid., p. 439, Table 115.

⁶Goldenweiser, op. cit., p. 31.

in foreign buying came a general suspension of domestic buying, making it impossible for producers and manufacturers to dispose of their goods in the same volume and at the same prices.¹

The high production that had taken place in the fall of 1919, and the spring of 1920, had created a tendency towards relative over-production of some manufactured goods.² The downward movement of commodity prices was aggravated by transportation facilities that were too congested to move goods in an orderly manner.³

In May the Board said that the country was facing a serious situation and that a turn in the business situation was inevitable. Therefore the Reserve banks must cooperate with the banks and the public to bring about a gradual liquidation.⁴ In the same month discount rates on 90-day paper were raised to 7 per cent.⁵ This deflation policy of the Federal Reserve authorities was attacked by the agricultural bloc in Congress and they placed the blame for the liquidation and deflation on the shoulders of the Reserve authorities. But

¹Annual Report, 1920, p. 7.

²Ibid., p. 8.

³Goldenweiser, op. cit., p. 31.

⁴Cf. ibid., p. 42.

⁵Annual Report, 1920. p. 12.

The real responsibility, to the extent that the situation was at all subject to control, lay largely in those events and policies which induced the boom and allowed it to go as far as it did.¹

That statement was in line with what the Board said in its Annual Report for 1919.

War financing necessarily involves credit expansion unless private consumption is curtailed at a rate commensurate with the increase of Government requirements.²

Further defending the policies followed, the Board said:

To some extent consumption was curtailed and the war financed out of savings. But banks had to expand credit so as the country could meet all the requirements. That means that no matter how high the interest rates, all the Liberty bonds could not have been saved.³

In defense of these policies of the Board, Burgess said, and rightly enough, that

One broad conclusion which may be drawn from the war and immediate postwar expansion and subsequent deflation is that in time of war no bank of issue can be independent in its policy. The country's whole energies are devoted to winning the war, and all else must be subordinate. At the end of a war it is difficult for a bank of issue to recover its proper measure of independence, and the Reserve System had no prewar experience, tradition, and prestige.⁴

In doing this the Board completely reversed its war-time policy of inflation to a contraction of credit and deflation.

¹W. Randolph Burgess, The Reserve Banks and the Money Market (New York: Harper, 1946), p. 271.

²Annual Report, 1919, p. 1.

³Ibid.

⁴Burgess, op. cit., p. 271.

While a war-time policy of inflating to facilitate the financing of the war may have been *the* only realistic policy without complete controls over the economy, a deflationary policy in the light of the existing business conditions only aggravated the situation. The monetary authorities cannot be expected to cure or prevent a depression, but to contract credit in order that the recession can be "orderly" is a step in the wrong direction. Under the circumstances a "do-nothing" policy would have been preferable to the policy followed. This would certainly not create the adverse psychological effect on business that a deflation policy did, and can do.

Liquidation of loans by member banks, which did not start until the fall of 1920, was retarded by frozen credits. Large inventories were being carried by producers because of the large production in the first half of 1920, coupled with a lack of markets for the goods. Banks that had made loans to these producers were unwilling to foreclose them and suffer large losses. As a consequence, these illiquid loans were extended, and the general liquidation of loans by the banks was more moderate and gradual.¹

The "Formative Period": 1921-1927

The liquidation of member bank loans and investments,

¹Annual Report, 1921, p. 6. Cf. also Goldenweiser, op. cit., p. 33.

which had moderately begun by the end of 1920, continued throughout 1921.¹ Contraction, however, proceeded at a slower rate in the second half of the year.² The reduction in member bank loans and investments was reflected in a liquidation of their indebtedness with the Reserve banks. Borrowings, which had amounted to \$3,080 million on November 15, 1920, were decreased to \$1,364 million on December 31, 1921.³ This decrease in borrowings reflected, also, a large gold inflow. In the sixteen months period beginning with the latter part of September, 1920, and carrying through December, 1921, there was a net inflow of gold amounting to \$844.7 million.⁴

That this inflow of gold did not cause an inflation as predicted by economists was caused by the part played by the Federal Reserve. Reserve bank credit that had been extended during the war and postwar period had supplemented the gold supply. Thus the basis of the money supply was gold and Reserve bank credit,⁵ and the power of the Federal Reserve to

¹Banking and Monetary Statistics, p. 72, Table 18.

²Annual Report, 1921, p. 18.

³Banking and Monetary Statistics, p. 73, Table 18.

⁴Ibid., p. 536, Table 156.

⁵Burgess, op. cit., p. 272.

offset gold inflows depended on the amount of Reserve bank credit outstanding.¹ In 1921 and 1922 the inflow of gold was merely substituted for Reserve bank credit in the banking system.

With the sterilization of the gold inflow by the member banks Reserve bank holdings of gold increased as did their reserve ratio, and with pressure on their reserves released the Reserve authorities' argument for a contractionary discount rate policy was rendered ineffective.² Thereupon the Reserve officials said that the reserve ratio had lost its value as a guide to policy,³ and rates remained high in the first half of 1921.⁴ In the second half of the year they were moderately lowered but still remained higher than those prevailing in 1919.⁵

Business Conditions. In 1922, business recovery was mainly in industrial activity. In agricultural sections there was a credit strain and banks in those sections borrowed heavily from their Reserve banks.⁶ The depression in agriculture

¹Ibid., p. 274.

²Harris, op. cit., Vol. 1, p. 82. ³Ibid.

⁴Banking and Monetary Statistics, p. 440, Table 115.

⁵Ibid., pp. 439-440, Table 115.

⁶Goldenweiser, op. cit., p. 35.

caused a drain of credit from the agricultural sections to the industrial sections, since payments that were made for goods purchased by agricultural sections were not offset by amounts that usually came back for crop payment.¹ This movement of funds away from agricultural sections to manufacturing sections partly accounted for the more rapid recovery in the industrial districts.²

To ease the situation and to enable banks to pay off their indebtedness, the Reserve banks purchased bills and government obligations in the open market. The Board also wanted to build up their portfolio, to be used later if inflationary trends developed.³ Price increases in the first part of 1922 took place rapidly, and after May, Reserve banks decreased their portfolio of government securities.⁴ The effect of this was to increase borrowings at the Reserve banks.⁵ In the spring of 1923, when business revived with such rapidity that fear of a new inflation was expressed, discount rates were raised.⁶

The Board directed the Open Market Committee in 1922 that the

¹Ibid., pp. 35-36.

²Ibid., p. 36.

³Harold L. Reed, Federal Reserve Policy (New York: McGraw-Hill, 1930), p. 27.

⁴Banking and Monetary Statistics, p. 369, Table 101.

⁵Ibid.

⁶Hardy, op. cit., p. 40.

. . . . time, manner, character, and volume of open-market investments purchased by the Federal Reserve banks be governed with primary regard to the accomodation of commerce and business, and to the effect of such purchases or payments on the general credit situation.¹

Thus with the subsequent developments in the Reserve System's portfolio of government obligations, the Board believed that the country could not continue the rate of increase in production, and that inflationary tendencies would develop.²

Business conditions, however, were reversed in the second half of 1923, and there was a fall in wholesale prices of all commodities and in industrial production.³ While the Reserve System maintained their portfolio of government obligations around \$100 million, bills bought increased by \$150 million in the last two months of 1923.⁴ This increase in Reserve bank credit was largely offset, however, by a decrease in borrowings by member banks to the extent of \$100 million.⁵ This change in policy of the Board was converted into an easy money policy after a short-lived recovery took place in February and March of 1924.⁶ Discount rates were lowered to 3 1/2

¹Annual Report, 1922, p. 413.

²Reed, op. cit., pp. 35-40.

³Federal Reserve Chart Book, pp. 34, 40.

⁴Banking and Monetary Statistics, p. 370, Table 101.

⁵Ibid.

⁶Hardy, op. cit., p. 43. Cf. also Burgess, op. cit., p. 247.

per cent in Boston, New York, and Philadelphia, and the rates at all other Reserve banks were lowered 1/2 of 1 per cent in June.¹ This was combined with active purchases in the open market of \$278 million of bills and \$230 million of government obligations from May through December, 1924.² Indebtedness of member banks, as a result of these open-market operations, declined only \$126 million during the same period, and amounted to \$307 million at the end of the year, while total reserves increased by \$260 million.³

Thus the

proceeds of the gold and the securities purchased during this period were not used to reduce discounts which were low but were added to member bank reserve balances. These additional balances were largely the basis of the speculative credit expansion which occurred in the next four or five year.⁴

The recession reached a low point in the middle of 1924, and in the fall a revival occurred.⁵ Agriculture was stimulated by a world shortage in wheat and a large export demand which was financed mainly by foreign loans floated in this country.⁶ Total industrial production had more than recovered the setback that occurred in the spring of the year,

¹Banking and Monetary Statistics, p. 440, Table 115.

²Ibid., p. 370, Table 101.

³Ibid.

⁴E. A. Goldenweiser, "Federal Reserve Policies: Retrospect and Prospect," American Economic Review, June 1947, p. 324. Cf. Reed, op. cit., p. 59 "This period was one in which credit was actually tending to become redundant."

⁵Annual Report, 1924, pp. 1-2.

⁶Ibid.

while the wholesale prices of farm products were higher than any year since the collapse of the export demand in 1920.¹

Annual Report for 1923. In 1921, the Board said that "control over discount rates. . . . is an important and far-reaching power which must always be used with care and discretion."² In discussing the use of the rate in 1923, that statement was greatly modified. Accepting the principle, as the Board did, that the discount rate should be fixed with a view of "accommodating commerce and business," the Board said that

the outlook for Federal Reserve credit legislation would indeed be unpromising in view of the great disparity of customer rates at member banks in different sections of the country, if the Reserve banks had no other means than discount rates by which to regulate the volume of their credit used, and this discount rate could exert no effective influence unless it were a penalty rate.³

Little reliance, then, was placed in the effectiveness of increases in the discount rate as contractionary or expansionary measures. As with open-market operations, bold policies could not be used to curb inflation when the basis for policy is the accommodation of business and commerce.⁴ The

¹Federal Reserve Chart Book, pp. 34, 40.

²Annual Report, 1921, p. 30.

³Annual Report, 1923, p. 9.

⁴Harris, op. cit., p. 69.

rate is more effective in markets where the use of funds is in commercial paper, acceptances and securities, than where loans are made direct to customers. "The latter is more slowly responsive to changes in the general credit situation."¹

Rate changes, however, are important as guides to the general policies of the central bank. "As long as rates are only infrequently changed, the announcement of new discount schedules must invariably incite the most intense interest in Federal Reserve activities."² Even then discount rate changes act more through the qualitative credit control by the bankers themselves rather than through increased credit cost to the bank's customers. Raising of the rate by the Reserve system was a signal for tighter credit conditions, and the banks responded by scrutinizing loans more closely, instead of raising rates. This qualitative credit device is practiced in times of high business activity as well as in periods of recessions. At any interest rate there are more demands for loans than the banks are willing to make or can make. They must therefore pick and choose. Changes in the discount rate would then tend to make the bankers tighten or ease credit conditions.

While open-market operations also reflect changes in policy, they are difficult to evaluate in terms of policy

¹Ibid., p. 74.

²Reed, op. cit., p. 7.

action, because they are more flexible and are used quite frequently, often being small in amount.¹ For example, it would be difficult to evaluate the action if the Reserve authorities purchased or let mature, without replacing, \$50 million of government securities.

Early in the history of the Federal Reserve System the effect of open-market operations was not fully understood.² It was a means of acquiring earning assets. In 1922, when the Board accepted the theory of an inverse relationship between discounts and open-market operations, the effect of open-market operations was over-emphasized.³

The Board said that

the extent to which member banks borrow in order to replace the funds withdrawn by the Reserve banks through the sale of securities is a measure of the demand for Reserve bank credit. The sale of securities by a Reserve bank may thus serve as a test of the degree of adjustment between the demand for Reserve bank credit and the outstanding volume of such credit.⁴

Thus in 1923 the Board recognized that there were limitations to theory of an inverse relationship between open-market operations and discounts. Gold and currency movements, as well as the acceptance policy of the System, could offset this inverse relationship. While the first two were recognized, the latter was not. The acceptance business was

¹Ibid.

²Harris, op. cit., p. 152.

³Ibid.

⁴Annual Report, 1923, pp. 13-14.

was carried on separately with a view of stability and expansion of the acceptance market, and not in coordination with the general credit policy.¹

After the depression of 1921 and 1922, when the foreign demand for American goods had fallen off sharply with the consequence of a smaller amount of acceptances offered on the market, Reserve bank holdings of acceptances bought averaged about \$350 million at the end of the year when American exports were large and about \$200 million during the summer months.² In the first six months of the year, acceptance holdings decreased, due to retirement of the credit instruments from the market.³ In those periods of the year when acceptances holdings were the greatest, they amounted to 20 to 25 per cent of the total Reserve bank credit outstanding.⁴ To ignore the effects of the acceptance policy on the general credit situation was to leave the way open for nearly complete offsets to other policy actions.

The "Normal Years." In 1925 business conditions had improved. Industrial production had made large gains in the second half of 1924, and continued to increase in 1925 and

¹E. A. Goldenweiser, "Federal Reserve Objectives and Policies: Retrospect and Prospect," p. 323.

²Banking and Monetary Statistics, p. 370, Table 101.

³Ibid.

⁴Ibid.

1926.¹ Construction contracts awarded increased sharply in the first half of 1925, and after a fall in the first few months of 1926, they stood around \$540 million at the end on 1926, as compared with \$400 million at the end of 1924.²

Wholesale prices moved downward during this two year period, while security prices showed marked increases.³ Business profits were therefore a result of a turnover of goods and declining cost and not price increases, and there was no accumulation of inventories.⁴ Real estate loans, which stood at \$1,990 million at the end of 1924, had increased to an estimated \$2,600 million by the end of 1926.⁵

Thus the business indexes and statistics pointed towards prosperity.

Although the Board was criticized for permitting speculation in stocks, the Board defended itself by saying that industrial and commercial data were sufficient guides to credit policy, and that if excesses developed in other segments, this would be reflected in industrial and commercial data.⁶ While essentially the Board did nothing concerning the

¹Federal Reserve Chart Book, p. 40. ²Ibid., p. 48.

³Ibid., pp. 30, 34. ⁴Annual Report, 1925, p. 3.

⁵Benjamin M. Anderson, "Bank Money and the Capital Supply," Chase Economic Bulletin, Chase National Bank, New York, Vol. VI, No. 3, November 8, 1926, p. 6.

⁶Hardy, op. cit., pp. 94-95.

increase in speculation in real estate and securities, the Reserve banks favored vigorous discount rate increases.¹ The inflation had come in a form that was not fully recognized by the Board, and the Board did not wish to penalize legitimate business in combating stock price increases.² The increased turnover of goods and especially the lowering of costs had increased business profits greatly. The large increase in profits in turn sustained and increased the speculative activity on the stock market. A profit inflation with prices remaining relatively constant inflicts the same harm on the economy as does a price increase with costs remaining constant. However, there is a way out that is not present when prices rise. With a profit inflation if new investment is made and the increase in factor costs is paid for by lowering profits and not raising prices, then the profit inflation is destroyed. This was not the case at this time, however. The profit inflation drew more funds to the stock exchanges, which alarmed the Reserve banks but not the Board. The Board hoped to combat the speculative activity by "direct action," i.e. moral suasion.³

While the Reserve System played a less prominent role in the money markets during this two year period, their open-

¹Burgess, op. cit., p. 283.

²Ibid., pp. 282-283.

³Ibid., p. 283.

market operations were directed on the whole towards increasing the responsibility of the member banks for the volume of credit outstanding.¹ The Reserve System moderately liquidated their portfolio of government securities from January, 1925, to March, 1926. The decrease during this 15 month period, however, amounted to only \$130 million, while discounts increased \$300 million.² In November, 1925, increases of 1/2 of 1 per cent were made in discount rates in Boston, Philadelphia, Cleveland, and San Francisco.³ This possibly indicated a weak disapproval by the Board of speculative activity,⁴ but rates were not increased in New York because of the desire not to penalize business.⁵ In January, 1926, rates in New York were raised to 4 per cent from 3 1/2 per cent.⁶ A uniform rate of 4 per cent then prevailed until the latter part of April, when rates at New York were lowered again to 3 1/2 per cent because of a large liquidation of loans.⁷ The decrease came entirely in loans on securities, and the decline which started

¹Ibid., p. 247.

²Banking and Monetary Statistics, p. 370, Table, 101.

³Ibid., p. 440, Table, 115.

⁴Hardy, op. cit., p. 81.

⁵Annual Report, 1925, p. 6.

⁶Banking and Monetary Statistics, p. 440, Table 115.

⁷Annual Report, 1926, p. 3.

in February and carried through May, amounted to \$300 million in New York.¹ To ease the pressure somewhat, the Reserve System purchased \$60 million of government obligations during this period.² Member bank indebtedness, however, did not increase during this period of liquidation; instead, funds released by calling loans were used to reduce member bank borrowings at the Reserve banks.³

In the next four months, June through September, the situation was reversed. Loans on securities regained their losses in the early part of the year and member bank indebtedness increased by \$160 million, while the Reserve System decreased its portfolio of government obligations by \$100 million.⁴ Rates were again raised in New York to 4 per cent.⁵

Thus the Board held rates relatively stable when business conditions were considered satisfactory,⁶ and changing the rates and its open-market operations only in times of excesses of liquidation.

Gold Flows and Federal Reserve Policy. As stated before, after the embargo on gold was lifted in 1919 and the scare

¹Banking and Monetary Statistics, p. 171, Table 49.

²Ibid., p. 370, Table, 101. ³Cf. ibid.

⁴Ibid., pp. 139, 370, Tables 48, 101.

⁵Ibid., p. 440, Table 115.

⁶Hardy, op. cit., pp. 188-189.

instigated by large gold outflows in the immediate postwar period, gold began to flow to this country in relatively large volume. From the end of December, 1920, to the end of December, 1926, there was a net addition to the United States' stock of gold of \$1,495 million.¹ This large inflow was a dilemma to the Reserve authorities, since their policy was partly directed towards creating favorable conditions so as to aid the major foreign countries in returning to a gold standard.² To keep rates low in this country to enable foreign countries to conserve their gold ran the danger of a credit inflation here. To raise the rates to prevent undue credit expansion in the United States would force money market rates up, increase the cost to business, and create an attractive market for foreign funds, thus adding to the drain of foreign gold. The Reserve System chose the former, hoping to keep gold imports down and stimulate business activity. This left the problem of inflation, but the Reserve authorities hoped to cope with that when it came.³

As a result of this policy, the gold inflows diminished every year after 1921, with a net outflow being recorded in

¹Banking and Monetary Statistics, pp. 536-537, Table 156.

²Burgess, op. cit., p. 275.

³Ibid., pp. 276-277.

1925,¹ the reason being that low rates enabled foreign countries to borrow here on relatively easy terms, in addition to government loans to foreign countries of \$9,598 million for the years 1917 to 1922.²

In 1925, the Reserve System made arrangements with the bank of England to extend \$200 million of credits to enable England to return to the gold standard.³ This money was available to the Bank of England and could be drawn on when needed, but was not so used.⁴ The result, however, was that the Reserve System could not maintain a rate of interest in this country that would defeat the effects of the credits extended. In attempting to combat inflationary conditions in this country the Board would have had to raise to discount rate. This would cause call-loan rates, bill rates, etc., to increase, making this country a good place to invest short-term funds. As short-term funds flowed to this country, they would carry gold along with them, increasing the difficulties of the foreign countries in returning to the gold standard. Low rates here, on the other hand, would mean an easy money policy, with the danger of an inflation; but that policy would keep call-loan rates, bill buying rates, etc., low, so the short-term

¹Banking and Monetary Statistics, pp. 536-537, Table 156.

²Ibid., p. 514 fn.

³Annual Report, 1925, p. 12.

⁴Ibid., 1926, p. 14.

funds would tend to flow out of this country. Even if the flow of funds from the country was not sufficient to cause a gold outflow (because of an export surplus), the drain of gold from foreign countries might be stopped, which would correct some short-term difficulties in their balance of payments. Low interest rates were therefore the result in this country, and the easy money policy permitted speculation to continue in the stock exchanges.

Treasury Finance. After the problems of war had disappeared, the policy of the Treasury was to reduce the Federal debt. This policy was carried out all through the twenties, and even through June, 1930. The gross debt, which on June, 1920, had amounted to \$24,298 million, stood at \$19,075 million at the end of December, 1926, and \$16,026 million at the end of 1930.¹ The effect of this Treasury policy on the banking system was probably not very great. Member bank holdings of government obligations increased during this period, and the Reserve banks' portfolio of "governments" fluctuated with changes in business conditions, with the result that payment of the debt was probably made to private persons. The overall effect would then be a cancellation of a government liability, a shifting of deposits, and a readjustment of bank reserves, but with a slight decrease in the amount of reserve

¹Banking and Monetary Statistics, p. 509, Table 146.

money available.

To the extent that banks, including the Reserve bank, held the redeemed debt, the action would be deflationary, since an equivalent amount of deposits would be canceled with the retiring of the debt. But the public debt during the twenties was the basis more for an expansion of bank credit than for a contraction. If the debt that is retired is held by private individuals, then there is just a transfer of deposits from one private individual to another. But if the amount of the debt held by private individuals decreases by an amount more than is retired by the Treasury, then it must gravitate into the banking system. Payment is made in the form of increased deposits, thus increasing the amount of money in circulation.

1927 to the Stock Market Crash

In February, legislation passed by Congress gave perpetual life to the Reserve System, and thus insured no unplanned interruption in the banking system. The Reserve System was in no danger of following the First and Second Banks of the United States into political controversy for its life. Any opposition to the System would have to be strong and would have to present for legislative enactment a banking structure superior to the one in existence.

Included in the McFadden Act—the Act mentioned above—was the provision for the commercial banks to buy securities

directly from the Treasury, with no stipulation as to the amount that they could hold. This broke away considerable from the philosophy of the original Federal Reserve Act, permitting the largest part of the money in circulation—demand deposits—to be based on government bonds. The importance of this legislation in practice did not take place until the Second World War, but at the time it permitted a monetizing of the public debt insofar as the reserves of the commercial banks would permit.

During 1927, durable manufactures and mineral production fell off slightly, while nondurable manufactures showed a modest increase during the year.¹ Construction contracts awarded fell off moderately during the first half of the year and then rose sharply,² while freight carloadings showed an almost steady decline throughout the whole year.³ Notwithstanding, member bank loans and investments increased \$1,700 million during the year.⁴ Of this increase \$700 million represented loans on securities, \$100 million in the category "all other," a \$500 million increase in government obligations,

¹Federal Reserve Chart Book, p. 56, Industrial Production.

²Ibid., p. 62, Construction Contracts Awarded.

³Ibid., p. 66, Freight Carloadings.

⁴Banking and Monetary Statistics, p. 140, Table 48.

and \$300 million on other securities.¹ The true picture of speculative activity is not given in those figures, however. In the category, "all other" loans, commercial loans actually decreased by \$230 million during the year, while there was an increase in real estate loans of \$276 million.²

In the first few months of the year gold imports enabled banks to reduce their indebtedness to the Reserve banks somewhat, but increases in earmarked gold reversed this situation in May.³ With a decline in business activity in the second half of the year, the Reserve System lowered rates and entered into active buying in the open market. Although the gold stock of the United States decreased by \$238.9 million in the last eight months of the year, this decrease was more than offset by an increase in Reserve bank credit for the same period of \$392 million.⁴

An easy money policy was instigated with the decline in business activity and the action was in part influenced by foreign conditions.⁵ The Board hoped to alleviate a credit stringency in Europe and assist foreign countries in meeting credit demands for the autumn exports from this country without

¹Ibid.

²Annual Report, 1927, p. 5.

³Banking and Monetary Statistics, p. 537, Table 156.

⁴Ibid., pp. 537, 370, Tables 156, 101.

⁵Annual Report, 1927, p. 10.

causing those countries to depress their exchange rates.¹ That this action was effective is shown by the fact that, although American exports exceeded imports during the latter part of 1927 and throughout all of 1928, there was an outflow of gold from September, 1927, through July, 1928.²

At the beginning of 1928, however, the easy money policy was reversed. In an attempt to control inflation all contractionary powers of the Board were used. Discount rates, which had been lowered from 4 per cent to 3 1/2 per cent in 1927, were raised to a uniform 4 per cent by March, 1928.³ The Reserve System's portfolio of government obligations was decreased by \$300 million,⁴ and a policy of direct pressure was instituted to refuse loans to those banks making call loans, accepting stocks as collateral.⁵ High rates, however, drew gold from all over the world, enabling speculation to continue.⁶

As a result of this action, member bank indebtedness increased, but bank credit continued to increase. In the first six months loans and investments of banks in 101 leading centers increased by \$550 million, the bulk of the increase being

¹Ibid.

²Banking and Monetary Statistics, p. 537, Table 156.

³Ibid., pp. 440-441, Table 115. ⁴Ibid., p. 370, Table 101.

⁵Hardy, op. cit., p. 51.

⁶Ibid.

in loans.¹ The basis for this increase in bank credit was discounting at the Reserve banks. Member bank indebtedness increased from \$465 million at the beginning of 1928, to \$1,019 million by the end of June.² Thus while credit expansion was slowed down from the preceding six-months period, the Reserve authorities learned they could not control the sale of bills and discounts as they had anticipated.³

With the coming of the crop moving season in late August and early September, the traditional policy of increasing credit to facilitate easy movement of the crops was again followed.⁴ The increase in Reserve bank credit occurred entirely in acceptances purchased, while changes in Reserve bank holdings of government obligations and bills discounted offset each other.⁵ This policy of easing the credit situation, relieved pressure on the call-loan market temporarily.⁶ The average rate on new call loans dropped from 7.70 per cent on October 6 to 6.50 per cent on November 24.⁷ But this was a short-lived relief for the market. A month later the rate had risen to 10.83 per cent.⁸

¹Banking and Monetary Statistics, p. 141, Table 48.

²Ibid., p. 370, Table 101.

³Harris, op. cit., p. 181, (Vol. I).

⁴Hardy, op. cit., p. 53. ⁵Harris, op. cit., p. 182, (Vol. I).

⁶Ibid., p. 533, (Vol. 2).

⁷Banking and Monetary Statistics, p. 455, Table 121.

⁸Ibid.

Although the return flow of currency to the banks at the beginning of the year eased the pressure on call loan rates, the Board was concerned over the high rates and continued speculation. In its 1929 Annual Report the Board said that the rise in security prices and security and brokers' loans evidenced an absorption of credit into speculative activity to an "alarming" extent,¹ but concern over the cost of credit to business retarded rate increases asked for by the Reserve banks.² The buying rate for bills was increased in the first part of the year, however, from 4 1/2 per cent to 5 3/8 per cent.³ This put the buying rate above the discount rate with the result that the gold imports were used to liquidate the Reserve System's holdings of acceptances, rather than to reduce indebtedness.⁴ In the fourth week of January, discounts rose rapidly and increased with the sale of government securities by the System.⁵

Alarmed by this increase, the Board sent the following letter to the Reserve banks:

"The firming tendencies of the money market which have been in evidence since the beginning of the year—contrary to the usual trend at this season—make it incumbent upon the Federal Reserve banks to give constant and close attention to the situation in order that no influence adverse to the trade and industry of the country shall be

¹Annual Report, 1929, pp. 1-2.

²Ibid., p. 2.

³Ibid., p. 4.

⁴Ibid.

⁵Ibid.

exercized by the trend in money conditions, beyond what may develop as inevitable.

"The extraordinary absorption of funds in speculative security loans which has characterized the credit movement during the past year or more, in the judgment of the Federal Reserve Board, deserves particular attention lest it become a decisive factor working towards a still further firming of money rates to the prejudice of the country's commercial interests.

"The resources of the Federal Reserve System are ample for meeting the growth of the country's commercial needs for credit, provided they are competently administered and protected against seepage into uses not contemplated by the Federal Reserve Act.

"The Federal Reserve Act does not, in the opinion of the Federal Reserve Board contemplate the use of the resources of the Federal Reserve banks for the creation or the extension of speculative credit. A member bank is not within its reasonable claims for rediscount facilities at its Federal Reserve bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans.

"The Board has no disposition to assume authority to interfere with the loan practices of member banks so long as they do not involve the Federal Reserve banks. It has, however, a grave responsibility whenever there is evidence that member banks are maintaining speculative security loans with the aid of Federal Reserve credit. When such is the case, the Federal Reserve bank becomes either a contributing or a sustaining factor in the current volume of speculative security credit. This is not in harmony with the intent of the Federal Reserve Act nor is it conducive to the wholesome operation of the banking and credit system of the country."¹

Five days later the contents of this letter were made public. This attempt at moral suasion was nearly a last ditch

¹Ibid., pp. 3-4.

fight against credit flowing to the stock exchanges. Committed to a policy of accommodating commerce and business as long as no excesses were developing along those lines forbade drastic rate increases, and open-market operations were very limited in the light of the relatively large scale operations carried on in the middle of 1928.¹ Although Goldenweiser criticized the Board for believing that they could control a general credit situation by dealing with individual banks, there was little course of action left under the circumstances.² Had the Board, on the other hand, considered the general credit situation, and had not assumed that excesses (inflation) in other sections of the economy would show up in the indexes of business, Goldenweiser's criticism would have been appropriate, but late. As Goldenweiser himself pointed out, the basis for the credit inflation was largely created in 1924.³ Also B. M. Anderson, writing currently with this period, pointed out the dangers that were developing.⁴

From February 6, the day before this letter to the Reserve banks was made public, to May 29, total loans of member banks decreased by only \$50 million, while loans on securities

¹Cf. Banking and Monetary Statistics, p. 370, Table 101.

²Cf. Goldenweiser, "Federal Reserve Objectives and Policies: Retrospect and Prospect," p. 324.

³Ibid.

⁴Cf. Chase Economic Bulletin, Vol. VI, No. 3, November 8, 1926.

decreased by \$450 million.¹ A further breakdown shows that loans to dealers and brokers inside and outside New York City declined by \$700 million with the decrease coming entirely at New York City.² Thus loans to others on securities increased by \$250 million, with only \$70 million of the increase coming at the New York City banks.³ The banks in the money market, then, were temporarily influenced by the announcement of the Board, more so than other banks in the country.

In June, loans to brokers and dealers in securities increased \$250 million,⁴ and in July, stock prices advanced more rapidly than ever.⁵ Sales of government obligations were made by the Reserve banks, but the volume sold was small as their portfolios were nearly depleted after the operations in 1928. Rates were raised in New York on August 9, from 5 per cent to 6 per cent, but the gesture was futile.⁶ Money rates on prime commercial paper of four to six months' maturity had varied from 7 per cent to 12 per cent during the same

¹Banking and Monetary Statistics, p. 142, Table 48.

²Ibid.

³Ibid., p. 174, Table 49. Attention should be called to the fact that of the \$700 million decrease in loans to brokers and dealers in securities in New York City, one-half was the result of contraction by New York City banks, while the other half was the result of contraction by banks outside New York City. Loans to brokers and dealers in securities in New York City by New York City banks amounted to \$734 million on May 29.

⁴Ibid., p. 142, Table 48. (For 101 leading cities.)

⁵Hardy, op. cit., p. 53.

⁶Ibid., p. 54.

period.¹ An increase in the cost of credit by 1 per cent would make no difference to borrowers under the circumstances.

It had been the policy of the Board to maintain their discount rate lower than the rate on prime commercial paper of four to six months' maturity but higher than the rate on prime 90-day bankers' acceptances. While the Board's action on August 9 raised the discount rate equal to the rate on the shorter-term paper, any contractionary influence that it actually had was soon overcome with the rise in the rates on the shorter-term paper to 6.13 per cent on August 17.²

With the coming of the crop moving season, the Board put into effect its traditional policy of facilitating the movement by lowering the buying rate on acceptances to 5 1/8 per cent.³ Acceptance holdings of the Reserve banks immediately began to increase, and the increase was more than the seasonal demand for Reserve bank credit.⁴ Acceptance holdings of the Reserve banks increased from \$75 million at the end of July, to \$337 million by the end of October, but this was nearly offset by a decrease of \$200 million in member bank indebtedness during the same period.⁵

¹Banking and Monetary Statistics, p. 456, Table 121.

²Ibid.

³Hardy, op. cit., p. 54.

⁴Annual Report, 1929, p. 8.

⁵Banking and Monetary Statistics, pp. 370-371, Table 101.

Bank credit continued to increase. While from the end of July to October 23, loans to brokers and dealers on securities decreased by \$140 million, loans to others on securities increased by \$250 million and "all other" loans increased by \$300 million.¹

In September and October a recession in business and reports of smaller corporate earnings weakened the position of the stock market. British investors lost some confidence when an important financial institution failed in England, and they withdrew some funds from the New York market; and on September 26 the Bank of England raised their rate from 5 1/2 to 6 1/2 per cent to protect their gold reserves. These events culminated in the stock market break in late October.²

When the break came, the New York banks were prepared to meet the situation.³ While other banks were expanding their loans on securities from the end of July through October 23, New York City banks had reduced theirs slightly.⁴ In the last week in August, however, the New York banks took over investments and loans of outsiders,⁵ and their loans on securities increased by \$1,200 million, and 5/6 of that amount was

¹Ibid., p. 142, Table 48. (For 101 leading cities.)

²Annual Report, 1929, p. 9. ³Ibid.

⁴Cf. Banking and Monetary Statistics, p. 174, Table 49.

⁵Annual Report, 1929, p. 9.

made to brokers in New York City.¹ To help meet the situation, the Reserve bank of New York loaned freely and bought \$150 million of government obligations in the open market.² In the four weeks period following the crash New York City banks liquidated \$1,200 million of loans to brokers in New York City, while their total loans on securities decreased by nearly the same amount.³

Easy Money Policy and the Early Depression Years

When the market broke, member banks were in debt to the Reserve banks nearly \$900 million,⁴ and the Board immediately pursued an easy money policy. Member bank indebtedness was a wholesome restraint when bank credit was expanding rapidly, but with the stock market break it became a pressure for liquidation.⁵ The immediate aim was to release that pressure, and then provide banks with excess reserves so as to exercise a positive pressure for credit expansion.⁶

The discount rate which had been 6 per cent at the New York Federal Reserve bank in October, 1929, was lowered to $4\frac{1}{2}$ per cent by the end of the year, and was further lowered

¹Banking and Monetary Statistic, p. 174, Table 49.

²Annual Report, 1929, p. 10.

³Banking and Monetary Statistics, p. 174, Table 49.

⁴Ibid., p. 371, Table 101. ⁵Burgess, op. cit., p. 284.

⁶Ibid., p. 249.

through 1930, until it was 2 per cent by the end of the year.¹ Other Reserve banks followed the same course of action, and at the end of 1930, they ranged from 3 to 3 1/2 per cent, with the lowest rates in effect in Boston and Cleveland.² The decline in rates followed closely the fall in open-market rates on prime bankers' acceptances of 90-day maturity, with the spread between the discount rate and the rate on prime commercial paper of four to six months' maturity at times being more than 1.5 per cent.³

Financial Developments in 1930 and 1931. Purchases of government obligations, which had begun in the last two months of 1929, were continued throughout 1930 and 1931. The increase in the two year period amounted to nearly \$300 million, and supplemented the gold inflow in enabling member banks to reduce their indebtedness at the Reserve banks.⁴ Net gold imports continued through September, 1931, but there was a large outflow in October amounting to \$337.7 million.⁵ The gold stock of the country, however, decreased in these two months by \$700 million because of increases in earmarking and

¹Banking and Monetary Statistics, p. 441, Table 115.

²Ibid. ³Cf. ibid., p. 456, Table 121.

⁴Cf. ibid., p. 371, Table 101. Also ibid., p. 537, Table 156 and Hardy, op. cit., p. 56.

⁵Banking and Monetary Statistics, p. 537, Table 156.

export.¹ This movement in gold was the result of loans to the British Government and the Bank of England, amounting to \$650 million.² This large loss of gold lowered the reserve ratio of the Reserve banks to 65.1.³ Concern over a lower reserve ratio caused rates to be raised in New York from 1 1/2 per cent to 3 1/2 per cent within a period of seven days during the middle of October.⁴ Other Reserve banks followed suit within a matter of days, and the rates went unchanged for the remainder of the year.⁵

In the first two months of 1930 total loans and investments of member banks in 101 leading cities declined moderately, but through November, 1930, they increased by \$1,000 million.⁶ The situation was reversed in December, and continued through 1931, with a decrease of \$2,700 million occurring in loans and investments of those member banks.⁷ In 1930 the increase was sustained by large increases in investments, while loans declined. In 1931 the increase in investments of government obligations was not great enough to offset

¹Ibid.

²Annual Report, 1931, p. 13.

³Ibid., pp. 58-59.

⁴Banking and Monetary Statistics, p. 441, Table 115.

⁵Ibid.

⁶Ibid., p. 143, Table 48.

⁷Ibid., pp. 143-144, Table 48. (For 101 leading cities.)

the decline in loans of nearly \$2,700 million and a \$200 million decrease in member bank investments in securities other than governments.¹

The increase in loans in the first eleven months of 1930, was reflected in an increase in time and demand deposits of individuals. With a liquidation of loans in 1931, demand deposits fell off \$600 million in the first ten months, while time deposits decreased by only \$200 million.² These decreases came about gradually until October, when sharp contractions were made in loans by banks. Currency hoarding also played its part in the decreases in deposits. Money in circulation, which amounted to \$4,323 million at the beginning of February, 1931, increased by more than \$1,000 million during the year.³ With depressed business conditions increases in money in circulation can only reflect the hoarding of individuals.

Developments Leading to the Banking Crisis. In the first seven months of 1932, gold exports amounting to \$623.4 million⁴ subjected the banking system to pressures and the Reserve System more than offset this decrease by purchases of \$1,050 million⁵ of government obligations in the open market.⁶ In

¹Cf. ibid.

²Ibid., p. 144, Table 48.

³Ibid., p. 412, Table 110. ⁴Ibid., p. 537, Table 156.

⁵Ibid., p. 371, Table 101.

⁶Annual Report, 1932, p. 5.

the last five months of the year the gold flows were reversed and \$177.2 million of gold flowed into the country.¹

Bank credit showed serious declines during the year, although contraction was at a slower rate in the second half of the year. (See Table IV.) Liquidation of credit and efforts of the banks to remain liquid, as well as solvent, caused banks to sell their investments on the open market. The consequence was a decline in the value of the assets of the banks, and a further weakening of the banking system, as well as intensifying the effect of the depression.² Withdrawals of currency for hoarding and shifting of deposits among banks accelerated the crisis,³ spreading bank suspensions and causing a loss of confidence in the banks.⁴

After the passage of the Glass-Steagall Act on February 27, 1932, which provided that Reserve banks could use government obligations as collateral for note issue, the Reserve System entered into large open-market operations in government securities to help relieve the pressure on banks for liquidation. From the end of February to the end of July, the Reserve banks purchased \$1,070 million of government obligations.⁵ As

¹Banking and Monetary Statistics, p. 537, Table 156.

²Burgess, op. cit., p. 39. ³Annual Report, 1932, p. 9.

⁴Ibid., 1933, p. 6.

⁵Banking and Monetary Statistics, p. 371, Table 101.

a result of this action, excess reserves of member banks increased by \$600 million while indebtedness and bills bought by the Reserve banks decreased by \$400 million.¹

Table IV: All Member Banks—Loans and Investments Changes during 1932.²

	(Millions of Dollars)			
	Member banks in New York City		All other member banks	
	Jan.- June	June- Dec.	Jan.- June	June- Dec.
Loans and investments	-745	612	-1,829	-1,143
Loans	-1,082	-143	-1,592	-1,240
Loans to banks	-114	-44	-103	-85
Loans to other customers	-838	-235	-1,465	-1,127
Open-market loans	-130	136	-24	-28
Investments	336	756	-238	96
U. S. Govern- ment securities	240	595	68	317
Other securities	97	161	-307	-221

Although some pressure was lifted by this action, member bank liquidation of loans and investments continued throughout the year, with the exception of banks in New York City in

¹Ibid.

²Annual Report, 1932, p. 6.

the second half of the year. (See Table IV.) A noticeable feature in the movement of bank credit during the year is the fact that investments in government obligations increased during the first and second half of the year. This reflects the demand for high quality and highly liquid investments. In part this is noticeable in open-market loans by banks. The fact that New York City banks increased their loans in the open market in the second half of the year by an amount greater than the decline in the first half, shows that banks were willing to make loans on what they thought was sound security. The continued decrease throughout the year of loans in the open market by banks outside New York City probably reflects a decline in the volume of paper available for purchase due to the depression, rather than a hesitancy on the part of the banks to make loans. This is partly borne out by the facts that rates on prime commercial paper and prime bankers' acceptances of 90-days maturity declined to very low levels in the latter part of the year, while rates on loans charged by banks to customers increased in 1932 over 1931.¹

While liquidation of bank credit was slowed down in the second half of 1932, an improvement in business conditions was not sustained in the last quarter.² At the beginning of

¹Ibid., pp. 457, 464, Tables 121, 125.

²Annual Report, 1933, p. 8.

1933, the return flow of currency to the banks was far less than usual, indicating an increase in hoarding; and towards the end of February there developed some loss of confidence in the convertability of currency and \$320 million in gold was withdrawn.¹ Hoarding was not confined to gold, however, and between early February and March 4, Federal Reserve notes increased by \$1,430 million.²

To meet this large demand for currency, banks discounted \$1,160 million in bills and drew down their reserve balances by \$400 million, while the Reserve banks purchased \$390 million of bills and \$100 million of government obligations.³ The increase in note issue and other Reserve bank credit decreased the reserve ratio of the Reserve banks to 45.3 on March 3.⁴ To meet the situation, discount rates were raised at New York and Chicago from 3 1/2 to 4 1/2 per cent, and reserve requirements were suspended by the Board.⁵ Pressure on the money markets was evidenced by a jump in rates on bankers' acceptances from 1/4 of 1 per cent to 3 3/8 per cent and on call loans from 1 to 4 per cent.⁶

By the time this action had been completed, March 4, nearly all banks had been closed by state holidays; and on March 6 a nation-wide bank holiday was proclaimed by the

¹Ibid., p. 8.

⁴Ibid.

²Ibid.

⁵Ibid., p. 9.

³Ibid.

⁶Ibid.

President.¹ It was hoped, by this and subsequent action, that the problem of bank failures could be attacked, more equitable treatment given between depositors who were making withdrawals and those who were not; and a restoration of confidence made in the banking system.² Bank action, regulated by the Secretary of the Treasury during the holiday, was quite limited. Banks were permitted to make change; complete settlements not involving payments in currency; allow access to safety deposits; pay out currency for usual wages and salaries; and accept special trust deposits which were payable on demand, but which required a reserve of 100 per cent to be held in cash, in government obligations, or at the Reserve banks.³

The Reserve banks, covered by this proclamation, were permitted, on March 7, to supply currency, extend credit, and make transfers required in the normal course of business, provided that the banks informed the Reserve banks of the amount of currency held and the circumstances giving rise to needs for additional money. Also necessary, before banks could receive accommodations at the Reserve banks, was the requirement that banks deliver to the Reserve banks all gold and gold certificates that they held.⁴ This last provision was made to increase the reserve ratio of the Reserve banks, which had fallen close to the legal minimum just before the holiday.

¹Ibid., p. 10. ²Ibid. ³Ibid., p. 11. ⁴Ibid.

CHAPTER II

LEGISLATIVE CHANGES IN THE FEDERAL RESERVE ACT, 1933-1936

The Glass-Steagall Act of February 27, 1932, was the beginning of a series of emergency banking legislation designed to give immediate relief to the existing difficulties in the financial, business, and international spheres of the economy. The Act authorized the Reserve banks to use government securities and collateral behind Federal Reserve notes in place of the previously required commercial paper. This would assure the Reserve banks of having sufficient collateral for note issue.

Other problems, bank failures, currency withdrawals, decreases in the value of bank assets, gold movements, were as important and as immediate. Between the end of December, 1929, and the end of February, 1933, approximately 5500 banks had suspended operations, with deposit liabilities totaling nearly \$3.5 billion.¹ As a result of this large number of bank failures, the President proclaimed a bank holiday from March 6, 1933, through March 9, and later extended it to March 12. In the midst of this holiday Congress enacted the Emergency Banking Act and Bank Conservation Act.

¹Annual Report, 1933, p. 3.

The Emergency Banking Act and Bank Conservation Act

Gold. The Secretary of the Treasury was empowered, if necessary, "to protect the credit system of the United States" by requiring all persons, partnerships, associations, and corporations to turn in all gold coin, bullion, and certificates. Payment was to be made in any other currency, at par, and any expense incurred was to be borne by the Secretary of the Treasury.

Conservators. The Comptroller of the Currency, whenever he deemed it necessary to preserve the assets of any bank, might appoint a conservator, whose job was to assume possession of the books and assets of the bank. He was to have the powers and privileges given receivers of insolvent national banks: he was to determine the financial position of the bank and report to the Comptroller of the Currency as to the practicability of reopening the bank. The Comptroller was then to either terminate the conservatorship or direct the conservator to divide the banks assets to its creditors on a "ratable basis."

Federal Reserve Bank Notes. Any Federal Reserve bank could, upon deposit with the Secretary of the Treasury of direct obligations of the United States, or any notes, drafts, bills of exchange, or bankers' acceptances acquired under the provisions of the Federal Reserve Act, receive Federal Reserve bank notes from the Comptroller and issue them. The issue of

notes against direct obligations of the U. S. was to be equal to the face value of the bonds, but only equal to 90 per cent of the face value of the other collateral. The notes so issued were to be direct obligations of the Federal Reserve bank of issue, in contrast to the Federal Reserve notes.

Advances to Member Banks. "In exceptional and exigent circumstances" any Federal Reserve bank was permitted to make advances to member banks on the member bank's time or demand note, secured to the satisfaction of the Federal Reserve bank. The member bank must have no other eligible assets in order to be accommodated. The interest rate charged was to be 1 per cent above the highest rate charged by the Reserve bank at the time the loan was made.¹

Advances to Individuals. Under regulations that the Federal Reserve Board may specify any Federal Reserve bank was permitted to make advances to any individual, partnership, or

¹This provision liberalizes an amendment passed on February 27, 1932. Under that amendment a bank having a capital of no more than \$5,000,000 and having no more eligible and acceptable assets may receive accommodation at any Federal Reserve bank on its time or demand notes, provided that those notes are secured to the satisfaction of the Federal Reserve bank, that such notes bear a rate of interest 1 per cent higher than the highest rate charged by the Federal Reserve bank, and subject in each case to the affirmative action of not less than five members of the Federal Reserve Board.

The largest amount of advances outstanding under this provision was \$24,439 thousand in June, 1933. Thereafter these advances were rapidly liquidated, and amounted to only \$883 thousand in December, 1937. Banking and Monetary Statistics, p. 340, Table 88.

corporation on their promissory note secured by direct obligations of the United States. These notes could not be made for a period to exceed 90 days, and the rate of interest was to be determined by the Federal Reserve banks, subject to the approval of the Federal Reserve Board.¹

Agricultural Adjustment Act of 1933

Generally, the amendments to the Federal Reserve Act made by the Agricultural Adjustment Act were of an inflationary character. With the country in at the bottom of a depression, and the economic thinking leaning more and more towards pump priming as the road leading to prosperity, pressures for cheap money were strong.

Open Market Operations. The President was empowered to direct the Secretary of the Treasury to enter into agreements with the Federal Reserve Board or with the several Federal Reserve banks, whereby they would engage in open-market operations, for specified periods, in U. S. government obligations or in obligations of corporations in which the United States is the principal stockholder, and purchase directly and hold in portfolio, for such periods of time as may be agreed upon, Treasury bills or other direct obligations of the United States;

¹The amount of loans made under this section was at no time \$1 million, and by December, 1937, they were completely liquidated. Ibid.

the total amount not to exceed \$3 billion. No suspension of reserve requirements was required for operations carried on under this amendment, and no graduated tax on reserve deficiencies was to be required.

U. S. Notes. In the event that consent was not secured by the Secretary of the Treasury from the Federal Reserve Board or the Federal Reserve banks, the President was empowered to issue notes of the United States government for the purpose of meeting maturing Federal obligations. The obligations so purchased were to be retired and cancelled, and the aggregate amount outstanding could not exceed \$3 billion.

Weight of the Gold Dollar. The President, by proclamation, was given the power to fix the weight of the gold dollar, whenever he found it necessary to stabilize domestic prices, or to protect our foreign commerce from the depreciated effect of foreign currencies. In no event was the weight of the gold dollar to be fixed at more than 50 per cent below its then present weight.

Reserve Requirements. The Federal Reserve Board, upon the vote of not less than five of its members and with the approval of the President, could declare that an emergency exists because of credit expansion, and could, during that emergency, increase or decrease the reserve requirements against time and demand deposits at its discretion.

Joint Resolution Relating to Payments in Gold

Abrogation of the Gold Clause. On June 5, 1933, Congress declared that contracts calling for payment in gold or in specific kinds of money was against public policy, as it obstructed the right of Congress to "coin money and regulate the value thereof." At the same time all coins and currencies in circulation were made legal tender, and these monies were to be accepted in the fulfillment of contract obligations.

Banking Act of 1933

The Banking Act of 1933 contained a variety of changes in the laws affecting the banking system. Provisions were made for the incorporation and operation of the Federal Deposit Insurance Corporation; the payment of interest on demand deposits was prohibited; the business of underwriting and the sale of securities was required to be divorced from banking, i.e. the acceptance of deposits; and several important amendments were made to the Federal Reserve Act.

Policy Considerations. The directors of the various Reserve banks were required, in addition to making discounts, advances, and accommodations for member banks "as may be safely and reasonably made with due regard for the claims and demands of other member banks," to maintain sound credit conditions and to accommodate commerce, industry, and agriculture.

Powers of the Board. The Board, at its discretion, could suspend a member bank from using the facilities of the Federal Reserve System whenever that bank is making undue use of bank credit. The Board was empowered to renew the suspension from time to time or to terminate the suspension.

Federal Open Market Committee. This committee, consisting of one member from each Federal Reserve district, was to coordinate the open-market operations of the System and be guided in its operations by conditions necessary to accommodate commerce and business and to give due regard to the bearing of their operations upon the general credit conditions of the country.

Gold Reserve Act

Events during the past three years had led to an unstable situation in the world economy as well as in the domestic economy. Many of the major countries had gone off the gold standard. There had been flights of capital, first in one direction and then in another. From July, 1931, to September, 1932, there had been a net outflow of gold in every month. In the last half of 1932 the situation was reversed. But the gold outflow began again in March, 1933, and continued throughout the year.¹ On April 5, by an Executive order, the President prohibited the hoarding of gold, coin or bullion, and

¹Banking and Monetary Statistics, p. 537, Table 156.

gold certificates. On March 10 the export of any gold coin, bullion, or certificates had to be authorized by the Secretary of the Treasury.¹

From that point events moved quickly. On April 18, licenses to export gold were refused; April 19, licenses were no longer to be freely granted; and on April 20, exports of gold was prohibited with specific exceptions, which included gold previously earmarked for the account of foreign governments, foreign central banks, the Bank for International Settlements, and transactions that the Secretary of the Treasury deemed necessary to promote the public interest.

On June 5 gold clauses in contracts were abrogated.² On October 25 the Reconstruction Finance Corporation was given the task of buying gold domestically and abroad, the initial price being higher than the dollar price in London. The gold so bought was paid for by 90-day debentures of the R. F. C., and the price was raised continuously until it was set at \$35 on February 1, 1934.³

Title to the Gold. In January, 1934, with the passage of the Gold Reserve Act, all gold in the United States became

¹Annual Report, 1934, p. 27.

²Ibid., pp. 28-29.

³Ibid., p. 29. Cf. also Wesley C. Ballaine, The Problem of Stable Exchange Rates (Eugene: Bureau of Business Research, School of Business Administration, University of Oregon, August, 1945), p. 32.

property of the United States Government, to be placed in the Treasury. The increase in value of gold, if the dollar was devalued, was to go to the Treasury.

Reserves. The reserves of the Federal Reserve banks were to be held in the form of gold certificates or in lawful money, and the Federal Reserve Act was so amended.

Devaluation of the Dollar. The authority given the President under the Agricultural Adjustment Act was amended to permit the President to devalue the dollar up to 60 per cent of its then present weight. The President was also empowered to reduce the weight of the silver dollar, so as to maintain the same relationship between the two metals that then existed.

Silver Purchase Act

Policy. Four months after the devaluation of the dollar, Congress passed the Silver Purchase Act, declaring as their policy that the monetary stock of the United States was hereafter to consist of 25 per cent silver.

Purchases. Under this nationalization order the Secretary of the Treasury was directed to purchase silver at home or abroad ". . . . at such rates and at such times and upon such terms and conditions as he might deem reasonable and most advantageous to the public interest, provided, however, that no purchase should be made at a price in excess of the monetary value of silver (approximately \$1.29 a fine ounce)

and that no purchase of silver situated in the continental United States on May 1, 1934, should be made at a price in excess of 50 cents per fine ounce."

Securities and Exchange Act

Margin Requirements. The Federal Reserve Board was empowered to lower margin requirements set by this act,¹ when it deemed it necessary or appropriate for the accommodation of commerce and industry, having due regard to the general credit situation of the country. The Board was also empowered to raise margin requirements whenever it deemed it necessary to prevent the excessive use of credit to finance transactions in securities.

Banking Act of 1935

Board of Governors. The name of the governing board of the Federal Reserve System was changed to the Board of Governors, and the number of men to serve on that board was changed to seven, appointed by the President. The Secretary of the Treasury and Comptroller of the Currency were released from their duties on the Board.

¹The margin requirements set by this act were 55 per cent of the current market value of the securities or 100 per cent of the lowest market price of the security during the preceding 36 calendar months, but not more than 75 per cent of the current market price.

Advances. Any Federal Reserve bank could make advances to member banks on their time or demand notes, secured to the satisfaction of the Reserve bank and having maturities of not more than four months. The rate of interest was to be 1/2 of 1 per cent higher than the highest discount rate in effect at the particular Reserve bank at the time the advance was made.

Federal Open Market Committee. This committee was to be composed of the Board of Governors and five representatives from the Federal Reserve districts. The purpose of the committee was to decide on an open-market policy for the System as a whole, and it was mandatory that the various Reserve banks followed the instructions handed down, decided by the committee and adopted by the Board.

Reserve Requirements. By a vote of four of the members of the Board, it was empowered to change the reserve requirements of the member banks, on both time and demand deposits, up to double the requirements so stated in the Federal Reserve Act, but could not lower them beyond the limits imposed by the Act.

Significance of the Legislation

The first emergency banking legislation in 1933 had been essentially a stopgap measure, attempting to preserve as much of the banking system as possible. The Federal Reserve System was not changed to any major degree. Advances to member

banks not having eligible assets was, to be sure, a departure from the purpose of the act passed in 1913. But those advances could only be made in "exceptional and exigent circumstances." A more radical departure came in 1935, when those advances could be made at the discretion of the Reserve banks. It was an emergency measure and still is, as shown principally by the use made of that provision. However, the conditions under which the advance can be made are not clearly set forth.

In the Agricultural Adjustment Act the provision for raising reserve requirements was, in effect, the recognition of a new problem facing the Reserve System, that of excess reserves. Very little, if any, attention at all was directed towards excess reserves in the period 1914-1929 as evidenced by the fact that the figures for excess reserves are not available until January, 1929.¹ It was assumed during that period that there could not be a problem of excess reserves as banks kept themselves loaned-up. Whenever banks had unutilized funds, they made new loans and/or new investments. Because of the conditions of indebtedness of the commercial banks to the Reserve banks prior to 1929 perhaps that assumption was justified.

After the crash and the ensuing liquidation up to 1933 the banks were cautious in extending accommodations. Conse-

¹Banking and Monetary Statistics, op. cit., p. 372, fn.

quently, there were excess reserves, and whether the problem actually was new or not, it was recognized as being new. The first powers given to the Board were partially guarded by stating that the increase must meet with the approval of the President and that the reason for the increase must be an emergency created by credit expansion.

Whether those restrictions would have caused any practical difficulty is somewhat to be doubted, since use was not made of the amended power until August 16, 1936. That would have permitted ample time for discussion of the power and agreement on its use. However, those two restrictions were removed by the Banking Act of 1935.

The Banking Act of 1933, also, was essentially an emergency and an experimental measure. The Federal Deposit Insurance Corporation was of the experimental type. Variations of it had been tried by various states and had failed. Measures pertaining to national banks appeared to be, to some extent, after thoughts of the Emergency Banking Act. Also true were the facts that many of the measures were definite extensions of power in controlling "bad" banking practices and extending the power of some authorities still further.

Essentially the latter was the case of the amendments to the Federal Reserve Act. Cases in point are the inclusion of the words "to maintain sound credit conditions" into what might be termed the policy section of the Federal Reserve Act;

the power given the Board to suspend a member bank from using the facilities of the System if that bank makes "undue use of credit;" and the legislative enactment of a Federal Open Market Committee.

In 1923 the Board had, on its own authority, created an Open Market Committee, for some of the Reserve banks in acting on their own authority in the open market were pursuing a policy independent of the policies of the other Reserve banks. Changes in open-market operations for one Reserve bank may not affect the borrowings of member banks in that district, but those banks in other money centers where the purchases or sales are made. This ". . . . makes it evident that open-market policy should be a System policy."¹ Then, too, the degree of autonomy of the Reserve banks could make it possible for them to follow a policy different from that of the Board or of the majority of the Reserve banks.

Independent action by the Reserve banks was now restricted to matters relative to their districts, while decisions of the Board in matters of national interest had to be accepted. With the Banking Act of 1935 and the reorganization of the Federal Open Market Committee, it was mandatory that the Reserve banks comply with the decisions handed down in regard to open-market operations.

¹Annual Report, 1923, p. 15.

The Gold Reserve Act and the Silver Purchase Act, both of 1934, while amending the Federal Reserve Act in minor ways, had a great bearing indirectly on the problems to be faced by the System. The relation of gold flows, excess reserves, member bank credit, and Reserve credit policies will be discussed later, but suffice it to say here that many of the problems of the thirties and the early forties arose out of these acts and subsequent Treasury policies directly connected with these acts.

Of the Banking Act of 1935 the Board said:

Important amendments were made in the Federal Reserve Act by the Banking Act of 1935 The act incorporates into law much of the experience acquired by the System during the more than two decades of its operation. It reflects a broader conception of the System's functions in the country's economic life than existed at the time the System was established and it defines more clearly and fixes more firmly the responsibilities of the Board in Washington and of the regional Reserve banks. It permanently removes from the operations of the Federal Reserve banks and the member banks some of the restrictions which at critical times prevented them from efficiently rendering the services for which they were established¹

Those amendments have already been mentioned; advances to member banks on their time or demand notes; power to change reserve requirements; and powers of the Federal Open Market Committee. Those changes are significant for they alter the original meaning of the Federal Reserve Act. So too

¹Annual Report, 1935, pp. 5, 6.

is the provision regarding the maintenance of sound credit conditions as well as accommodating agriculture, commerce and industry.

Many of the decisions regarding policy action in the twenties were made with the view of accommodating agriculture, commerce, and industry. Concern over increasing the cost of credit to legitimate business was a major one, and whenever price inflation was not immediate, the cost of credit to business was the guiding factor.

This legislation and the Glass-Steagall Act of 1932 shifted the emphasis and the meaning of the act from that of accommodating legitimate business to that of concerning itself with the overall credit situation. The two are not distinct and separate entities, but the policies followed under one theory are completely different than under the other. As long as excess reserves exist in any large amounts, regardless of the process through which they were required, the commercial loan theory of banking would be under a constant threat. Any large extension of credit by the banking system could be accomplished and the Reserve authorities would be powerless to act.

The other side, which will be called the quantity theory approach for lack of a better name, recognizes that fact also and advocates sufficient powers to control the general credit situation. This would mean that in an inflationary period

brakes would be placed generally on the powers of banks to expand credit, even though the needs of business were for additional credit.

The major objection to the commercial loan lies in the fact that the funds received by the bank and paid out in wages, as in the earlier example, have an income velocity greater than one. Technically, if the average income-payments period is shorter than the period of production, then extensions of bank credit to business would have an effect on prices greater than the expected sustaining influence. Returning once again to the example, if the loans are made to the various producers in the stages of production, even though one producer repays the bank loan upon receipt of payment by another, the total amount of the loan will be outstanding for the entire productive process. Since the average income velocity is slightly over 2, a productive process longer than six months would raise the value of the income velocity.¹

If it is assumed that the coal producer must pay wages out of past earnings and that the increase in credit is made by a jobber, the result is not so obvious nor is it so certain. The coal producer has increased his production or has maintained it at the same rate on the basis of certain

¹A rough measure of income velocity can be made by dividing currency outside banks plus the Federal Reserve figure for adjusted demand deposits into national income.

anticipations, which may be to fulfill a contract to the jobber. If this is an increase in production and increases the producer's wage bill more than he had anticipated, then the producer will utilize heretofore idle money or new money. In either case, the result is the same. Utilizing idle funds (which have an income velocity of zero) will increase the value of income velocity and therefore tend to exert an upward pressure on prices if the income-payments period is shorter than the period of production, or sustain prices if it is not.

If this is not an increase in production and the amount of wages paid to the coal miners requires no increase in money or the utilization of idle deposits, prices may or may not increase. The same analysis must then be applied to each of the producers in the process of production. It is only then that it can be determined whether there will be an upward pressure on prices, even though the first coal producer financed the production out of circulating capital.

Throughout the above analysis has assumed that inventories and wages paid to coal miners have been kept constant. If either is increased, there will be a tendency for prices to increase, unless offset by a fall in the marginal propensity to spend.¹

¹This would be caused by an increase in savings (idle balances), which would decrease income velocity.

A second objection made by Currie¹ is that when this theory is applied to the central bank, it is irrational. When a central bank discounts a note arising from the member bank's lending to the coal producer to pay wages, or to the jobber to move the coal along the stages of production, the central bank creates a deposit for the member bank that will permit a multiple expansion of credit. In an upswing, when the amount of business is increasing and there is an increased demand for bank credit, the short maturity date of the note causes no difficulties, for the bank will have a sufficient quantity of the notes to increase its reserves at the central bank. Since the member bank expends credit for purposes other than on short-term commercial paper, the amount of credit outstanding may bear no relationship to the needs of business. This creates an additional pressure on prices which would otherwise not be there.

A third objection is based on the degree of shiftability of assets. Banks are not as concerned with degree of frequency with which loans are repaid as they are with the possibility of realizing on the loans in an emergency. Since securities have a market they can be sold and the funds received almost immediately. On the other hand, business loans cannot be called in as quickly as may be needed. This criticism does

¹Cf. Currie, Supply and Control of Money in the United States (Cambridge: Harvard University Press, 1934), Chapter 4.

not apply to a general emergency, however, for the loss of value of the securities would exert a heavy pressure on the banks to hold the securities. In an emergency nothing is really liquid except money, and only then if there is not a runaway inflation. In the latter case money is the least desired, and the alternatives, those things which can be purchased with money, are hoarded.

It is on the recognition of the above that the complete break with the original purpose of the Federal Reserve Act was made. Of course, the new theory is a dangerous one, and at times it invites manipulation of the money supply. But as long as the government and the Reserve System recognize this and not attempt panaceas by means of monetary policy, there is less danger and more control.

CHAPTER III

DEPRESSION YEARS: 1933-1941

The measures adopted during the banking holiday and the statement by the President had, to some extent, restored the confidence of the people in the banking system. As a result, a large volume of currency was deposited in the banks as soon as they were reopened. Money in circulation, which reached a peak of about 7.5 billion in early March, declined \$1.25 billion during the remainder of the month, and had declined by about \$2.0 billion by the end of August.¹

This return flow of currency into the banking situation eased matters, but the situation was still critical. The Secretary of the Treasury was allowing those banks that had been found safe to reopen, and the Federal Reserve banks were allowed to reopen on March 11. No bank, however, could pay out gold or furnish currency for hoarding.² By April 12, there were still 4,200 member and non-member banks on the restricted list, having deposits of nearly \$4.0 billion.³

The continued reopening of the banks by the Secretary of the Treasury made the situation easier. By the end of June

¹Annual Report, 1933, p. 14. ²Ibid. ³Ibid., p. 23.

there was \$2.5 billion tied up in closed banks, but by the end of the year that amount was decreased by 50 per cent and the number of closed banks was 1,900.¹ During 1934 the number of bank failures was greatly reduced, being only 57 with \$36, 937, 000 of deposits.²

The rate policy, which was of a contractionary nature early in March,³ was directed towards easing the situation in April, and for the remainder of the year. The New York Reserve bank lowered its rates from 3 1/2 per cent to 3 per cent on April 7, to 2 1/2 per cent on May 26, to 2 per cent on October 20, and to 1 1/2 per cent on February 2, 1934. Other Reserve banks likewise lowered their rates,⁴ and the buying rate on short-term prime bankers' acceptances was gradually lowered to 1/2 of 1 per cent on October 20, 1933. A further policy of monetary ease was shown in the open market operations in government securities. From March, 1933, to the end of the year the System purchased about \$600 million of government securities.⁵ This was offset to a small extent by the liquidation of \$70 million of member bank indebtedness.⁶

¹Ibid.

²Annual Report, 1934, p. 25.

³The rates for eligible paper were raised from 2 1/2 per cent to 3 1/2 per cent by the New York and Chicago Reserve banks on March 3, and March 4, respectively. The rates were then 3 1/2 per cent for all the Reserve banks. Banking and Monetary Statistics, op. cit., p. 441, Table 115.

⁴Ibid.

⁵Ibid., p. 343, Table 91.

⁶Ibid., p. 340, Table 88.

Gold movements during 1933 showed a net outflow of \$173.3 million, and the increase in earmarking during the year left the gold stock of the United States \$231.3 million lower than at the beginning.¹ This gold movement showed an abrupt reversal of trend in February, 1934. The effect of this gold movement in 1933, is not noticeable in member bank excess reserves except for the period of the bank holiday and the two months following. The decrease in member bank reserves during that period is due more, however, to the hoarding of currency than to the outflow of gold. Also, excess reserves of member banks began to increase after May, 1933, until they were \$766 million at the end of December.² This increase reflected, in the most part, the return flow of currency from hoarding to the Reserve banks and open-market purchases by the Board.³

After the nationalization of gold and the Presidential proclamation devaluing the dollar in January, 1934, gold inflows increased and reached unprecedented amounts. The devaluation of the dollar caused a premium to be put on foreign currencies and a discouragement to American purchases abroad.⁴ After the Silver Purchase Act this gold flow was temporarily halted, but the gold inflow began again in October when there

¹Ibid., p. 537, Table 156. ²Ibid., p. 371, Table 101.

³Annual Report, 1933, p. 16.

⁴Ibid., 1934, p. 7.

was a large surplus of merchandise exports.¹

The increase in the value of the gold stock of the United States after the revaluation amounted to \$2,800 million, and was consigned to the Secretary of the Treasury for use as a stabilization fund. This gold was at first held by the Treasury, but later in 1934 some of it was transferred to the Treasury's account in the Reserve banks and spent. This had the effect of increasing the reserves of member banks,² as well as the gold reserves of the System. This policy was discontinued and the Stabilization Fund was held sterile from the banking system.

Use of Traditional Credit Control Instruments

The instruments of credit control relied on exclusively during the twenties found little use during the period after 1933. During 1933 both the use of open-market operations and the discount rate had been made to build up excess reserves of the member banks, ease conditions in the open market, and to encourage banks to adopt liberal lending and investment policies to facilitate business recovery.³

After October, 1933, there was no significant change in the portfolio of government securities held by the Reserve

¹Ibid., pp. 8, 9.

²Ibid., p. 6.

³Ibid., 1933, p. 20.

System. In 1937 some purchases were made, but the total amount acquired during the year was only \$134 million.¹ In 1937, whereas little transactions were made in the open market, a shift of emphasis of the purpose of open-market operations was made. From 1933 to 1937 the Board's inactiveness in using the discount rate and open-market operations as control measures centers on two things: the state of business activity in the nation and large excess reserves of the banks and the consequent fear of inflation. While business activity was depressed, the Board did not wish to pursue any deflationary measures to reduce the excess reserves of the banks, nor did it wish to attempt to stimulate business by further open-market operations. The Board feared that an increase in the money supply would lead to upward pressures on prices with no corresponding increase in production.

In the twenties the emphasis had been on the indebtedness of member banks to the Reserve banks; in the thirties that emphasis changed to the effect of open-market operations on the excess reserves of member banks; in 1937 the emphasis made was an effort to prevent a disorderly capital market, including that for government securities.²

¹Banking and Monetary Statistics, p. 343, Table 91.

²Ibid., 1937, pp. 213, 214.

As a result, partly, of the low money rates in the open market and partly as a consequence of the easy money policy, if it could be called that, the discount rates were progressively lowered in all districts during this period, as well as buying rates on prime bankers' acceptances and rates on advances to member banks on their time and demand notes. The excess reserves of member banks were the dominate cause of the easy conditions in the money market, and they in turn were caused by the large inflow of gold from abroad.

The policy of the Board, while particularly desirous to lend its efforts to the country's recovery,¹ was mainly that of watch and wait.² The Board was well aware of the large excess reserves of the member banks and the enormous amount of credit that could be built upon those excess reserves, but the Board was afraid to undertake any positive open-market operations to reduce those reserves, as that action in the past had meant a restraining influence.

The Problem of Excess Reserves

As was noted before, in the twenties the major emphasis by the Board of Governors was placed on member bank indebtedness and little, if any, attention was paid to excess reserves, if they existed. Under that theory there could be any amount

¹Annual Report, 1935, p. 3.

²Ibid., pp. 223-225.

of indebtedness and the money stream expanding or contracting. In 1929, with inflation in the stock market and in real estate rapidly increasing, the Federal Reserve System began collecting statistics on the excess reserves of member banks. In 1931 the Reserve authorities began to pay more attention to member bank balances in the Reserve banks than their indebtedness to those banks.¹

Immediately after the stock market crash in 1929 the System began an easy money policy with a view to aiding as orderly a liquidation as possible. Both discount rates were lowered, and government securities were purchased in the open market. This policy continued to March 30, 1930, when increased activity on the stock market and frequent banking disturbances brought it to a halt.² In the first eight months of 1931 the Federal Reserve banks were again cautious because of banking failures and discouraging reports from Central Europe.³ But from August to October of that year, when \$500 million in gold was exported to Europe and the frightened U. S. public withdrew an additional \$650 million, the Reserve banks offset this withdrawal of gold by increasing Reserve bank credit by \$1,100 million.⁴

¹S. E. Harris, Twenty Years of Federal Reserve Policy, vol. 2, p. 624.

²Ibid., p. 622.

³Ibid., pp. 622-623.

⁴Ibid., p. 629.

The open-market policy of the Board, buying government securities to decrease member bank indebtedness and to create excess reserves for those banks, did not improve the situation to a very great extent. Early in 1932 banks began to show excess reserves, but they were cautious in their use of them, and preferred to hold them in anticipation of trouble.¹ In the middle of 1932, however, there was a gold inflow and a decrease in hoarding. Member bank indebtedness was small, and this gold inflow and dishoarding enabled member banks to build up their excess reserves to \$575 million by the end of the year.²

Gold Movements. After the crash in 1929 gold was still flowing into this country, and there was little change in gold held in this country under earmark. In 1931, with unsettled conditions abroad, there was an increasing amount of gold being held under earmark, but in only one month, October, was there a net outflow, amounting to \$337 million. For the year as a whole gold under earmark increased by \$333.3 million.³ In 1932, with unsettled conditions in this country, due primarily to the depression, bank failures, and the foreign situation, \$623.4 million of gold was withdrawn in the first seven months. This was offset to some extent by the releasing

¹Ibid., p. 624.

²Annual Report, 1933, p. 20.

³Banking and Monetary Statistics, p. 536, Table 156.

of \$119.4 million of gold from earmark in the same period. In the last five months of the year there was a net inflow of gold of \$177.2 million and the release from earmarking continuing in greater amounts. The net outflow of gold for the year, \$446.2 million, was more than offset by the decrease in the amount of gold earmarked of \$457.6 million.¹

In the first two months of 1933 there was an inflow of gold amounting to \$137.4 million, continuing the trend of the last five months of 1932. The increase in earmarked gold in those two months, however, was nearly double the gold inflow. In the midst of the banking holiday the export of any gold coin, bullion, or certificates had to be authorized by the Secretary of the Treasury. The fear of losing the gold reserves of the country brought an order prohibiting the hoarding of gold coin, bullion, or certificates, and on April 20 all gold exports were prohibited, with the exceptions of exports to foreign governments, foreign central banks, the Bank for International Settlements, and transactions deemed necessary by the Secretary of the Treasury to promote the public interest.²

¹Ibid. These figures for earmarked gold are the sum of the column, "Earmarked Gold," and are adjusted for changes in earmarked gold held abroad by the Federal Reserve banks amounting to \$72.6 million. See Ibid., p. 538, fn. 1.

²Annual Report, 1933, p. 28.

Table V: Gold Flows and Earmarked Gold, 1933-1937.¹

(Millions of Dollars)

	Net Gold Import			
	1933	1934	1935	1936
January	128.5	-2.8	149.4	45.6
February	8.9	452.6	122.8	-16.6
March	-13.1	237.3	13.0	5.5
April	-10.0	54.7	148.6	28.1
May	-21.1	33.6	140.0	170.0
June	-3.2	63.7	230.4	277.8
July	-83.9	52.3	16.2	15.4
August	-80.4	37.2	46.0	67.5
September	-56.7	-18.7	156.7	171.8
October	-32.4	10.8	315.3	218.8
November	-.8	120.9	210.6	75.8
December	-9.1	92.1	190.0	57.0

Earmarked Gold

Increase (-) or Decrease

	Increase (-) or Decrease			
	1933	1934	1935	1936
January	-91.5	12.2	1.1	-1.7
February	-178.3	68.7	.2	-9.5
March	-100.1	-.8	-.7	1.0
April	33.7	-1.1	-2.3	-.2
May	22.1	.5	-1.5	-3.2
June	3.5	1.0	1.0	-24.8
July	84.5	.6	-.4	2.3
August	79.5	-1.1	1.8	-11.9
September	49.3	2.4	1.0	-28.8
October	26.9	.3	-1.9	-11.3
November	.6	-.1	.6	3.0
December	11.8	.1	1.3	-.7

From March through December, 1933, the amount of gold exported nearly reached the proportions exported in the first

¹Banking and Monetary Statistics, p. 537, Table 156.

five months of 1932. This export of \$310 million reduced the gold stock of the country to \$4,036 million.¹ The release from earmarking during this period, as well as the amount of gold held under earmark at the end of this period, was a result of exporting under Treasury licensing and not of a shifting of funds from earmark to the capital market.

The gold exports continued for only one month in 1934, and after the Presidential proclamation on January 31, devaluing the dollar, gold inflows began in unprecedented proportions. As a result of the devaluation the value of the gold stock increased from \$4,033 million at the end of January to \$7,438 million at the end of February,² with the total net inflow for the year amounting to \$1,133.7 million.³ In the latter part of the year, as a result of the silver purchases by the Treasury, there was a small gold export. This was only temporary, however, as the export surplus in October reversed the flow.⁴

This export surplus, which increased in volume after the devaluation of the dollar, and particularly in the fall of 1934, continued throughout 1935, but in a lesser volume. From

¹Banking and Monetary Statistics, p. 357, Table 156.

²Ibid.

³The increase resulting from the appreciation of the gold stock was \$2,985 million. The difference, then, is accounted for by gold imports during the month of February.

⁴Annual Report, 1934, pp. 8-9.

February, 1934, through December, 1935, the export surplus amounted to approximately \$700 million.¹ The gold inflow in 1935, which reached \$1,739.0 by the end of December, was in the main financed by a return flow of funds that had been transferred abroad in 1933; political conditions abroad, particularly in France, caused flights of capital, and large foreign purchases of American securities.² This large capital flow continued throughout 1936 and was the principal factor in the increase in the gold stock of the United States, as the export surplus amounted to only \$59 million.³

Money in Circulation. After the crash of the stock market deposits were withdrawn in currency which was mostly not redeposited in other banks, and this withdrawal of currency broke out in a fresh movement with each new wave of bank failures.⁴ Between January, 1930, and the end of December, 1932, currency in circulation had increased by approximately \$1,100 million. The increase in the withdrawals of bills of large denominations was particularly great, indicating that most of the withdrawals were for purposes of hoardings.⁵

This withdrawal of currency, which reached its peak in March, 1933, declined steadily to the autumn months, and then

¹Ibid., 1935, p. 8.

²Ibid., pp. 8-9

³Ibid., 1936, p. 4.

⁴Ibid., 1933, p. 4.

⁵Ibid., p. 5.

increased again in response to the crop moving season. In 1934, the amount of money in circulation showed little change as a whole, but there was a shifting of the composition of the currency outstanding that indicated a reduction of hoarding.¹ Whereas the demand for currency of smaller denominations increased, bill denominations of \$20 and over decreased by \$122 million during the year. However, this reduction in the amount of hoarded money still left a substantial amount not in active use.² The increase in circulation of the bills of smaller denominations, on the other hand, reflected increasing wage payments and retail trade and the use of cash rather than checks, because of the tax on checks and the increased charges on checking accounts.³

Table VI: Money in Circulation, Monthly, 1933-1937.⁴

(Millions of Dollars)

	1933	1934	1935	1936
January	5,358	5,289	5,380	5,737
February	6,258	5,354	5,467	5,846
March	6,033	5,394	5,493	5,877
April	5,716	5,368	5,478	5,886
May	5,525	5,357	5,540	5,953
June	5,434	5,373	5,568	6,241
July	5,343	5,317	5,518	6,162
August	5,325	5,396	5,629	6,227
September	5,363	5,456	5,683	6,267
October	5,348	5,453	5,713	6,531
November	5,455	5,549	5,846	6,466
December	5,519	5,536	5,882	6,543

¹Ibid., 1934, p. 16. ²Ibid. ³Ibid.

⁴Banking and Monetary Statistics, p. 412, Table 110.

In 1935 and 1936 the growth in the amount of money in circulation continued and notes of all denominations increased. This reflected a variety of factors at work in the economy. The increased need for cash was felt both by an increase in wage payrolls as well as by people in communities where bank failures had left them without convenient banking facilities. Many state and local bodies held funds in cash rather than put them in banks because of the low interest rates. The increase in charges on checking accounts and the tax on checks were other factors.¹ Some of the increase in the larger denominations in 1936 can be explained by the issuance of adjusted service certificates to veterans and the subsequent cashing of a portion of these bonds. This is especially noticeable in June of 1936 when the increase in currency was much larger than the seasonal growth.²

Reserve Bank Credit. As has been noted before, open-market operations in government securities by the Reserve System in 1933 was directed towards helping to relieve the stress under which the banking system was operating. Every month in 1933 purchases were made, the total for the year being approximately \$700 million. After 1933, however, open-market operations in government securities played far from an active role. The

¹Ibid., 1935, pp. 24-27, and ibid., 1936, pp. 27-29.

²Ibid., 1936, p. 26.

Reserve authorities were aware of the excess reserves of the member banks, and at first they did not want to take away those reserves for fear of retarding the process of recovery. Consequently their attitude was of a watch and wait nature, as is borne out by the System's holdings of government securities, and by discounts and purchases of bills. (See Table VII.)

Table VII: Federal Reserve Bank Holdings of Government Securities and Bills, Monthly, 1933-1937.

Government Securities ^a								
	1933	1934	1935	1936				
January	1,763	2,434	2,430	2,430				
February	1,866	2,432	2,430	2,430				
March	1,838	2,447	2,437	2,430				
April	1,837	2,431	2,430	2,430				
May	1,890	2,430	2,430	2,430				
June	1,998	2,432	2,433	2,430				
July	2,028	2,432	2,430	2,430				
August	2,129	2,432	2,432	2,430				
September	2,277	2,431	2,430	2,430				
October	2,421	2,430	2,430	2,430				
November	2,432	2,430	2,430	2,430				
December	2,437	2,430	2,431	2,430				

Bills Discounted ^b					Bills Bought ^b			
	1933	1934	1935	1936	1933	1934	1935	1936
January	255	101	8	6	32	113	6	5
February	307	70	6	8	102	87	6	5
March	999	55	7	6	379	40	5	5
April	429	43	6	6	230	16	5	5
May	339	36	7	5	86	6	6	4

^aBanking and Monetary Statistics, p. 343, Table 91.

^bAnnual Report, 1936, p. 64, Table 2.

Part B (continued)

	Bills Discounted				Bills Bought			
	1933	1934	1935	1936	1933	1934	1935	1936
June	250	28	8	6	12	5	5	3
July	170	23	7	3	16	5	5	3
August	159	21	7	6	8	5	5	3
September	138	22	10	8	7	5	5	3
October	119	12	8	7	7	6	5	3
November	114	18	7	6	15	6	5	3
December	117	10	6	7	101	6	5	3

The second part of Table VII bears out that watch and wait policy of the Board and the fact that member banks were acquiring large excess reserves. Both bills discounted and bills bought show some activity in 1933 and 1934, especially in 1933. The large amount, relatively speaking, of bills bought in December, 1933, is the result of Reserve bank policy of supplying bank credit in the latter part of the year for seasonal buying and crop movement. As an indication of the need of this action, attention is called to the trend in bills discounted in the latter part of 1933. In a period of the year when the normal demand for bank credit is usually the greatest, banks were liquidating their indebtedness at the Federal Reserve banks.

That brings to the fore the problem that was to face the Board. Shortly after a crisis the banks of the country were practically able to stand on their own feet and free themselves from the necessity of meeting the normal credit strain by borrowing at the central bank.

Treasury Finance. In contrast to the period from 1920 through 1930 when there was an excess of receipts over expenditures for each year, the decade of the thirties showed a continual deficit. From 1933 through 1936 the deficit amounted to \$12,439 million,¹ and the total gross debt outstanding increased from \$20,802 to \$34,407 million.²

This large increase in the public debt was, in part, responsible for the growth in deposits of the member banks, but not for the large increase in reserves. If the Treasury borrowed money from non-bank investors, there would be no effect on the banking system as a whole as regards deposits and reserves. There would be some shifting of deposits and reserves required as a readjustment took place because of Treasury spending, but no change in the volume of deposits, as savings were being utilized by the Treasury. On the other hand, if new bank credit was created as a result of the banks' buying the bonds, either directly from the Treasury or from non-bank investors, new deposits would be created. These new deposits would be equal in amount to bank purchases of government bonds. Total required reserves would be increased, but there would be no change in the volume of reserve money available.

¹Banking and Monetary Statistics, op. cit., p. 513, Table 150.

²Ibid., p. 509, Table 146.

A part of the growth in deposits and reserves was provided by the Reserve banks in 1933, as was noted before, by their purchases in the open market of government securities. This amounted, however, to only \$700 million. Other Reserve bank credit was also not responsible for this growth as bills discounted and bills bought fell to low figures during the years 1934-1937.

The Acquisition of Excess Reserves. As has been pointed out, the open-market policy ceased being active, for the purpose of this discussion, in October, 1933. (See Table VII.) Since Treasury borrowing from the public and the banks, excluding the Reserve banks, cannot create reserves, the cause of the growth of the reserves must be sought in gold and silver movements, and in money in circulation.¹ Of the three, gold was by far the most important. The silver movements during the years 1934-1937 amounted to only \$602 million,² while net gold imports for the same period were \$3,989.4 million. (See Table V.) Thus total reserves, which grew from \$2,588 at the end of December, 1933, to \$6,665 at the end of December, 1936 (See Table VIII.) could almost have been supported by the net inflow of gold alone.

¹Another possible way is a reduction in the general fund balance of the Treasury held in the Federal Reserve banks. This is immediately ruled out for that balance was small in December, 1929, and has steadily increased since that date. Ibid., p. 515, Table 151.

²Annual Report, 1936, p. 5.

Table VIII: Member Bank Credit, Reserves, and Deposits, Monthly, 1933-1937.
(Millions of Dollars)

	Total Reserves ^a					Excess Reserves ^a				
	1933	1934	1935	1936	1936	1933	1934	1935	1936	1936
January	2,516	2,740	4,355	5,780	584	866	2,035	3,033		
February	2,291	2,799	4,601	5,808	417	891	2,237	3,038		
March	1,847	3,345	4,452	5,420	^b	1,375	2,065	2,653		
April	2,040	3,582	4,436	5,300	379	1,541	2,026	2,510		
May	2,069	3,695	4,778	5,638	319	1,623	2,297	2,800		
June 2	2,160	3,790	4,979	5,484	363	1,685	2,438	2,593		
August	2,221	3,928	4,970	5,861	436	1,789	2,385	2,907		
September	2,331	4,045	5,232	6,181	565	1,884	2,636	2,458		
October	2,451	3,947	5,243	6,345	675	1,754	2,628	1,852		
November	2,557	3,964	5,469	6,594	758	1,731	2,820	2,043		
December	2,599	4,100	5,757	6,785	794	1,834	3,061	2,219		
	2,588	4,037	5,716	6,665	766	1,748	2,983	2,046		

^a Banking and Monetary Statistics, p. 396, Table 105.

^b Data on excess reserves not available for March, 1933.

Investments^c

	U. S. Government Direct Obligations					Other Securities				
	1933	1934	1935	1936		1933	1934	1935	1936	
January	5,260	5,692	8,452	9,754		3,279	3,100	2,976	3,094	
February	5,206	6,469	8,496	9,902		3,290	3,070	2,994	3,170	
March	4,717	6,686	8,594	9,985		3,161	3,159	3,027	3,238	
April	4,788	6,622	8,692	10,040		3,138	3,215	3,081	3,344	
May	5,128	6,657	8,640	10,163		3,088	3,147	3,091	3,314	
June	5,362	6,881	8,853	10,505		3,067	3,199	3,006	3,333	
July	5,388	7,182	8,924	10,762		3,069	3,268	3,042	3,348	
August	5,376	7,181	8,883	10,611		3,060	3,443	3,095	3,321	
September	5,342	7,118	9,139	10,566		3,059	2,953	3,119	3,326	
October	5,261	7,182	9,270	10,565		3,087	3,078	3,122	3,283	
November	5,433	7,243	9,429	10,478		3,105	2,962	3,051	3,202	
December	5,534	7,545	9,564	10,483		3,071	2,986	3,021	3,247	

^cOp. cit., pp. 146-154, Table 48.

	Deposits ^c					Time				
	Demand									
	1933	1934	1935	1936		1933	1934	1935	1936	
January	11,902	11,583	11,542	13,824		5,961	4,820	4,833	4,882	
February	11,609	11,821	11,666	18,064		5,595	4,836	4,875	4,893	
March	9,927	12,254	11,800	13,882		4,756	4,872	4,879	4,923	
April	10,369	12,737	11,916	13,982		4,666	4,911	4,922	4,971	
May	10,975	12,925	12,373	14,371		4,655	4,945	4,970	5,051	
June	11,306	13,148	12,814	14,563		4,700	4,969	4,874	5,037	
July	11,074	13,329	13,038	14,752		4,927	5,020	4,848	5,007	
August	10,865	13,503	13,131	14,785		4,952	5,020	4,861	5,019	
September	10,958	10,922 ^d	13,283	14,962		4,928	4,882	4,853	5,036	
October	11,061	11,150	13,359	15,152		4,912	4,869	4,917	5,070	
November	11,128	11,360	13,729	15,362		4,902	4,833	4,883	5,032	
December	11,248	11,471	13,904	15,544		4,802	4,761	4,872	5,045	

^dReport form changed September 5, 1934. Classification changed from "net demand deposits" to "demand deposits adjusted."

"All Other" Loans^c

	1933	1934	1935	1936
January	5,902	5,058	3,197	3,334
February	5,819	5,030	3,235	3,286
March	4,982	4,980	3,282	3,392
April	4,921	4,965	3,298	3,499
May	5,014	4,870	3,283	3,531
June	5,050	4,821	3,280	3,567
July	5,075	4,759	3,263	3,613
August	5,088	4,848	3,248	3,687
September	5,156	3,319 ^e	3,315	3,848
October	5,273	3,373	3,368	4,018
November	5,318	3,323	3,387	4,042
December	5,188	3,269	3,404	4,192

Member Bank Reserves. From 1929 until 1933 excess reserves had been small, but during 1933, especially in the last five months, excess reserves increased at a fast rate. The policy of the Board after the stock market crash was an easy money policy to help the banks liquidate their indebtedness at the Reserve banks, and in 1931, when their indebtedness was at a low level, the Board enabled member banks to acquire excess reserves, hoping that member banks would make new loans.

This policy, however, was not successful as all loans made by member banks fell off during this period and, in fact, did not show any consistent tendency to increase until 1936.¹ Thus, generally speaking, the Reserve banks are more successful

^cReport form changed September 5, 1934. Before that date loans on real estate were included in that classification.

¹Ibid., pp. 143-153, Table 48.

in contracting credit than expanding credit. The adoption of an easy money policy, while opening a way for the expansion of credit, cannot force that expansion. A fall in the interest rate of 3 or 4 per cent is not a sufficient inducement for banks to expand their loans when the possibility of repayment is seriously doubted on the new loans, and the repayment is difficult to secure on the old loans.

The numerous bank failures during the years 1930-1933 had left the banks cautious in their lending policies. At times there had been waves of hoarding started, and in order for the banks to stay open, they had to keep their assets as liquid as possible. As mentioned before, it was for this reason that the excess reserves of the banks were held intact, and that banks were using those reserves only when they thought the reserves were more than sufficient to meet any situation that arose. This action resulted in the banks investing in highly liquid government securities. Thus while all loans made by the member banks declined from \$16,300 million in January, 1929, to \$8,148 million in December, 1935, while their portfolios of government securities increased from \$3,079 million to \$9,564 million for the same period.¹

As the excess reserves of the member banks began to reach unprecedented volume, the decline of bank credit, excluding

¹Banking and Monetary Statistics, pp. 142-151, Table 48.

government obligations, was slowed down but not stopped. In the last four months of 1934 and in 1935 "all other" loans, i.e. loans to customers, were maintained at a fairly constant level (See Table VIII.) as were loans on securities and on real estate.¹ This period was the trough of the decline in loans which started in 1929, and 1936 saw an expansion in bank credit along all lines.

After the decrease in excess reserves during the months of the banking crisis, excess reserves grew rapidly from the middle of 1933 to 1936. (See Table VIII.) In the spring of 1936 increased Treasury deposits in the Reserve banks lowered excess reserves;² but with Treasury expenditures they increased at a fast rate until the end of July.

The sudden decrease in excess reserves in August and September was the result of the increase in reserve requirements to 19 1/2, 15, and 12 1/2 per cent for demand deposits for central reserve cities, reserve cities, and country banks respectively, and 4 1/2 per cent for time deposits in all places.³ This increase in reserve requirements, authorized by the Banking Act of 1935, absorbed about \$1,500 million of the

¹Ibid., pp. 148-151, Table 48.

²Cf., ibid., p. 514, Table 150.

³Annual Report, 1936, p. 11.

excess reserves of the member banks.¹

These reserves, said the Board of Governors, were

. . . . superfluous for prospective needs of commerce, industry, and agriculture, and, if permitted to become the basis of a multiple expansion of bank credit, might have resulted in an injurious credit expansion.²

And further:

While there was no evidence of actual excessive expansion in bank loans, the excess reserves provided the basis for such an expansion and it was considered far better to sterilize a part of the superfluous reserves while they were still unused than to permit a credit structure to be erected upon them and then withdraw the foundation of the structure.³

This action was not without support. In November, 1935, and reiterated in February, 1936, the Federal Advisory Council said:

The Council believes that there have now been some considerable evidences of recovery in business, of an increase in prices generally, and particularly in the securities markets of the country, with the possibility, at least, that a too rapid advance of security prices could easily develop into a new wave of speculation such as proceeded the market collapse of 1929. The constant pressure of the very large excess reserves of member banks creating a plethora of the available supply of bank credit has a very distinct tendency to foster and encourage speculative activity, increase prices, and raise the living cost of the population. The Council believes that, even with the practically

¹The decrease in the excess reserves shown on Table VIII was only \$1,050 million, but total reserves also increased during this two month period by a little over \$400 million.

²Annual Report, 1936, p. 14.

³Ibid.

complete elimination of excess reserves, the banking system of the country would still be prepared and ardently desirous of meeting any and all legitimate and proper demand for bank credit, and the Council is strongly of the opinion that, in order to obviate the probability of an undue and dangerous credit inflation, it is desirable from every point of view to eliminate or at least greatly reduce the excess reserves now being carried in the system.¹

Of the means by which to reduce the excess reserves the Council differed from the Board, believing open-market operations were more desirable because of the

. . . indisputable fact that so long as Government bonds are held under the ownership of the System, either the currency of the country or the reserves of member banks to a corresponding extent, are dependent entirely upon a Government obligation. The world history of currency and banking has demonstrated the dangers inherent in such a system or policy. . . .²

The Council also recommended the use of open-market operations in place of changing the reserve requirements, because of the flexibility and ease of the former method in contrast to the rigidity of the latter.³

The Council's objection to the use of the powers granted the Board by the Banking Act of 1935 was, therefore, a matter of basic conflict between two ideas. The Council, while stating their beliefs from the diametrically opposite point of view, believed a sound banking system could only be built on commercial and business needs for credit. The Board's decision to raise reserve requirements, however, did not necessarily

¹Ibid., p. 237.

²Ibid., p. 238.

³Ibid.

mean it believed the other to be invalid, but thought it more expedient and not as dangerous as it was stated. Had the Board reduced excess reserves by open-market operations by the same amount as was done by raising reserve requirements, the System's portfolio of government securities would have been decreased by 60 per cent, leaving the System approximately \$1,000 million of government securities and the banks \$1,852 million of excess reserves.¹ To get a firmer control over those reserves the Board would have had to raise the reserve percentage. By raising the reserve requirements first, the Board would then be able to completely eliminate the remaining excess reserves, if necessary, by open-market operations alone. Their policy then, as the Council stated, could be flexible, varying from day to day if deemed necessary.

Said the Board on this matter:

. . . . With excess reserves reduced to a manageable figure, the Reserve System would be in a position to take prompt action to bring about current adjustments of the reserve positions of member banks to credit needs by employing the more flexible instrument of open-market operations to ease or tighten conditions in the money market.²

This policy also had the support of the Treasury, for on December 21, 1935, a complementary policy was followed by sterilizing gold imports from the banking system. The original

¹See Tables VII and VIII.

²Annual Report, 1937, p. 5.

method had been for the Treasury to pay for the gold by Treasury check and replenishing their balance at the Reserve banks by the issuance of gold certificates, backed by the newly acquired gold. The new policy was to set the gold aside into an inactive gold fund and replenish its balances at the Reserve banks by transferring deposits from member banks to that fund in the Reserve banks or by borrowing in the open market.

The increase in the reserves of the member banks acquired by depositing the Treasury checks at the Federal Reserve banks, would be taken away by subsequent Treasury action. The net effect on the banking system as a whole would be to alter the distribution of the reserves among the banks.¹ Of the existing reserves of the banking system there would be no change.

Adjustment to Increased Reserve Requirements. The excess reserves held by member banks before the increase were widely distributed, and all but a small number of the member banks had more than sufficient excess reserves or balances with other banks to meet the increase. Of the 6,367 member banks on January 13, 1937, there were only 197 that did not have sufficient funds to meet this increase.² This clearly indicates that the strength in the banking system was not concentrated in small groups or in particular sections of the country. The banking system was strong, and its strength, even after the

¹Ibid., p. 8.

²Ibid., 1937, p. 4.

increase in reserve requirements, was a long range problem, as well as an immediate one, that the Board was facing.

A Further Increase. The Board, in reviewing the conditions in the banking system, decided early in January, 1937, to raise reserve requirements to the full extent permitted under law. This increase was to be made in two installments, 50 per cent of the increase to take place on March 1, and the other 50 per cent to take effect on May 1.¹ The reasons prompting the Board in making these additional increases in reserve requirements were identical with those given for the increase on August 16, 1936.²

Member bank excess reserves which had reached \$2,046 million by the end of December, 1936, were gradually reduced by this increase in reserve requirements until they were \$750 million by the end of August, 1937. (See Table IX.) Excess reserves were then at their lowest level since September, 1933. (See Table VIII.) Member bank adjustments to this increase in reserve requirements was accomplished with little borrowing at the Reserve banks. Borrowings, which during the first four months of the year were around \$3 million, increased to \$36 million by the end of August.³ Not all of that increase in indebtedness can be attributed to the

¹Ibid., p. 5.

²Ibid.

³Banking and Monetary Statistics, p. 155, Table 48.

adjustment to increased reserve requirements, however. There is a normal increase in credit demands during the late summer, carrying through the rest of the year, for harvesting and moving crops. These borrowings fell off after August, and reached a level of \$10 million by the end of December.¹

Table IX: Member Bank Reserves and Holdings of Government Securities, Monthly, 1937.

(Millions of Dollars)

	Total Reserves ^a	Excess Reserves ^a	Holdings of Government Securities ^b
January	6,716	2,093	10,493
February	6,747	2,152	10,330
March	6,704	1,371	10,008
April	6,824	1,552	9,628
May	6,932	927	9,483
June	6,878	876	9,515
July	6,845	876	9,438
August	6,701	750	9,389
September	6,854	900	9,199
October	6,954	1,043	9,046
November	6,919	1,104	9,097
December	6,879	1,071	9,159

The major factor in the adjustment of member banks to the increase in reserve requirements was their reduction of approximately \$700 million in government securities from February through May. Banks in New York City reduced their holdings of long-term bonds, in part to meet the increase in

¹Ibid.

^aBanking and Monetary Statistics, p. 396, Table 105.

^bIbid., p. 154, Table 48.

reserve requirements and in part to meet withdrawals by other banks.¹ As a result of this, the System increased its holdings of long-term government bonds and reduced their holdings of Treasury notes and bills. The net result of these operations was to leave the System's portfolio of government securities unchanged, while the maturities were shifted.² This was carried on at a time when the yield for government bonds was rising,³ and had the effect of giving partial support to the bond market.

On April 4 the policy, which shifted emphasis from the effect of open-market operations on member bank reserves to maintaining orderly conditions in the money market, was announced by the Federal Open Market Committee. It released this statement:

With a view (1) to exerting its influence towards orderly conditions in the money market and (2) to facilitating the orderly adjustment of member banks to the increased reserve requirements effective May 1, 1937, the Open Market Committee of the Federal Reserve System is prepared to make open-market purchases of United States Government securities for the account of the Federal Reserve banks in such amounts and at such times as may be desirable.⁴

Immediately after that announcement the System purchased \$96 million of Treasury bonds, and \$61 million of Treasury

¹Annual Report, 1937, p. 6.

²Ibid.

³Ibid.

⁴Ibid.

bills, while disposing of \$62 million of Treasury notes.¹
This action further supported government bond prices, and their decline was arrested in early April.²

Table X: Gold Flows and Treasury Finance, Monthly, 1937.

(Millions of Dollars)

	Net Gold Imports ^a	General Fund Balance ^b	Inactive Gold Account ^b	Gross Debt ^c
January	121.3	1,726	127	34,502
February	120.3	1,539	205	34,601
March	154.3	1,826	343	34,728
April	215.8	1,702	586	34,941
May	155.4	1,754	758	35,213
June	262.0	2,553	1,087	36,425
July	175.4	2,639	1,213	36,716
August	104.8	2,902	1,335	37,045
September	145.5	2,860	1,209	36,875
October	90.5	2,676	1,271	36,956
November	22.1	2,608	1,243	37,094
December	18.0	2,973	1,228	37,279
Total	1,585.4			

Gold Movements. Gold imports continued on a larger volume in 1937 than in 1936 and showed a net import for each month during the year. (See Table X.) The new Treasury policy on the treatment of incoming gold by sterilizing it from the banking system is shown in Table X. Not all new

¹Banking and Monetary Statistics, p. 537, Table 156.

²Ibid.

^aBanking and Monetary Statistics, p. 537, Table 156.

^bIbid., p. 515, Table 151. ^cIbid., p. 510, Table 146.

gold that reached this country plus that domestically produced was so sterilized, however. As an offset to the gold imports there was an addition of \$200.4 to the amount held under earmark,¹ and \$1,101 million was sterilized by the Treasury. (See Table X.) The gold imports for the year amounted to \$1,585.4 million and domestic production \$143.9 million.² This leaves an increment of approximately \$430 million that entered into the banking system.³

While the Treasury's policy of sterilizing incoming gold from the banking system did not contract excess reserves, it did not allow them to expand, and other Treasury action during the year was not aimed at contracting excess reserves. The excess of \$374 million of receipts over expenditures in government trust accounts⁴ was not deflationary as the fund were deposited in commercial banks and not in the Reserve banks.⁵ Treasury deposits in the Reserve banks fluctuated during the year as a result of tax collections, but the trend in the balance was slightly downward, indicating an increase in

¹Banking and Monetary Statistics, p. 537, Table 156.

²Ibid.

³These figures do not take into account any gold that might have been imported directly by the Federal Reserve banks. Any such amount would be entered as "imported gold," but not entered under "sterilized gold" or "earmarked gold."

⁴Banking and Monetary Statistics, p. 513, Table 150.

⁵Ibid., p. 515, Table 151.

reserve funds available to banks rather than a decrease.¹

The principal causes of the gold movements to the United States during 1937 was the shifting of foreign short-term funds. In the spring speculation in certain commodity markets in the United States created a situation favorable to rumors that the price of American gold might be reduced. Also during this time there were substantial sales of Russian gold being made on the London market when a second rumor was abroad that the bullion market depended largely on American purchases. Concomitant with this some American banks, purchasing gold in London, questioned whether they could sell gold to the Treasury at \$35 and curtailed purchases to such an extent that the price of gold in London fell to a discount from the American price.² "This abnormal behavior of the market was a factor in starting widespread discussion of the outlook for gold. Gold disharding rose in volume, and floating money began to gravitate to the United States, carrying gold with it."³ That this large gold import during the first 6 months of the year was mainly due to short-term money being transferred to the United States, is partly borne out by the fact that there was a small import surplus during that time.⁴

¹Ibid.

²Annual Report, 1937, p. 16.

³Ibid.

⁴Survey of Current Business, U. S. Department of Commerce (Washington: U. S. Government Printing Office, March, 1938), p. 77.

After the gold scare had come to an end in early July, foreign balances ceased to move to the United States, and in the fall, when stock prices had declined sharply and the business recession had begun, private balances began to leave. The French situation had improved and French capital was flowing back.¹ This return flow of funds would have taken gold from this country, but the seasonal movement of exports created a surplus of \$361 million in the last four months of the year.²

Business Conditions in 1937. At the first of the year there was increased activity in the production of consumer and durable goods. Capital expenditures by manufacturers were increasing rapidly, and there had been some revival in residential construction. Employment was expanding and wage payments were rising even more rapidly, due partly to a reduction in part-time work and partly to an increase in hourly wage rates. Prices of securities were high and the yield on government and corporate bonds were at exceptionally low levels, and the capital issues of corporations were large.³

In the second quarter of the year, however, there was evidence of buying in excess of consumer demands and that the

¹Annual Report, 1937, pp. 17-18.

²Survey of Current Business, March, 1938, p. 77.

³Annual Report, 1937, p. 1.

rise in prices and costs were endangering the recovery from the depression. Industrial output continued high during the summer, reflecting mainly the filling of orders previously received. Advance buying by industry fell off in April, however, and in the summer increases in the production of cotton and grains caused a fall in their prices.¹

In the last quarter of the year the failure of anticipated consumer demand to materialize and the fall in some prices started a liquidation of inventories. This was accompanied by a decrease in industrial production and private construction with a consequent decline in employment and payrolls.² The decrease in consumer incomes led to a curtailment of purchases of consumer durable goods, while the demand for consumer non-durable goods was maintained.³

Policy Actions of the Board. With the increase in the uncertainty of business prospects in the summer, the Board examined the reserve positions of the member banks and said that

. . . . the volume of funds for purposes of lending and investment was adequate in all classes of banks; that there was a continued increase in the banks' lending for business purposes, and that liquidation by banks of their Government securities had practically ceased.⁴

¹Ibid., p. 8.

²Ibid.

³Ibid., pp. 9-10.

⁴Ibid., pp. 9-10.

On August 20 the discount rates for Chicago and Atlanta for commercial and agricultural paper were lowered to 1 1/2 per cent. This was done to assist the harvesting of crops and to alleviate the autumnal drain of currency and credit to country banks and was in line with the Board's self-expressed policy of monetary ease.¹

Excess reserves, which had been decreased earlier in the year by an increase in reserve requirements, had fallen in early August to nearly \$700 million, and were below \$50 million at New York City banks. To avoid increases in money rates and contraction of loans or the liquidation of bank holdings of government securities, the Board asked the Secretary of the Treasury to release \$300 million from the inactive gold account. At the same time the Board announced that it stood ready to purchase government securities to meet the seasonal demand expected for currency and credit.² As a consequence of the release of gold, excess reserves increased to \$1,071 by the end of December, and excess reserves at New York City, where the effect of the gold was immediately felt, rose to \$400 million. This action by the Treasury was supplemented to a minor extent by the System's purchase of \$38 million of government securities in November.³

¹Ibid., p. 204.

²Ibid., p. 9.

³Ibid., pp. 9-10.

Criticism of the Board. With the increase in reserve requirements in the spring of 1937, the Board stated that monetary restraints were not a proper remedy for the current situation and that the policy of monetary ease would continue.¹ E. A. Goldenweiser, then Director of the Research Division of the Board of Governors, said, in a post-analysis of the period that even though raising the reserve requirements was a minor restraining action, the main thing is that it was a restraining one.² He continued:

The action was interpreted as a restraint and has gone down on record as one of the important elements ushering in the serious reaction of 1937 and 1938. This interpretation is not justified by the facts, but the lesson to be learned from this is that central banking action should not always be simple and easily explainable. A restraining action should not be taken with reliance on explanatory statements to indicate that no restraint was intended. The market will place its own interpretation on the action and this interpretation may make the action more restrictive than statistics alone would indicate. The psychological effect of central bank action . . . should not be confused with verbiage.³

Financial Conditions to 1941

Business Conditions. The sharp decline in industrial production and in prices in the fall of 1937 was arrested in

¹E. A. Goldenweiser, "Federal Reserve Objectives and Policies, Retrospect and Prospect," p. 326.

²Ibid.

³Ibid.

the middle of 1938 only in industrial production. Wholesale prices fell continually throughout 1938, and their trend was not reversed until the autumn of 1939.¹ The prices of agricultural products suffered the worst decline,² since harvests were abundant and there was a large surplus on hand at a time when both domestic and foreign demand decreased.³

Inventories of finished consumer goods, which had been increased during the early part of 1937, were gradually liquidated during this period by purchases of consumer goods at a level substantially higher than the production of those goods.⁴ The trends of employment and wages and salaries followed closely that of industrial production, a trend to be expected. At the end of 1938 total employment had recovered approximately one quarter of the decline that took place in the latter part of 1937, while wages and salaries had recovered one-half of its fall for the same period.⁵

Industrial production, after its partial recovery in the second half of 1938, again turned downward in the spring of 1939.⁶ This recession was short-lived for war scares and

¹Federal Reserve Charts Book, Wholesale prices, p. 35; Industrial Production, p. 41.

²Ibid. p. 35. ³Annual Report, 1938, p. 25. ⁴Ibid. p. 24.

⁵Federal Reserve Chart Book, Employment, p. 50; Wages and Salaries, p. 54.

⁶Ibid., p. 41.

particularly the outbreak of the war in September brought an immediate wave of buying. This buying wave, while including the retail market for a short time, was mainly concentrated in the commodities and securities markets, and industrial materials and products not traded on the commodity exchanges.¹ The effect of this buying wave caused a sharp increase in price.²

This buying wave soon spent itself,³ and industrial production fell off again in the first four months of 1940.⁴ Prices, however, held their gain made in the fall of 1939, and in the second half of the year with the increase in production to supply domestic and foreign needs of war they showed a further tendency to increase.⁵ With the increase in industrial production came a rise in employment and payrolls. Payrolls increased faster than did employment, however, due to the overtime pay in the defense plants, as well as for some scattered wage increases.⁶

¹Annual Report, 1939, p. 18.

²Federal Reserve Chart Book, p. 35.

³Ibid., p. 18.

⁴Federal Reserve Chart Book, p. 41.

⁵Ibid., Industrial production, p. 41; wholesale prices, p. 35.

⁶Annual Report, 1940, p. 15.

Gold Movements. The repatriation of foreign capital that had begun with fall in the prices of stocks and the recession in 1937 continued during the first half of 1938. The export surplus of the United States was increasing at this time also,¹ and the German move into Austria in the spring of 1938 brought about \$40 million of gold a month during the months, March to July.² With an export surplus of about \$100 million during the first four months and the transfer of funds to this country for safekeeping, there was a net gold inflow amounting to \$305.6 million in the first six months. (See Table XI.)

From August, 1938, through December, 1940, the huge gold flows to the United States were mainly the results of war scares and the outbreak of the war itself. With the Czecho-slovakian crisis in August, 1938, gold began to flow to this country in unprecedented quantities, totaling in the last five months, \$1,667.6 million. This movement was accelerated in the next two years, and the total net imports in those three years exceeded the gold stock of the United States at the beginning of 1936.³

With the outbreak of the war in September, 1939, the exodus of private capital from abroad continued, and many

¹Federal Reserve Chart Book, p. 61.

²Annual Report, 1938, p. 26.

³For total gold stock of the United States see Banking and Monetary Statistics, p. 537, Table 156.

foreign countries shipped gold to this country to build up balances.¹

Member Bank Reserves. That the large increase in member bank reserves, nearly a 100 per cent increase, during the years 1938-1941, was almost entirely due to the inflow of gold is seen in Table XI. While there was some increase in the Federal Reserve System's holdings of government securities, principally in 1939, it was small, and the net effect over the three years was a contraction of credit of some \$400 million by the Reserve authorities. (See Table XI.)

Table XI: Gold Movements, Federal Reserve Holdings of Government Securities and Member Bank Reserves, Monthly, 1938-1941.

(Millions of Dollars)

	Net Gold Import ^a			Federal Reserve Bank Holdings of Government Securities ^b		
	1938	1939	1940	1938	1939	1940
January	2.1	156.3	236.4	2,564	2,574	2,477
February	8.0	223.3	201.4	2,564	2,564	2,477
March	52.9	365.4	459.8	2,580	2,564	2,475
April	71.1	605.8	249.9	2,564	2,571	2,467
May	52.8	429.4	435.1	2,564	2,564	2,477

¹From September, 1939 to April, 1940, the British Empire and France shipped nearly \$1,500 million in gold to the United States, Annual Report, 1940, p. 17.

^aBanking and Monetary Statistics, p. 537, Table 156.

^bIbid., p. 343, Table 91.

Table XI (continued)

	Net Gold Import			Federal Reserve Bank Holdings of Govern- ment Securities		
	1938	1939	1940	1938	1939	1940
June	55.3	240.4	1163.0	2,564	2,551	2,466
July	63.8	278.6	520.0	2,564	2,488	2,448
August	166.0	259.9	351.6	2,564	2,426	2,436
September	520.9	326.1	334.1	2,563	2,804	2,434
October	562.4	69.7	326.0	2,564	2,736	2,333
November	177.8	168.0	330.1	2,564	2,552	2,199
December	240.5	451.2	137.2	2,564	2,484	2,184
Total	1973.6	3574.1	4744.6			

	Total Reserves of Member Banks ^c			Excess Reserves of Member Banks ^c		
	1938	1939	1940	1938	1939	1940
January	7,183	9,029	11,985	1,353	3,484	5,464
February	7,230	8,925	12,215	1,406	3,373	5,626
March	7,326	9,021	12,362	1,524	3,432	5,734
April	7,469	9,624	12,703	2,071	3,926	6,003
May	7,587	9,997	13,086	2,525	4,212	6,288
June	7,878	10,085	13,596	2,762	4,246	6,696
July	8,169	10,321	13,735	3,026	4,402	6,752
August	8,119	10,659	13,408	2,955	4,607	6,407
September	8,196	11,443	13,643	2,920	5,198	6,582
October	8,546	11,862	14,043	3,143	5,490	6,864
November	8,727	11,688	14,131	3,276	5,259	6,830
December	8,745	11,473	14,049	3,226	5,001	6,646

The general fund balance of the Treasury, which decreased \$1,000 million during this period,¹ played an active role in enabling banks to increase their reserves. The inactive gold account of the Treasury, inaugurated in December, 1936,

^cIbid., p. 396, Table 104.

¹Banking and Monetary Statistics, pp. 515-516, Table 151.

was discontinued in April, 1938.¹ These gold credits, which had swelled the general fund balance during 1937, and the first three months of 1938, were transferred to the working balance of the general fund, and thus became available for use by member banks for reserves. This inactive gold account totaled \$1,183 million at the end of March 1938. These credits were placed with the Reserve banks and remained there until spent by the Treasury. While Treasury balances in special depositories showed some increase in 1938 over 1937, it appears that this increase came from the deposit of tax receipts in the commercial banks instead of transfers from the Reserve banks to commercial banks.² Deposits of the Treasury in the Reserve banks which amounted to \$168 million at the beginning of 1938 rose to \$405 million at the end of 1940.³ Considering the three year period as a whole, releasing the gold from the inactive account made approximately \$900 million available for reserves.

Excess reserves showed an even more startling increase than did total reserves. The factors causing the increase in total reserves are wholly causative factors increasing excess reserves, also. In addition to gold flows and Treasury action

¹Ibid., p. 515, Table 151.

²Banking and Monetary Statistics, pp. 515-516, Table 151.

³Ibid., p. 516, Table 151.

the Board lowered reserve requirements on April 16, 1938, to 12, 17 1/2, and 22 3/4 per cent for country, reserve city, and central reserve city banks, respectively, and to 5 per cent on time deposits.¹ In explanation of this act the Board said:

This action had been agreed upon by the members of the Board as a part of the program announced by the President of the United States on April 14, 1938, for the encouragement of business recovery. Although there had been excess reserves in amounts considered ample to meet all probable needs of agriculture, commerce, and business, the volume of business activity had declined with such rapidity as to produce injurious deflationary effects upon commodity prices, the capital market, and industry generally. In these circumstances and in view of the other steps proposed to be taken in the Government's program for encouraging business recovery, the Board decided that a reduction in reserve requirements of member banks might be helpful, as a part of a concerted effort by the Government to carry out the purpose of this program, by assuring the continued availability of ample funds for meeting business requirements and thereby preventing injurious credit contraction.²

This action was estimated to free \$750 million of reserves of the member banks,³ but the effect of this on the lending activity of member banks does not show up in the statistics on bank credit. Total loans continued to decline. (See Table XII.) Loans on real estate, on open-market paper, and to others than brokers for purchasing or carrying securities changed little during 1938, while loans to brokers and commercial, agriculture, and industrial loans declined.⁴

¹Annual Report, 1938, p. 73.

²Annual Report, 1938, pp. 73-74. ³Ibid., p. 73.

⁴Banking and Monetary Statistics, p. 156, Table 48.

In the light of conditions existing at the time the lowering of reserve requirements took place, it seems that the action was unnecessary. The liquidation was taking place orderly, and, in fact, the liquidation of government securities by the banks had ceased on March 30.¹ This meant that the banks were certain that their reserve position was satisfactory, and they were not attempting any widespread contraction of credit. A large part of the decrease in commercial credit was undoubtedly due to the decrease in production, and that the liquidation of loans was "normal" in the face of curtailed production.

In defense of its action taken in lowering the reserve requirements, the Board said it did not want to convey the impression that it favored a hold-the-line policy at a time when the government was inaugurating an expansionist policy. This could have created an unfavorable attitude in banking circles, and have caused them to be more cautious in their lending policies. In a recovery movement, when the central bank's actions greatly influence the trend of credit, a policy that attempts to counterbalance, to some extent, that of the government's, may affect a cautious attitude on the part of the member banks, if not open hostility by the government and the people.

In retrospect this action by the Board was certainly unnecessary, for industrial production improved in the latter

¹Ibid.

half of the year, and the large gold flows from Europe raised excess reserves of member banks to \$3,226 million by the end of the year. Excess reserves then increased continually, except for certain times when the seasonal demand for credit reduced them temporarily, and reached \$6,646 million at the end of December, 1940, an amount greater than the required reserves for May, 1940. (See Table XI.)

Deposits. The growth in demand deposits was no less spectacular than the growth in reserves. (See Table XII.) The volume of demand deposits in 1938, even though they were the largest on record,¹ continued to grow with the large gold imports. Time deposits, on the other hand, showed little increase in this period. Next to gold imports the important factor contributing to this increase in demand deposits was the growth in member bank holdings of government securities, direct and guaranteed. This growth in the three year period amounted to \$3,189 million. (See Table XII.)

The Money Market. Money rates and bond yields, which had been declining almost steadily since 1929,² rose sharply with the commencement of the war in Europe.³ With this fall in the price of government bonds the Federal Reserve System, through the open market, bought them freely

¹Cf. ibid., pp. 132-162, Table 48.

²Annual Report, 1940, p. 56, Table 19.

³Ibid., 1939, p. 2.

. . . with a view to cushioning the decline and exerting an influence against disorganization in the capital market. It was not the System's objective to hold Government security prices at any given level but to prevent them from falling so rapidly as to result in panicky conditions in the market.¹

Table XII: Deposits and Member Bank Credit of Reporting Banks in 101 Leading Cities, Monthly, 1938-1941.

(Millions of Dollars)

	Member Bank Holdings of Government Securities ^a			Total Loans of Reporting Member Banks ^a		
	1938	1939	1940	1938	1939	1940
January	9,249	9,919	11,243	9,137	8,338	8,587
February	9,315	10,069	11,281	8,936	8,197	8,520
March	9,151	10,213	11,288	8,884	8,241	8,604
April	9,134	10,258	11,339	8,604	8,127	8,646
May	9,334	10,329	11,460	8,430	8,091	8,599
June	9,317	10,502	11,603	8,384	8,094	8,446
July	9,270	10,657	11,728	8,213	8,146	8,494
August	9,348	10,802	11,994	8,215	8,179	8,504
September	9,625	10,693	11,897	8,268	8,322	8,653
October	9,766	10,798	11,908	8,282	8,421	8,852
November	9,811	11,052	12,192	8,319	8,573	9,083
December	9,899	11,186	12,438	8,465	8,802	9,309

Member Bank Deposits

	Demand			Time		
	1938	1939	1940	1938	1939	1940
January	14,438	16,054	18,946	5,191	5,161	5,057
February	14,509	16,042	19,210	5,218	5,170	5,067
March	14,360	16,032	19,344	5,220	4,976 ^b	5,133

¹Ibid.

^aBanking and Monetary Statistics, pp. 156-162, Table 48.

^bPrior to March, 1939, time deposits of states and political subdivisions had been included with time deposits of individuals, partnerships, corporations, etc.

Table XII (continued)

	Demand			Time		
	1938	1939	1940	1938	1939	1940
April	14,437	16,455	19,515	5,204	4,974	5,147
May	14,579	16,796	19,971	5,196	4,984	5,119
June	14,932	17,182	20,542	5,214	4,996	5,127
July	15,021	17,366	20,847	5,198	5,006	5,141
August	15,116	17,717	20,878	5,193	5,021	5,155
September	15,377	18,209	21,011	5,200	5,016	5,175
October	15,688	18,511	21,442	5,152	5,040	5,180
November	15,825	18,742	21,890	5,124	5,062	5,187
December	16,087	18,862	22,299	5,128	5,043	5,189

In stating more fully its reasons for the purchases of government securities at this time, the Board said:

In undertaking large-scale open-market operations in September, 1939, the System was guided principally by the following considerations:

(1) By helping to maintain orderly conditions in the market for United States Government securities the System can exert a steadying influence on the entire capital market, which is an essential part of the country's economic machinery, and disorganization in which would be a serious obstacle to the progress of economic recovery. The market for United States Government securities is the only part of the capital market in which the System is authorized by law to operate, and Government securities occupy a vital place in that market.

(2) The System also has a measure of responsibility for safeguarding the large United States Government portfolio of the member banks from unnecessarily wide and violent fluctuations in price. The System does not and cannot guarantee any current prices of Government obligations, nor does it undertake to preserve for member banks such profits as they may have on their Government securities, or to protect them against losses in this account. The Government security market, however, has become in recent years the principal part of the money market, and member banks are in the habit of adjusting their cash positions through sales and purchases of United States Government securities. This practice has

arisen partly because of a shrinkage in the availability of other liquid assets, such as Street loans and bankers' acceptances, which in earlier years were in much larger volume and were the medium through which banks were likely to adjust their positions. In the enhanced importance of the Government portfolio to member banks, the System sees an additional reason for exerting its influence against undue disturbances in Government security prices.¹

Whereas the Board has definitely said that it did not plan to support the price for government securities, the facts that the Board did take upon itself to prevent disorderly conditions in the market for government securities and "a measure of responsibility for safeguarding the large United States Government security portfolio of the member banks from unnecessarily wide and violent fluctuations in price," made it evident that various support levels would be maintained in case of necessity. In other words, the Board, in case of a large wave of selling of government securities and a consequent tendency for their price to fall, would be an active buyer and the banks, if they so chose, could dispose of their government securities with small loss. This step, then, left little change in policy necessary in the Board's cooperation with the Treasury in financing the war in the forties.

After the initial shock of the war was over, the prices of government securities increased.² As a result of this a part of the System's portfolio of government securities, which

¹Ibid., pp. 5-6.

²Ibid., p. 2.

had reached a high point of \$2,804 million in September, 1939, was gradually liquidated until its holdings were \$2,184 million at the end of December, 1940. (See Table XI.)

The open-market policy begun in the latter part of 1933, that of holding the System's portfolio constant, changed in 1939, with the change in emphasis to the System's effect on the money market. From 1933 to 1939, the constant portfolio policy was defended on the grounds that

so long as business recovery was incomplete and there was no evidence of over-expansion of credit, there was no occasion for a reduction in the System's open-market holdings. On the other hand, there was no occasion to increase the portfolio materially so long as excess reserves were abundant and growing bank deposits were in unusually large volume, and interest rates were low.¹

With the large excess reserves and bank deposits came a steady, downward pressure on the yields of short-term government securities, and at times the System had difficulty in replacing the maturing bills in its portfolio. The yearly average rate on new issues of Treasury bills offered had fallen from .447 per cent in 1937 to .023 per cent in 1939, and to .014 per cent in 1940.² The rates, of course, varied within the year, and in 1939 they were close, in the first four months of the year, to a no yield basis; while in January, March, October, and December, 1940, they were sold on a negative yield

¹Ibid., pp. 2-3.

²Banking and Monetary Statistics, p. 460, Table 122.

basis.¹ Because of the difficulty of replacing maturing bills the Board decided ". . . . that it would serve no useful purpose to continue full replacement of maturing bills, the supply of which is not always equal to market demand."² As a direct result of this policy action, the System's holdings of bills was gradually reduced until they were entirely liquidated by December 6, 1945.³

The change in emphasis in open-market policy meant that a substantial holding of short term securities in the System's portfolio was no longer as important as formerly. The holdings of securities with short maturities could be allowed to run off and the System would be exerting a deflationary pressure on the money market without actively engaging in operations in the market.⁴ Whereas the effect on member bank reserves and on the market would be the same in either case, the former method would be a passive policy, designed to attract less attention.

Since the system's activity in the government securities market effects not only the price of the particular issue in which it deals but also the whole of the government securities market; individual maturities became less important when the emphasis was on orderly conditions in the government securities

¹Ibid.

²Annual Report, 1939, p. 4.

³Ibid.

⁴Ibid., pp. 9-10.

market.¹ If a particular issue is being bought by the System in the market, the effect of this buying will give support to the other issues held by investors because of the relationship between rates and maturities of the securities. If the demand for a particular issue is so strong that a significant differential in yield is created between different maturities, there would be a relative rise in the yields of the other maturities. There would then be a tendency for a shifting of maturities by investors, or for new funds to enter the market to purchase the securities with the higher yields. Thus the system, being an active buyer in the government securities market, would influence the entire market, as well as the particular issue in which it was dealing.

Powers of the Board to Deal with a Credit Inflation. As was pointed out earlier in this chapter, the early policies of the Board, that is, to 1937, had been made with a view to first eliminating member bank indebtedness at the Reserve banks and then create excess reserves for them, so as to encourage the member banks to increase their loans. The latter was accomplished, however, by the large gold flows, and even after the 100 per cent increase in reserve requirements that took place between August 16, 1936, and May 1, 1937, the member banks still had \$750 million of excess reserves. (See Table IX.) These excess reserves were easily controllable,

¹Ibid.

though, for the System's portfolio of government securities was maintained at approximately \$2,500 million throughout 1937.¹

After 1937, member bank excess reserves grew at a rapid pace. (See Table XI.) The lowering of reserve requirements in March, 1938, and the discontinuance by the Treasury Department of its gold sterilization policy were directly responsible for this growth, as well as an attempt to speed up business recovery with cheap money. This latter consideration, which meant close cooperation by the Board with the Treasury, prompted the Board not to ask for additional powers to deal with the potential credit inflation that could be brought about by utilization of excess reserves by the banking system.² In 1938 the Board recognized that its powers were insufficient to control the banks' excess reserves, but because of business conditions, only called attention to that fact in its Annual Report.³

With the large inflows of gold that entered this country in 1939 and 1940, excess reserves of member banks grew to over \$6,500 million. (See Table XI.) To control these excess reserves the Board could raise reserve requirements by a little over 14 per cent and absorb approximately \$1,000 million of the excess, and it could completely liquidate its portfolio of

¹Banking and Monetary Statistics, p. 343, Table 91.

²Annual Report, 1938, pp. 21-22.

³See p. 22.

government securities, which was \$2,148 million at the end of 1940. (See Table XI.) In contracting reserves to the fullest extent of its power the Board would be able to absorb less than one-half of the excess reserves of the member banks. The Board had lost control over credit expansion, and in case of a business recession, it could not put member banks in a more liquid condition, which would increase the banks' desire to lend.

This situation brought recommendation both from the Board and the Federal Advisory Council. The Council, early in 1940, urged the discontinuance of purchases of foreign silver because of its effect on bank reserves, and later in the year (October 8) discussed the method of financing the defense program.¹ The Council recommended that future issues of government securities be kept out of the hands of the banking system by fixing the terms of sale and the maturities of the securities in such a way as to discourage commercial bank purchases of them.² In doing this existing deposits would be utilized, and a monetization by the banks of the increase in the public debt would not take place.

Recommendations to deal more effectively with the potential threat of a run-away inflation were submitted to Congress on December 31, 1940, by the Board, the Presidents of the

¹Annual Report, 1940, p. 67.

²Ibid.

Federal Reserve banks, and the Federal Advisory Council.¹ The five-point program presented to Congress touched upon aspects of credit control that were beyond the jurisdiction of the Board. The legislative changes in the Federal Reserve Act the Board recommended were (1) to increase the statutory reserve requirements to 26, 20, 14, and 6 for demand deposits of central reserve city banks, reserve city banks, and country banks, and for time deposits, respectively; (2) place responsibility of changing reserve requirements with the Federal Open Market Committee and empower that committee to raise reserve requirements to double those under (1) above; (3) authorize the Federal Open Market Committee to change reserve requirements for one category of banks without changing the requirements for all categories; and (4) make reserve requirements applicable to all banks receiving demand deposits, whether or not they are members of the Federal Reserve System.

This proposed change in quantitative measure to control the excess reserves of member and non-member banks alike would have been more than sufficient. Of the \$14,049 million of member banks' reserves at the end of December, 1940, \$7,403 million were required, while \$6,646 million were excess.² With a doubling of reserve requirements to 52, 40, 28, and 12

¹Printed in Annual Report, 1940, pp. 68-70. Also Federal Reserve Bulletin, January, 1941.

²Banking and Monetary Statistics, p. 396, Table 105.

per cent member banks would have to depend on Reserve bank credit of approximately \$3,200 million to meet the increase.¹ Even though the Board would then have complete control over member bank reserves, that position might be held only for a comparatively short time. The gold flows and the monetization of silver purchased abroad could easily reverse the situation for the Board once again. If gold continued to flow into the United States as it did in 1940 (See Table XI.), member banks could have eliminated, in all probability, any indebtedness at the Reserve banks, caused by the raising of reserve requirements to 52, 40, 28, and 12 per cent.

It is for these reasons that the Board also recommended a sterilization of gold imports, cessation of further monetization of foreign purchases of silver, and other sources of potential increase in excess reserves.² In the event the gold and silver were to be insulated from the banking system, the Board recommended that those credits should not be

¹The required reserves of \$7,403 million at the end of December, 1940, are based on reserve requirements of 22 3/4, 17 1/2, 12, and 5 per cent in effect at that time. To have increased reserve requirements to 26, 20, 14, and 6 per cent would require approximately \$1,200 million. See Annual Report, 1941, p. 7.

²Annual Report, 1940, p. 69. The other sources of potential increase in the excess reserves of member banks given in the report were the right of the President to issue \$300 million of greenbacks, the power to issue Silver Certificates against seigniorage collected on previous purchases of silver, the power of the President to devalue the dollar, and the use of the Stabilization fund in any way which would affect excess reserves of member banks. Ibid.

released without consulting the Federal Open Market Committee.¹

As pertains to other aspects of Treasury and credit policy, the report recommended that in the future the financing of government expenditures should be done through utilizing existing deposits and without recourse to the banks. Thus it would be the aim to use idle money instead of creating new money through the banks.

The effect of either method, however, would be the same on the general credit situation, for it would be placing in the hands of people, holding idle bank deposits, government securities, while their deposits would be passed on to other persons to use. This would mean the same pressure on prices that would come from an increase in bank credit. From the standpoint of quantitative control measures, however, much more significance is attached to this proposal. It is far easier, considering control measures divorced from politics, to contract credit if the velocity of that credit is high, than to contract credit if the velocity is low. A smaller amount of transactions would have to take place in the open market in the first instance than in the latter. The quantitative control of credit by the central banking authorities would be more simple to complete, and their operations would not have to be on such a large scale.

¹Ibid.

The main remedy to the problem of inflation was contained in the last of the five points recommended in the report; that of raising more revenue from taxation as the national income increased. "This will be essential if monetary responsibility is to be discharged effectively."¹ The cause of the difficulty of gold movements could be dealt with by increasing reserve requirements to an amount necessary to render their effects neutral, but a continued deficit by the government cannot be combated in that fashion. If the deficit is to continue at full employment, the pressures on prices will be large, and the rate of increase will depend on the amount of the deficit. The larger the deficit, the greater the pressure on prices.

Said the report:

. . . . there cannot be any question that whenever the country approaches a condition of full utilization of its economic capacity, with appropriate consideration of both employment and production, the budget should be balanced.²

That would leave room for any degree of deflationary fiscal policy when the country neared full employment. The authors of the report recognized that, and left the question of necessary fiscal action to the responsible authorities.

The report brought attention to the immediate danger of inflation and the conditions favorable to it from the general

¹"Special Report to Congress," printed in Annual Report, 1940, p. 69.

²Ibid.

monetary and fiscal points of view. The recommendation that Treasury finance be directed towards the utilization of existing deposits instead of further monetization of the debt is immaterial as far as the overall pressures on prices are concerned, but important from the standpoint of quantitative control measures. While the authority asked for by the Board was strong, the conditions at that time called for definite control over the excess reserves and over the pressure on prices. An enactment of legislation authorizing the Board to increase reserve requirements by a lesser amount would have been sufficient if the gold would be sterilized. The events of the following war years, however, threw the emphasis from the control of excess reserves to that of providing the banks with sufficient reserves to help finance the war effort.

CHAPTER IV

WAR FINANCE

During 1941 the proposed changes in the Federal Reserve Act in a special report at the end of 1940 had not been enacted into law. The inflation problem and the control over excess reserves was eased somewhat by the increase in reserve requirements which took effect on November 1, and the authority granted the Board on August 9, by Presidential executive order, to regulate consumer installment credit. The purpose of regulation W, the conditions under which installment credit was to be regulated, was to dampen the demand for certain goods that were in limited quantity because of the diversion of materials and workers from producing those goods to national defense production.¹ To a large extent this prevented persons from consuming more than their income. This curtailment of demand on "listed" articles, those of which there was

¹Annual Report, 1941, pp. 8-9. "Persons and agencies subject to regulation W include all who are engaged in the business of making extensions of consumer installment credit, or discounting or purchasing installment paper, including installment sellers of the listed articles, whether dealers, stores, mail order houses, or others; sales finance companies; banks, including Morris Plan and other industrial banks; personal finance or 'small loan' companies and credit unions; and building or savings and loan associations." Ibid., p. 9.

a short supply eased considerably the upward pressure on some prices.

Excess reserves, which were high at the beginning of the year, were reduced by a large expansion in all phases of bank activity and by an increase in reserve requirements.¹ Total loans and investments which stood at \$25,661 million at the beginning of 1941 increased to \$30,053 million by the end of the year.² Demand deposits increased \$1,400 million during the same period while time deposits fell off slightly.³ Money in circulation increased by \$2,600 million,⁴ while the increase in reserve requirements absorbed approximately \$1,200 million of excess reserves.⁵

These developments were largely the result of the war and the defense program of the United States.⁶ Wages and salaries showed an increase of \$12,120 million⁷ which resulted mainly from increased employment and retail trade.⁸ The effect of these various changes decreased excess reserves by \$3,300 million during the year, while total reserves declined

¹Ibid., pp. 6-7.

²Banking and Monetary Statistics, p. 162, Table 48.

³Ibid.

⁴Ibid., p. 413, Table 110.

⁵Annual Report, 1941, p. 7. ⁶Ibid., 1941, p. 8.

⁷National Income Supplement to Survey of Current Business, July, 1947, p. 19, Table 1.

⁸Annual Report, 1941, p. 8.

by \$1,500 million. The factors accounting for the decrease in total reserves were the increase in money in circulation of \$2,550 million and a \$260 million growth in Treasury deposits at the Reserve banks.¹

Outbreak of War. Upon entrance of the United States into war in December, 1941, the Board made its position clear in regard to the general policies it would follow by issuing the following statement:

"The financial and banking mechanism of the country is today in a stronger position to meet any emergency than ever before.

"The existing supply of funds and of bank reserves is fully adequate to meet all present and prospective needs of the Government and of private activity. The Federal Reserve System has powers to add to these resources to whatever extent may be required in the future.

"The System is prepared to use its powers to assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence towards maintaining conditions in the United States Government security market that are satisfactory from the standpoint of the Government's requirements.

"Continuing the policy which was announced following the outbreak of the war in Europe, Federal Reserve banks stand ready to advance funds on United States Government securities at par to all banks."²

In the same report the Board stated that during the war emergency the financial needs of the government were

¹Banking and Monetary Statistics, pp. 413, 516, Tables 110, 151.

²Annual Report, 1941, p. 1.

exceptional,¹ and the efforts of the Reserve system would therefore be directed towards successful Treasury financing, while little heed would be paid to the potential inflationary threat. This was certainly a matter of expediency, and it previewed the policies that would be followed by both the Treasury and the Reserve system.

While it is certainly not likely that the war could have been financed out of the already existing funds, the policy as stated by the Board could mean a step just as far in the other direction, and unless a policy of that sort was used with discretion, taking full account of the inflationary pressures that would exist at the end of the war emergency, full controls in all fields would be needed to prevent a run-away inflation.

While it must be admitted that the policy would completely subordinate the Reserve system to the desires of the Treasury, it was a step that could not be averted. The exigencies of war finance dictated the policy, but careful administration by the Board and intelligent debt management by the Treasury could keep the policy from making an impossible situation in the economy.

The Board also recognized the dangers of inflationary conditions and aided the government in carrying out its various rationing programs, as well as regulating consumer

¹Ibid., p. 1.

credit. This recognition of possible inflationary troubles did not touch the money markets, the government securities market, nor deal with any quantitative control device. Since the credit policy had to encourage the purchase of government securities, direct controls were instigated to combat possible inflation.

Bill Buying Rate and Repurchase Option. With the announcement of the Treasury's financing program in May, 1942, the Board established a bill buying rate of $3/8$ of one per cent, giving the seller an option to repurchase the same bills sold at the same rate.¹ This action, carried out in April, was meant to stabilize the bill market, effect a broader distribution of the bills, and to enable banks to promptly adjust their reserves to changing conditions.² This action also monetized the bills, for the only difference between debt and money is that debt has no fixed price in terms of the unit of account, while money does. Banks could then use these bills as secondary reserves, and there would be no incentive for the banks to keep large excess reserves when they could be invested at a rate of interest. That the action was inflationary cannot be doubted, and it was in line with Treasury finance of inflating a little to help pay for the war.

¹Annual Report, 1942, p. 14.

²Ibid.

A policy statement issued by the Comptroller of the Currency, the Federal Deposit Insurance Corporation, the Board of Governors, and the Executive Committee of the National Association of Supervisors of State Banks, urging banks to use Treasury bills in that manner was made in November, 1942. It follows:

"1. There will be no deterrents in examination or supervisory policy to investment by banks in Government securities of all types, except those securities made specifically ineligible for bank investment by the terms of their issue.

"2. In connection with Government financing, individual subscribers relying on anticipated income may wish to augment their subscriptions by temporary borrowings from banks. Such loans will not be subject to criticism but should be on a short-term or amortization basis fully repayable within periods not exceeding six months.

"3. Banks will not be criticized for utilizing their idle funds as far as possible in making such investments and loans and availing themselves of the privilege of temporarily borrowing from or selling Treasury bills to the Federal Reserve Banks when necessary to restore their required reserve positions."¹

This bill ". . . . was adopted as a way out of the difficulty caused by the failure, real or apparent, of the other methods of making reserves available."² The other avenues open to the Reserve authorities would have been to allow member banks to become indebted to the Reserve banks or to lower reserve requirements. In the twenties there had been a

¹Ibid., p. 21.

²Charles R. Whittlesey, Principles and Practices of Money and Banking, (New York: MacMillan, 1948), p. 411.

tradition built up against borrowing from the Reserve banks, and this tradition was a barrier to large-scale bank borrowing. The latter, changes in reserve requirements, was viewed ". . . with general disapproval, partly by lack of familiarity with the device and partly by a belief that high requirements would make easier the control of credit after the war."¹

Interest Rate Pattern. While some inflation by sale of government securities to the banking system was necessary, the major objective of the Treasury in its financing policy was to derive as much of its funds as possible from current income, both by taxation and by encouraging savings.² This meant that as few securities as possible would be sold to the banks and that private purchases would be encouraged. To accomplish this end a number of different kinds of securities were offered to the public, some of them being ineligible for bank purchase. Securities eligible for bank purchase were bonds maturing in ten years or less and bearing an interest rate of not more than 2 per cent.³ Since funds could not be raised quickly enough from taxation and borrowing from non-bank investors, Federal Reserve authorities ". . . endeavored to induce banks to make more complete use of their existing reserves and also supplied them with reserves as

¹Ibid.

²Annual Report, 1942, p. 9.

³Ibid., p. 10.

they needed to purchase government securities.¹

After the establishment of the bill buying rate by the Board it became the joint aim of the Treasury and the Board to maintain the existing pattern of interest rate on government securities.² In doing this prompt buying of securities was encouraged by investors who might have waited for higher interest rates; a strong and active market was assured for government securities at interest rates known in advance; and the amount of earnings of bank and other investors was kept down with the resultant lower debt charges.³ Fixing the yield rate on the government securities was the same thing as fixing their price, since the latter is the capitalized value of the yield. This would permit banks to invest, as well as any other private citizen or corporation, in these securities without hesitation. Sterile excess reserves could be used to purchase the securities and in turn those securities could be sold on a ready market if the banks' reserve position needed strengthening. This policy by the Board to aid the Treasury in its financing could permit the monetizing of the entire marketable debt if the holders of the debt so desired. Thus the banking system was encouraged, as well as permitted, to

¹Ibid., p. 9.

²Ibid.

³Woodlief Thomas and Ralph A. Young, "Problems of Postwar Monetary Policy," in Federal Reserve Policy, Board of Governors of the Federal Reserve System, Postwar Economic Studies, No. 8 (Washington: November, 1947), p. 91. Cf. also Annual Report, 1942, p. 9.

expand their holdings of government securities while the Reserve System supplied the necessary reserves by maintaining a rate pattern.¹ The maintenance of the interest rate pattern, which was the result of the large gold flows of the thirties and the so-called easy money policy of the Board and the Treasury department, pegged the price of government securities. While the interest rates, which were in effect at this time, were to be held relatively constant, the Board necessarily had to be large purchasers of the short maturities, Treasury bills and certificates, because of the differential in rates between short and long-term securities. As long as the price of long-term securities was maintained, they were the best investment. Their price, as they were maturing, increased, for they were then priced to yield the lower interest rates of short-term securities. Since all securities were equally liquid and there was almost no risk attached, demand was concentrated on the longer-term issues, leaving to the Reserve banks the market for the short-term issues.²

Upward pressures on the prices of long-term government securities would have the tendency to lower not only the yield of the outstanding securities but also to lower the long-term interest rate. Capital values which had already been inflated

¹Ibid., p. 94.

²Cf. Karl Bopp, "Three Decades of Federal Reserve Policy," Federal Reserve Policy, p. 20.

by the fall in the long-term and short-term interest rates would have been inflated more if the rate was allowed to fall again. This would add to the inflationary pressures of war finance and force tighter supervision of the economy. Earnings, too, of institutions other than banks would fall to low levels if the long-term rate continued to fall. This would mean an increase in the price of their service, or, in the case of endowed institutions, would find it increasingly difficult to operate at all.

Further inducements to banks to invest their excess reserves in government securities came in the form of changes in regulation D of the Board and changes in the Federal Reserve Act. In 1942 deficiencies in reserve balances of member banks in all central reserve and reserve cities were to be computed on the basis of average net deposit balances with the Reserve banks covering weekly periods.¹ Before regulation D had been amended, reserves had to be computed on a semi-weekly basis. The result of this was to make banks keep large reserves on hand at the Reserve banks to meet the wide fluctuations in reserves caused by war financing. Under the newly amended regulation the period for computing reserves was lengthened, allowing banks "greater flexibility in adjusting their reserve positions to meet the situation,"² and escaping penalty charges

¹Annual Report, 1942, p. 86.

²Ibid.

for deficient reserves. This in effect permitted an expansion of deposits and was analogous to lowering the reserve requirements.

On April 13, 1943, deposits of the United States government, arising out of subscriptions to government securities, were exempt from reserve requirements.¹ This released a large amount of reserves for member bank use. These excess reserves were the largest during the war loan drives when banks merely effected a transfer from the account of private individuals to that of the government, instead of transferring the money to the Reserve banks or maintaining reserves behind government deposits kept in the bank. These temporary excess reserves could be used to purchase short-term government or other securities in the market. When the government spent the money, it was first transferred to the Reserve banks and then returned to the money stream. This transfer of funds caused deficiencies in member bank reserves, which were replaced by banks' disposing of securities which they had previously purchased. The money, then, gradually was returned to the banks in the form of private deposits, leaving the banks substantially in the same position as before the transfer of funds, but with larger earnings due to interest

¹The Federal Reserve Act as Amended to November 1, 1946, (Compiled under the direction of the Board of Governors of the Federal Reserve System in the office of its general counsel), Section 19, paragraph 14, p. 102.

payments during the period their excess reserves were invested in securities.

The use of this emergency measure made the effect of Treasury finance, during the periods of large borrowings, be felt but slightly.

The alternative method would have been for the Reserve banks to supply the needed funds to the market in these periods. With the Reserve banks committed to supporting the prices of government securities they would have had to enter the market and give it support, or the Treasury could not have been successful in its borrowings at low interest rates. This method would have resulted in the Reserve banks increasing their portfolio of government securities to enable the commercial banks to extend credit to its customers for purchasing the securities and/or to transfer the necessary funds to the government's account in the Reserve banks.¹

Treasury Finance and Bank Credit

With the large expenditures by the Treasury, first for defense measures in 1940, and then for war purposes, there was a heavy, upward pressure on prices. Government purchases of goods and services, which had been increasing during the

¹Another alternative would have been for the Reserve banks to have forced the member banks to increase their indebtedness to the Reserve banks in order to meet the credit strain. Objections to this have been mentioned earlier.

thirties because of the make-work policies of the government, jumped tremendously in 1942 and subsequent war years. Government purchases of goods and services in 1944 (See Table XIII.) exceeded the gross national product for 1939.¹

Table XIII: Government Purchases of Goods and Services, Yearly, 1933-1947.²

(Millions of Dollars)

1933	7,958	1940	13,933
1934	9,750	1941	24,704
1935	9,886	1942	59,670
1936	11,743	1943	88,601
1937	11,590	1944	96,575
1938	12,750	1945	83,118
1939	13,068	1946	30,654

With wages and salaries of individuals increasing the competition to buy the diminished amount of goods left for private consumption exerted strong pressures on prices. To combat this various anti-inflationary measures were adopted by the government. Consumer credit controls which were put into effect in 1941 were strengthened. The emergency Price Control Act, passed in January, 1942, imposed price and wage controls on the economy,³ while the policy of the Treasury was to stimulate new savings by the issuance of new types of

¹National Income Supplement to Survey of Current Business, p. 19, Table 2.

²Ibid.

³Annual Report, 1942, p. 4.

securities to meet the needs of various investors.¹ Taxes were increased so as to pay for as much of the war cost as possible out of current income, therefore exerting a downward pressure on prices and easing the possible inflationary dangers after the ending of the war.

The Treasury's policy of utilizing existing funds by offering securities that would meet the needs of all classes of investors exerted a deflationary force, in so far as new savings were stimulated by the purchase of the securities. Previously idle funds that were made active by Treasury borrowing had the same effect as the creation of new money. In the latter case, however, "the subsequent problem of controlling the supply of money is not aggravated when existing funds are used as it is when additional deposits are created through the sale of securities to the banks."²

The quantitative control over money in circulation would be easier if velocity of money were allowed to increase than if the physical volume of money were allowed to increase. In the former case a reduction in the supply of money with a high velocity would exert a more deflationary effect than a reduction of money in circulation with a lower velocity, which would be the case if banks were the purchasers of the securities.

¹Ibid., 1942, p. 5.

²Ibid., p. 27.

The types of securities offered to the public and the policy of the Board in supporting the prices of government securities, however, did not follow either of the two methods shown above. While new savings were stimulated by the sale of savings bonds to individuals, permitting the encashment of these bonds on demand circumvented one of the ultimate purposes for which they were issued, that of diminishing the pressure on prices in the post-war period. Those bonds, and in fact all government securities, by reason of the System's supporting the market, took on a feature of "near money." They were similar to savings deposits in that they could not be spent as such, but they could be converted to money at the holder's option.¹

In cooperating with the Treasury in the war bond drives, the Reserve System used all of its powers to provide adequate funds to the banks to purchase government securities. Even though the stated purpose was to sell securities to non-bank investors at first, banks were also encouraged to buy. The amount of funds held by private investors was not sufficient for the carrying on of the war effort, and banks were allowed to participate in the First and Second War Loans, as well as to purchase residual amounts not subscribed to by non-bank investors in other war loans.

¹Series E, F, and G bonds could not be cashed until an initial period of sixty days had passed.

The early encouragement of commercial banks to take part in Treasury financing plans took the form of not only moral suasion, such as the statement issued jointly by the Comptroller of the Currency, the F. D. I. C., the Board of Governors, and the Executive Committee of the National Association of Supervisors of State Banks, and pegging the price of government securities, but also the form of a preferential rate on notes secured by government securities, as well as a lowering of reserve requirements for central reserve cities.

The discount rate changes which came in February, March, and April, 1942, made a uniform $1/2$ of 1 per cent rate for advances to member banks secured by government securities, maturing or callable within a year.¹ To partially offset the advantage given short-term securities, rates on other advances and discounts were similarly lowered. Rates on advances secured government obligations which matured in more than one year were lowered to 1 per cent at all banks, and rates on advances to member banks without eligible securities were lowered to $1\ 1/2$ per cent. Rates on all other loans and advances were lowered, with the exception of the buying rate on Treasury bills, which remained at $3/8$ of 1 per cent.²

This action was taken to encourage banks to keep their government securities and borrow from the Reserve banks in

¹Annual Report, 1942, p. 74, Table 10.

²Ibid.

times of necessity. Although the Reserve authorities had undertaken the task of supplying necessary funds to the banks, the funds so supplied were to the banking system as a whole. Individual banks might find their reserve position impaired by the transfer of funds by the Treasury and attempt to build up their reserves by the sale of government securities on the market.¹ Also, "reductions in the discount rates might have some influence in causing member banks to make fuller use of their existing reserves for war financing, as they would have the assurance that, if necessary, they could replenish their reserves by borrowing from the Federal Reserve banks at low rates."²

The lowering of reserve requirements at the central reserve city banks in the fall of 1942 from 26 to 20 per cent was necessary to enable those banks to have sufficient funds to meet the credit strain of war finance. The New York banks lost deposits slightly during 1942, and this adverse clearance, coupled with an increase in their investments, left them with little, if any, excess reserves.³ Chicago banks, on the other hand, gained deposits, but increased their loans and investments faster and had a decline in their excess reserves.⁴ The importance of these two centers in the government

¹Ibid., p. 88.

²Ibid.

³Ibid., p. 19. Cf. also, Federal Reserve Bulletin, December, 1942, p. 1217.

⁴Ibid.

securities market made necessary this reduction in reserve requirements.¹ The reason that the decrease in reserve requirements was made applicable to only the central reserve cities was that other banks were gaining excess reserve due to the movement of funds from these centers by Treasury disbursements. The banks in these two centers were heavy buyers of government securities, and when the funds were used by the Treasury, the adverse clearance due to expenditures elsewhere in the country lowered their reserves.²

Bank Credit in 1942. While total loans declined in 1942, investments of member banks increased by about \$11,000 million.³ This large increase in investments, coupled with an increase of \$4,000 million of money incirculation, put a heavy drain on member bank reserves. Both member bank total and excess reserves declined almost steadily during the first nine months of the year. Reserve bank credit, which increased by \$1,300 million during this period, offset somewhat this drain in reserves, caused mainly by an increase of money in circulation. The increase of money in circulation, which causes a decrease of almost dollar for dollar of member bank reserves, was the greatest in the second half of the year.

Deposits, on the other hand, showed their largest increase in the first seven months of 1942, before the First War Loan

¹Ibid.

²Ibid.

³Federal Reserve Bulletin.

drive. (See Chart I.) Member bank investments were the major cause of the increase of \$3,300 million increase in demand deposits. This growth would have been larger had not money in circulation also increased. This movement upward in credit and deposits was accentuated in the fall of the year with the First War Loan drive.

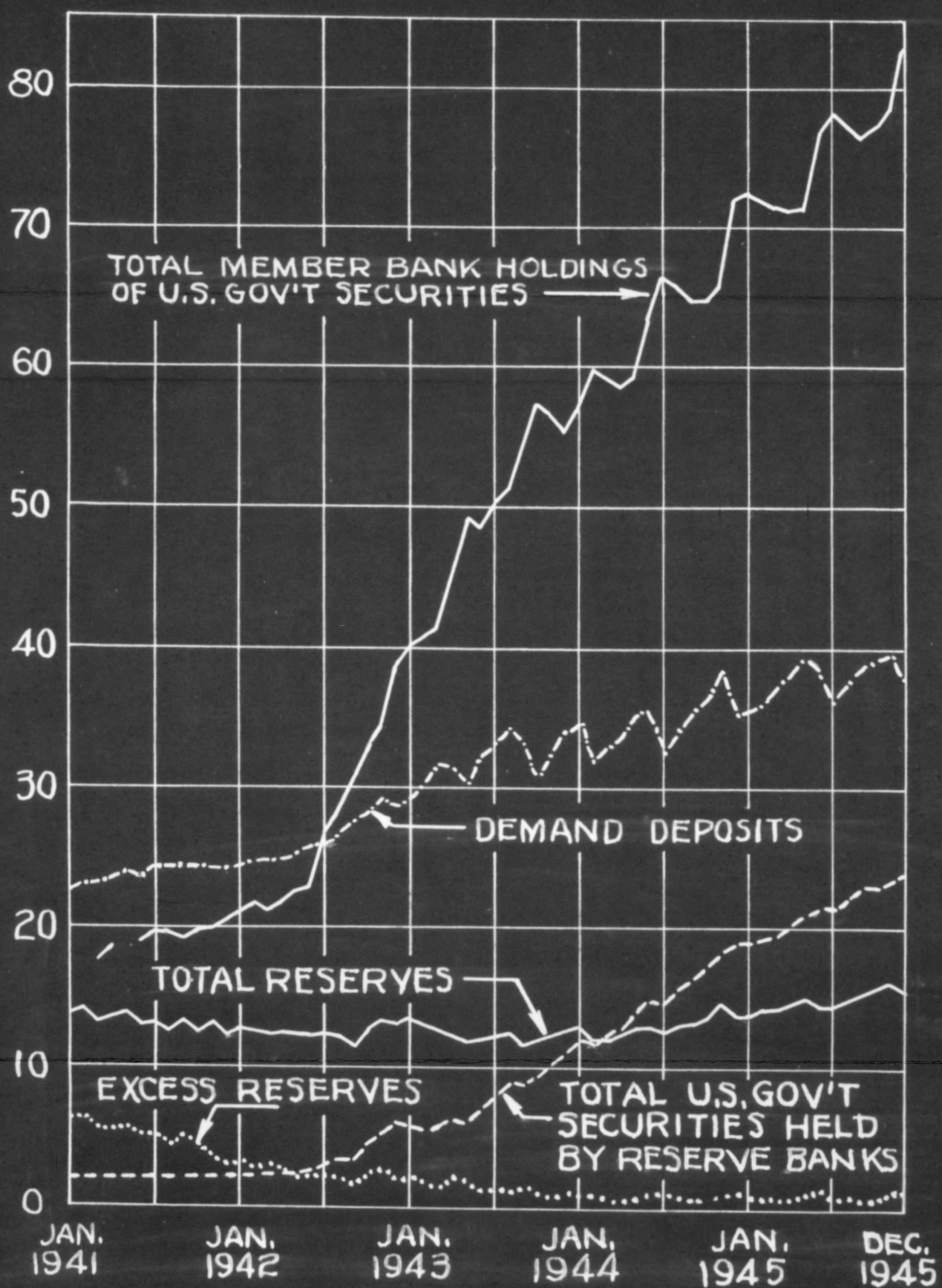
War Loan Drives. With the entrance of the United States into the war the need for larger expenditures was immediate and the method of financing those expenditures was an enormous task. Taxes could not raise the funds quickly enough, so resort to borrowing was a foregone necessity. At first the money was borrowed in the most expeditious manner, utilizing both private savings and bank credit. As the financing progressed, bank credit and deposits increased greatly, and there was an attempt to raise funds without relying on bank investors. Excluding the banks from direct purchases from the Treasury, only meant that the banks turned to the government securities market to invest their funds.

In the First and Second War Loan drives the Treasury sold \$31,500 million of securities, of which about \$29,300 million were marketable issues. In these two drives the commercial banks were allowed to participate, and their allotment was \$10,167 million,¹ which represented about 35 per cent of the total marketable issues sold. In the Third War Loan

¹Treasury Bulletin.

CHART I

FEDERAL RESERVE BANK^a
AND MEMBER BANK HOLDINGS^b
OF GOVERNMENT SECURITIES
AND RELATED ITEMS,^b 1941-1947.
(BILLIONS OF CURRENT DOLLARS)



a-TREASURY BULLETIN
b-FEDERAL RESERVE BULLETIN

the commercial banks were excluded, but immediately after the drive the banks were allowed to purchase \$3,207 million in securities.¹

In the rest of the drives the banks were excluded, and the total amount raised from all sources during the War Loan drives Three through Seven amounted to \$104.250 million.² In the later drives an attempt was made to increase the sale of non-marketable securities (Series E, F, and G Savings bonds and Series C tax notes), but the total amount of those securities sold in all the bond drives was only \$24,500 million, which represented 18 per cent of the total.³

Reserve Bank Participation in the Drives. Although the Reserve banks were forbidden by law to deal directly with the Treasury in purchasing government securities,⁴ the aid given the drives by them indirectly mainly accounted for the success of the drives. Their support of the government securities market and the supplying of reserves to the banks actually meant the Reserve banks supplied the funds indirectly to the Treasury. The Reserve banks also acted as agents of

¹Ibid., October, 1943, p. 8.

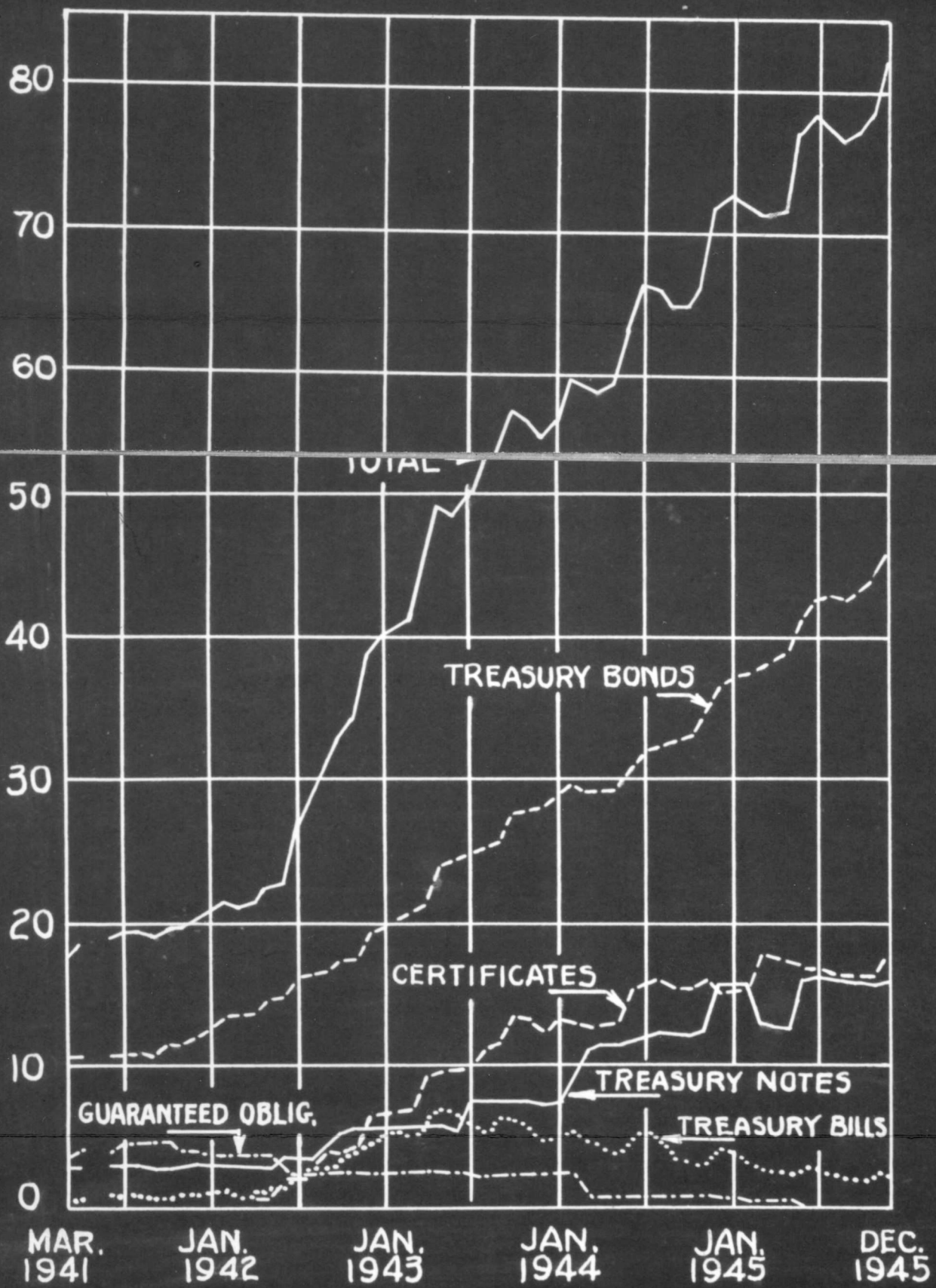
²Treasury Bulletin.

³Ibid., figures exclude the Victory loan.

⁴In March, 1942, the Reserve banks could purchase special one-day Treasury notes directly from the Treasury; the total amount to be held at any one time could not exceed \$5,000 million. This was done to enable the Treasury to keep a smaller balance at the Reserve banks.

CHART II

MEMBER BANK HOLDINGS
OF U.S. GOVERNMENT SECURITIES,
BY TYPE OF SECURITY.
MARCH, 1941 - DECEMBER 1946.^a
(BILLIONS OF CURRENT DOLLARS)



^a-TREASURY BULLETIN

the government, distributing the bonds to the public through the banks and security brokers.

Member Bank Credit During the Drives. The trend of the major items of commercial bank credit were very much affected by Treasury finance, as is to be expected, but there was very little change in industrial, agricultural, commercial, and real estate loans during the period of the war bond drives.¹ Loans to brokers and others for the purpose of carrying government securities show the effects of the war bond drives, as does the change in holdings of government securities by commercial banks. (See Table XIV.)

Table XIV: Changes in Ownership of Government Securities by Commercial Banks, Monthly, 1941-1947.²

(Million of Dollars)

	1941	1942	1943	1944	1945	1946
January		428	1,522	<u>1,624</u>	862	1,852
February		675	368	<u>2,831</u>	<u>-384</u>	485
March		-570	668	-713	-678	-5,942
April		1,361	<u>4,465</u>	-242	-76	2,222
May		1,073	<u>3,437</u>	-481	<u>102</u>	-1,593
June		1,395	-1,494	<u>4,872</u>	<u>5,560</u>	-3,010
July	478	1,909	1,798	<u>3,233</u>	<u>1,110</u>	-1,120
August	40	1,698	967	-430	-750	-1,472
September	-360	2,158	<u>3,029</u>	-1,063	-928	-9,656
October	573	2,377	<u>3,010</u>	-20	603	7,009
November	165	<u>1,398</u>	-707	1,128	<u>1,403</u>	-1,817
December	679	<u>4,278</u>	-1,402	<u>5,628</u>	<u>3,859</u>	-2,563

¹Federal Reserve Bulletin.

²Computed from data given in the Treasury Bulletin on ownership of the public debt. Underlined figures show dates of the seven war loan drives and the victory loan. For figures on commercial bank holdings of government securities, by class of securities, see the appendix.

Omitting the period to the first war bond drive in 1942, the general trend was that banks were large purchasers of securities during the bond drives; and immediately after the drive, in order to adjust their reserve position, they disposed of some of their holdings. The adjusting of their portfolio meant, in nearly every case, the disposing of Treasury bills. This is true in periods when bank holdings were increasing. Bills were sold by the banks to enable them to acquire longer maturities. Only seldom did the banks sell the 7/8 of 1 per cent certificates for this purpose. While bill holdings of the banks began to decline in January, 1945, bank holdings of certificates continued to increase through the Victory loan, in the last two months of the year.

That the banks increased their holdings of government securities during the war loan drives shows that the Treasury policy of excluding banks from the drives made them persistent buyers of those securities they were eligible to hold.¹

"Roll-over" operations became common. Individuals and institutions who were able to subscribe to the war loans, sold securities on the market that were bank eligible. These securities were sold at a premium as they were priced to yield lower rates because of their maturity. This meant that the banks, in purchasing those securities, were indirectly

¹Karl Bopp, op. cit., p. 22.

financing the war loans.¹

Whereas banks were excluded from the war bond drives after the Second War loan, the banks were able to purchase securities directly from the Treasury by bidding for the weekly offerings of Treasury bills,² and after the Third War loan the banks were offered \$3,207 million of government securities directly from the Treasury.³ The early encouragement by the Board for banks to buy residual amounts of government securities that had to be issued in excess of those taken by other investors⁴ and to buy securities not held by other investors⁵ was continued throughout the bond drives. As "roll-over" operations, or "playing the pattern of rates" as it was sometimes called, became more frequent banks became large holders of longer-term issues, while the Reserve System's holdings of bills and certificates increased. The task of the Reserve authorities was to supply the banks with sufficient funds to carry out those purposes, as well as supplying banks with reserves to meet the increase of currency in circulation.

The main pattern of Reserve bank credit was to supply commercial banks with excess reserves when needed, while leaving those banks with sufficient excess reserves so as to

¹Ibid.

²Annual Report, 1944, p. 3.

³Treasury Bulletin, October, 1943, p. 8.

⁴Annual Report, 1943, p. 12. ⁵Ibid., 1944, p. 3.

cause no strain in the money market. Excess reserves of member banks, which had been above \$2,000 million in most of the months of 1942, were gradually lowered in 1943, and during the latter part of 1943, and throughout 1944 and 1945, the excess reserves were below \$1,000 million, except in periods of government financing.¹

While commercial banks were buyers of securities that other investors would not buy or hold, the Reserve banks were buyers of securities that banks and security brokers would not hold or could not sell.² Consequently the banks sold to the Reserve System the shorter-term securities on which the interest rate was the lowest, whenever the banks needed to adjust their reserve position, and kept the higher-yielding, longer-term securities. Because of this strong market for the longer-term securities, the Reserve System holdings of government bonds declined steadily, as the Reserve authorities attempted to maintain a relatively stable price for them. (See Chart II.)

Since the Reserve authorities took it upon themselves to supply the banks with needed reserves, the increases in their portfolio came during, or just before, banks buying in the

¹See Table XIX, Appendix, p. 216

²Cf. Annual Report, 1944, pl 4. Also Table , Appendix, on Federal Reserve holdings of bills and certificates and total holdings of government securities by the Reserve System.

market. The initiative in the buying was out of the hands of the Reserve banks, as banks would not offer the securities for sale until other demands on their reserves forced them to liquidate a part of their holdings.

Demand deposits showed a pattern substantially similar to excess reserves and Reserve bank holdings of government securities. The increases came in periods after the bond drives and showed substantial gains over the periods before the drives. The increases in excess reserves as a result of transferring private deposits to the government's account enabled banks to temporarily expand their holdings of securities, but the influx of deposits back to private accounts increased the required reserves of the banks, forcing them to adjust their reserve position. (See Table XV.) Loans to brokers and others for the purpose of buying or holding securities, while following the same pattern of the other bank credit and reserve items, tended to offset the decline in deposits caused by the purchase of government securities. While for any one particular period of time, a deposit arising out of a loan, whereby government securities were immediately purchased and the deposit transferred to the government's account in the Reserve banks, the effect on total deposits would be nil.¹

¹The term, deposits, as used here, corresponds with the Federal Reserve classification, "demand deposits, adjusted." This classification excludes interbank and government deposits.

But, when monthly changes over a period of time are shown, the effect is noticed, due to the fact that the loan is usually outstanding for a longer period of time than the government would hold the money inactive in its account.

Table XV: Changes in Member Bank Excess Reserves, Demand Deposits, and Reserve System's Holdings of Government Securities, Monthly, 1942-1946.¹

(Million of Dollars)

	Excess Reserves				
	1942	1943	1944	1945	
January	262	399	<u>-213</u>	<u>-391</u>	
February	-378	-462	<u>54</u>	<u>96</u>	
March	104	<u>-407</u>	-447	-113	
April	-386	797	10	-17	
May	-305	<u>-587</u>	71	<u>278</u>	
June	-124	-516	<u>528</u>	<u>249</u>	
July	-232	56	<u>41</u>	-368	
August	13	-145	-362	-8	
September	-453	<u>561</u>	-163	-93	
October	954	<u>-582</u>	-82	<u>11</u>	
November	<u>255</u>	-117	<u>279</u>	<u>389</u>	
December	<u>-921</u>	251	<u>202</u>	<u>-80</u>	
		Demand Deposits			
January	165	466	318	47	
February	407	1,197	<u>-2,682</u>	987	
March	168	1,544	<u>1,067</u>	936	
April	-37	-365	1,039	802	
May	405	<u>-1,237</u>	1,571	<u>1,635</u>	
June	628	1,845	<u>462</u>	<u>-1,032</u>	

¹For data from which these tables were computed, see Appendix, pp. 213-217.

Table XV (continued)

Demand Deposits				
July	114	999	-3,013	-2,235
August	646	1,142	1,238	934
September	1,001	<u>-842</u>	1,469	1,195
October	631	-2,356	751	583
November	993	1,354	2,037	420
December	<u>-412</u>	1,695	<u>-2,909</u>	<u>-2,160</u>

Reserve System's Holdings
of Government Securities

January	11	-220	483	-58
February	19	-98	-210	433
March	18	<u>48</u>	481	77
April	113	536	701	928
May	132	-233	1,443	579
June	156	980	<u>830</u>	<u>670</u>
July	508	958	-179	-123
August	273	901	1,050	788
September	141	<u>-169</u>	649	828
October	1,100	435	760	-97
November	732	994	1,150	557
December	<u>790</u>	1,195	<u>653</u>	<u>381</u>

When the government released the money from its account,¹ this increase in demand deposits would offset, by the amount of the original loan, any transfer of money to the Government's account by the purchase of securities by others.

¹This assumes that the deposit will not be used to retire a part of the debt held by banks, including the Reserve banks.

Amendments to the Federal Reserve Act

In February, 1945, the Board asked the Banking and Currency Committees of the House and Senate for an indefinite extension of the provision in the Federal Reserve Act permitting the use of government securities as collateral for Federal Reserve notes and that the reserve requirements behind deposits in the Reserve banks and their note issue be lowered to a uniform 25 per cent.

The Board said that no useful purpose would be served if that provision should be allowed to elapse. The alternative way for the Reserve System to secure other eligible assets for use as collateral behind the note issue would be for the System to dispose of sufficient government securities, so that banks would be forced to borrow from the Reserve banks. Member bank promissory notes, secured by government securities would then be eligible as collateral for the note issue.¹

"No public interest would be served, but in the process the market for United States Government war obligations would be disrupted at a time when the Treasury must still raise vast sums to finance the war."²

"Furthermore, if the banks borrowed, they would borrow on their promissory notes secured by Government securities. Consequently, what would be back of the notes would still be United States Government securities but with an endorsement by a member bank. Surely an obligation of the

¹Annual Report, 1944, p. 56.

²Ibid.

United States Government is not improved in credit standing by endorsement of some member bank."¹

The request for an indefinite extension of this authority recognized that the part played in the money market by government securities was important, and like the support prices given government securities,² the importance would remain a permanent fixture as long as the government debt was large. The need for new funds and the refunding of the debt as it matured was not just a war-time problem. Refunding problems would play a major part in Treasury policy as long as the debt was large, and the use of government securities as collateral behind Federal Reserve note issue meant that the Reserve System could adjust its holdings of those securities with regard only to conditions in the U. S. government security market. To force the Reserve System to dispose of government securities to secure other eligible assets for use as collateral behind the note issue, might, in times of market weakness, cause a sharp drop in the price of those securities. This would not only cause difficulties with any refunding operations being carried on by the Treasury at the time, but also would cause a loss to be absorbed by banks—a paper loss if the banks did not have to dispose of their security holdings, but a real loss if they did.

¹Ibid., p. 57.

²Ibid.

Reserve Ratios. The conditions that arose from the war and its financing caused a decline in the reserve ratio from 90.8 at the end of January, 1942, to 48.4 by the end of February, 1945.¹ In recommending that the reserve requirements be lowered to 25 per cent for both types of liabilities the Board believed that the requirements would then be sufficient to meet all foreseen contingencies, as well as eliminate the distinction between the two different types of liabilities that were interchangeable at the will of the owners.²

This large and rapid decline of the reserve ratio was a result of the growth member bank deposits in the Reserve banks and of currency in circulation. Since Federal Reserve policy was coordinated closely with Treasury policy, the decline in the reserve ratio had not caused any concern until it fell close to the legal minimum.

In certain Reserve banks their reserve ratios would have gone far below the legal minimum had not there been a shifting of government securities among the Reserve banks.³ Changing the participation of the Reserve banks in the system's portfolio permitted the Reserve banks to supply the necessary

¹Federal Reserve Bulletin. This is not a legal ratio as it combines deposit and note liabilities. The ratio was 35 per cent and 40 per cent respectively, for the two liabilities.

²Annual Report, 1944, p. 60.

³Ibid., p. 59.

reserves to the member banks freely without being penalized for reserve deficiencies which would have forced those Reserve banks to increase their discount rates.

The alternatives to the legislative lowering of the reserve requirements would be for the Reserve banks to issue Federal Reserve bank notes, as they require no gold reserves, or the Board could suspend the reserve requirements under authority of Section 11 (c) of the Federal Reserve Act.¹ Both of these measures are emergency ones, however. The authority of the Reserve banks to issue Federal Reserve bank notes in their present form expired with the passing of the war period, while the latter can be done for periods of 30 days, renewable at 15 day intervals, but requires a progressive interest rate penalty which is to be added to the discount rate.² "At a time like the present, when discount rate charges must fit into the general rate policy adopted for war financing, this would not be the best procedure."³

This legislation was passed in June, 1945, enabling the Reserve System to continue to carry out their policies in the same manner as before.

33. ¹Federal Reserve Act as Amended to November 1, 1946, p. 33. cf. also, Annual Report, 1944, p. 59.

²Annual Report, 1944, p. 59.

³Ibid., pp. 59-60.

CHAPTER V

POSTWAR CREDIT PROBLEMS

Financial Conditions in 1946

With the ending of the war, government expenditures declined sharply. Expenditures for war purposes, which had been running at an annual rate of \$88,700 million in the second quarter of 1945, had decreased to \$49,500 million by the end of the year.¹ Expenditures for war purposes continued to decrease all during 1946, and were being made at an annual rate of \$15,800 million in the fourth quarter of the year,² while actual expenditures for war purposes amounted to \$4,000 million.³ This large reduction in government expenditures meant that the inflationary pressures would be greatly lessened with a decline in the budgetary deficit. That deficit, which had amounted to \$43,700 millions in 1945, was reduced to \$3,500 millions during 1946.⁴

¹National Income Supplement to Survey of Current Business, July 1947, Table 43, p. 50.

²Ibid.

³Ibid., Table 42, p. 49.

⁴Annual Report, 1946, p. 11.

The general fund balance of the Treasury, which had been built up from the proceeds of the Victory loan at the end of 1945, was reduced by about \$23,000 million during 1946, in cancelling an equal amount of the debt.¹ This reduction in debt was mainly that held by the commercial banks, while \$4,500 million of government securities held by the Reserve bank were retired.²

Commercial bank holdings of government securities, which reached a peak in February, 1946, declined sharply during the rest of the year due to the retirement of the debt by the Treasury. (See Table XVI.) Of the \$18,300 million reduction in the commercial banks' portfolios, about \$12,000 million³ represented sales to the Reserve banks to adjust their reserve positions necessitated by the retirement of an equal amount of government securities held by the Reserve banks. The remainder of the decline in their holdings was necessary because of the increase of money in circulation and in deposits, demand and time.

The relative stability of the Reserve System's portfolio bears this out, because with low excess reserves banks were not in any position to meet these large demands on them caused by Treasury finance, increases in deposits and money in circulation. As in the previous years, the banks adjusted their reserve positions by the sale of short-term securities

¹Ibid., pp. 1-2.

²Ibid., p. 2.

³Ibid., p. 13.

to the Reserve banks. Whereas the total holdings of the Reserve banks of government securities changed little during the year, their holdings of bills and certificates increased by \$1,300 million.

Bank Credit. Although there was a decline in bank credit in 1946, it was solely the result of Treasury finance and came in commercial bank holdings of government securities. Total loans, on the other hand, increased by \$1,400 million, reflecting a combination of increased production and speculation. (See Table XVI.) Loans to brokers and others for the purpose of carrying United States government securities declined by \$2,814 million during the year, while loans for commercial, agricultural, and industrial purposes and on real estate increased \$3,496 million.¹

While industrial production, as a whole, had declined from 1945, due to sharp decline in government war purchases, the production of goods for civilian use had increased by nearly 100 per cent.² This rise in production partly reflects price rises, which, after the lapse of price controls in July, 1946, were quite pronounced in some industries, especially farm products.³ The large accumulation of liquid savings during the war years, the lapse of price controls and rationing, and the pent-up war demand for goods were, in general,

¹Federal Reserve Bulletin.

²Annual Report, 1946, p. 26.

³Ibid., p. 29.

Table XVI: Bank Credit and Related Items, Monthly, 1946.¹

(Millions of Dollars)

	Jan.	Feb.	March	April	May	June
Demand deposits	37,648	37,665	37,386	37,412	38,502	39,592
Time deposits	9,372	9,482	9,567	9,632	9,769	9,910
Total loans of member banks	15,367	15,142	15,340	15,128	14,899	14,812
Reserve bank holdings of government securities	23,297	22,972	22,974	22,304	22,983	23,385
Reserve bank holdings of bills and certificates	20,945	20,652	20,634	19,874	20,341	20,882
Total reserves of member banks	15,681	15,555	15,395	14,457	15,689	15,910
Excess reserves	1,061	1,039	995	836	830	867
Member bank holdings of government securities	84,241	84,726	78,784	81,006	79,413	76,103
Other Reserve bank credit	601	705	988	598	574	600
Money in circulation	28,158	27,944	27,913	27,923	27,978	28,140

¹Federal Reserve Bulletin.

Table XVI (continued)

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Demand deposits	39,282	39,155	39,578	39,425	39,751	40,370
Time deposits	9,985	10,066	10,093	10,154	10,175	10,191
Total loans of member banks	14,878	14,992	15,318	15,685	16,450	16,763
Reserve bank holdings of government securities	23,633	23,606	23,866	23,608	23,682	23,350
Member bank total reserves	15,991	15,867	15,975	16,111	16,131	16,139
Excess reserves	856	714	724	737	643	562
Member bank holdings of government securities	74,983	73,511	63,855	70,864	69,047	66,484
Other reserve bank credit	532	495	719	494	734	744
Reserve bank holdings of bills and certificates	22,282	22,256	22,515	22,162	22,093	22,241
Money in circulation	28,281	28,352	28,478	28,588	28,727	28,997

responsible for this upward pressure on prices.

The powers of the Board to deal with this situation were very limited, being confined to bank credit, and certain qualitative controls. The situation with regards to bank credit was that the power of the Board to deal with the situation was practically nil. In the field of consumer credit and margin requirements on stocks the Board relaxed their high war-time requirements. The margins for carrying stocks were reduced from 100 to 75 per cent. The former margin had been put into effect at the beginning of February, 1946, but was lowered in the summer, due to a decline in stock prices. Consumer credit regulation was relaxed likewise during the year, and was applicable, at the end of the year, to only twelve major, durable consumer goods. The decision to take this step was set forth in a release for publication on November, 16; it stated:

"The issue as to whether regulation should or should not be continued in any form is a subject of sharp controversy among various groups affected by it. The Board feels that the issue should be decided by the Congress and that the present revision is an appropriate means of bringing before the Congress the question of whether the Executive Order should be vacated or whether authority for such regulation should be continued by specific legislation."¹

The amendment to Regulation W released many "listed" articles and exempted charge accounts and single-payment

¹Ibid., p. 99.

loans from regulation.¹ Although this still restricted credit purchases on some goods that were in short supply, the release of charge accounts from regulation had the effect of increasing the demand for goods that were themselves in relatively short supply, food products for instance. As mentioned before, prices of farm products showed the largest increase in 1946, and the release of charge accounts from regulation would increase to pressure on these prices, as well as on the prices of other goods.

A restrictive measure in 1946 was the discontinuance of the preferential discount rate on notes secured by government securities maturing within 12 months.² The preferential rate which had been made to assist banks during the war loan drives was no longer needed, as the problem was the amount of government securities held by the banks and not the need for as easy methods of Treasury finance as had heretofore existed. With inflation a problem the raising of the rate from 1/2 of 1 per cent to 1 per cent would make it less advantageous for banks to borrow from the Reserve banks.

The net effect of this would be to force the banks to use one type of Reserve bank credit in the place of another. It would seem that forcing banks to utilize their own resources in place of borrowings at the Reserve banks, the

¹Ibid.

²Ibid., p. 3.

Reserve authorities attempted to maintain the tradition against borrowing except in cases of emergencies. Whereas there was no reason to believe that the banks would make undue use of borrowings, maintaining the tradition against borrowing might serve as a useful tool in the future.

Loss of Control over Credit by the Board

Quantitative Powers of the Board to Control Credit. The original purpose of the Federal Reserve System was to furnish an elastic currency to meet the needs of business, and the supply of currency was to be based on commercial paper drawn to finance certain steps in the production of goods. With the upheaval of the banking system in the early thirties, depression legislation was passed that permitted the money supply of the country to be based on government debt. As the money supply came to rest more on the government debt, and that debt grew larger and assumed an ever increasing role in the securities markets, a change in emphasis was made on open-market operations by the Open Market Committee. Maintenance of orderly conditions in the government security market became a prime consideration in open-market operations.

With the maintenance of a fixed rate pattern during the war period, the tying of the money supply to the government debt became a permanent feature of our banking system. The

reaction of a money supply tied to the public debt changed materially from the earlier "elastic currency" concept. Whereas the needs of business were to determine the amount of money in circulation in the latter case, increasing in times of high business activity and decreasing in times of business recession, tying the money supply to the debt will probably mean a greater constancy as to amount.

The volume of federal debt, in contrast with the volume of commercial paper or bank loans, has shown the following characteristics: it increased greatly in time of war and business depression; it decreased during the period of prosperity in the Twenties; it showed fewer and smaller fluctuations in relative amount. The inference is clear that a deposit structure tied primarily to Government debt, if this proves to be the case, will behave differently from one tied primarily to business, or to business and personal, debt.¹

This means that the quantitative controls possessed by the Board must be great enough to control the amount of credit at all times. Loss of controls in an extreme expansion of bank credit will mean a permanent loss as

a decline in business activity will not automatically reduce the volume of Federal debt held by the banks and thus deposits are no longer subjected to the same, automatic contraction in this period of falling business.²

¹C. R. Whittlesey, "Problems of Our Domestic Money and Banking System," American Economic Review, Vol. 34, No. 1, Part 2, March, 1944, p. 248.

²Ibid., pp. 248-249.

The original powers given the Board by the Federal Reserve Act were the discount rate and open-market operations. By the use of the discount rate it was believed that effective control could be had over credit. A rise in the rate would be an increase in the cost of credit and, therefore there would be less funds of the Reserve banks used. A decrease in the rate would have the opposite effect.

Open-market operations were first thought of as something separate from the discount rate as a control policy. An aim of the Act was to establish a bill market in the United States comparable to that of Europe, and giving the Reserve System the power to buy certain bills in the open market—the types of bills being defined in the Act—was a method of encouraging the establishment of the bill market, as well as enable the Reserve banks to purchase earning assets.

In the early twenties it was found that the two measures could be complementary. The discount rate could have no effect if member banks did not borrow from the Reserve banks; and it was found that if the Reserve banks attempted to increase their earning assets by open-market purchases, member bank indebtedness at the Reserve banks was reduced. Conversely, when the Reserve authorities wanted to reduce member bank reserves by the sale of bills in the open market, member banks increased their indebtedness at the Reserve banks. This inverse relationship between member bank borrowings and

the open-market operations of the System established a coordinated use of the two different powers.

With the granting of an unfettered power to increase reserve requirements by 100 per cent in 1935, the Board was given a power which could directly affect member bank reserves, without first dealing in the open market or waiting for banks to borrow. This new, direct power could be used independently or be coordinated with the other two. If a contractionary policy was needed the three could be used together, or, as in 1937, reserve requirements could be raised, while the other policies were used to affect an orderly adjustment of reserves to meet the new requirements.

Increased reserve requirements to exert general pressure combined with discount policy, bill policy, and open-market operations to relieve the pressure in the Government securities market, though apparently contradictory, may instead be complementary.¹

These powers of the Board are general in nature and deal with the banking system as a whole. Discount rates, while of a general nature, only affect those banks that are forced to borrow at the Reserve banks. Thus, as in 1937 when reserve requirements were raised, the nature of the restrictive action may be to only combat some unhealthy elements in the credit structure while the overall policy of the System is that of

¹Karl Bopp, "Central Banking at the Crossroads," American Economic Review, March, 1944, p. 275.

easing credit. Raising reserve requirements when banks have large excess reserves may not mean a contracting of bank credit for the majority of banks; but, still using 1937 as an example, when the country has not recovered from a depression, any contractionary action may be dangerous to the recovery of business. At such times the "apparently contradictory" measures can be used to facilitate an orderly adjustment in reserves without exerting undue contraction on bank credit.

Individual banks, by reason of lower discount rate, would find it easier to meet the increase in reserve requirements by borrowing at the Reserve banks without increasing the cost of credit to their customers. An easier bill policy and the purchasing of securities in the open market by the Reserve System might supply those banks with the necessary reserves without recourse to borrowing and without losing any control over the amount of member bank reserves.

If, however, the excess reserves of member banks are so large that an enormous increase in credit cannot be stopped by the use of these credit control measures, the Board has lost its control over credit. This situation existed at the end of the thirties, when the large gold flows to this country left banks with excess reserves larger than the Reserve System's portfolio of government securities, and when reserve requirements were almost at their maximum.

This problem of control was eased somewhat with a large expansion of bank credit and money in circulation in 1941, but the excess reserves were still too large to be controlled by open-market operations of the System. With the entry of the United States into the war, and the support of government security prices by the Board, the loss of control became increasingly serious, and a new problem of liquid asset holdings by the public became as serious as the potential expansion of commercial bank credit.

Treasury Finance. While the initial goal of the Treasury during the war period was to raise the required funds as quickly as possible, banks were not encouraged to buy government securities after the Third War loan. It was hoped that the majority of the securities offered would be purchased and held by private investors out of savings or current income. This, however, did not prove to be the case. Because of the interest rate pattern maintained by the Federal Reserve System, longer-term issues increased in price as they approached maturity. This premium on the longer-term issues was an inducement for the owners to sell them and subscribe to new issues at par.

These securities that were sold on the market were eligible for banks to purchase if the remaining life of the securities was under 10 year. Banks sacrificed no liquidity in purchasing these longer-term securities because of the policy of the of the System to purchase government securities

offered to them at a stated rate.

The effect of this was that just before or during the war loan drives many securities were offered for sale on the open market so that the investors could purchase new issues. Because banks did not have to carry reserves behind government deposits that arose from the purchase of government securities, the banks had large amounts of excess reserves during the war loan drives and were able to buy government securities. When the Treasury deposits were spent and returned to private owners, the banks adjusted their reserve position by the sale of short-term securities to the Reserve System. Though the banks were directly excluded from purchasing securities from the Treasury and the sales made during the bond drives were to private investors, indirectly the banks were supplying the credit necessary for the success of the drives.

A second problem to confront the monetary authorities that arose out of the war was the extreme liquidity of the public's holdings of government securities. The marketable issues were, of course, supported by the Reserve System, but the non-marketable securities, of which the principal one is the Series E savings bond, were equally liquid. A significant feature of them was that they could be cashed at the option of the holder after a sixty-day period. These security holdings by the public could start an upward pressure on

prices that would be out of the hands of the monetary authorities. The Reserve authorities, concentrating on the control of bank credit expansion, could be defeated in their efforts if a large wave of buying, financed by the cashing and sale of privately held securities, took place. Further monetization of the debt, from whatever source, could create a runaway inflation.

The Board said in 1945 that

in retrospect it is evident that more vigorous policies should have been adopted in order to raise more of the cost of the war through taxation and to restrict bank purchases of Government securities. If fewer securities which were eligible for bank purchase either at the time of issue or later had been offered, the wartime expansion of bank credit would not have been as excessive and the postwar problem of preventing further monetization of the debt might have been avoided.¹

With the large debt outstanding the problem of Treasury finance, as well as the large holdings by the banking system, would make it impossible for the Board to cease its policy of maintaining the prices of government securities. Retention of this policy and the fact that the commercial banks held \$66,484 million of government securities at the end of 1946, puts the problem of debt management in an important place in determining the policies of the monetary authorities.

Budget surpluses or deficits, retirement of securities, and the refunding of that part of the maturing debt that

¹Annual Report, 1945, p. 11.

cannot be retired will have an important effect on the supply and control of credit. A fiscal policy that ignores the effect of Treasury finance on bank credit could feed an inflation or precipitate a depression. Refunding policies should not only attempt to replace bank held securities with non-marketable securities held by private individuals, but also should attempt to issue securities of a type different from the demand bonds, Series E, F, and G. Experience and knowledge of the banking system has shown that retirement of securities held by the commercial banks and the Federal Reserve banks exerts a deflationary effect on the economy, while increasing the amount held by those institutions has the opposite effect. The refunding of bank held securities and their sale to private investors will have to be done without indirect credit being supplied by the banks; otherwise the purpose is defeated.¹

Interest Rates. The interest rate pattern which was adopted by the Reserve system and the Treasury department at the outbreak of the war came into existence as the result of the large gold imports during the thirties. This inflow enlarged excess reserves and depressed interest rates to the

¹Further considerations with respect to types of securities the Treasury should issue will be discussed in connection with proposals to give the Board power to regain the control over credit.

lowest in the history of the Reserve system.¹ The maintenance of the rate pattern during the war, because of the spread in rates between maturities and their equal liquidity, caused a shifting from short-term to long-term securities by banks.

Early in the war the Board said that

public policy with regard to long-term interest rates should be a part of a program to achieve continuous full utilization of the country's material and human resources. It should be formed with reference to the fact that after the war this country will be the greatest creditor nation in the world and that in creditor countries, according to past experience, the interest rate on long-term capital is likely to be low.

Over the years a low cost of money to borrowers on long-term should tend to promote increased employment by encouraging capital outlays in both old and new enterprises. It would facilitate the task of refunding the public debt and safeguard the value of Government security holdings of the millions of individuals, educational institutions, trusts, banks, insurance companies, and other investors, who have placed tens of billions of dollars in Government bonds to help finance the war.²

These early considerations for low interest rates after the war gave way to increasing concern over the downward pressure on long-term rates because of their depressing effect on earnings of those same institutions and their help in feeding inflation.³ This problem of low interest rates had to reconcile two opposing ideas; restricting the monetization of

¹Tables on money rates, Banking and Monetary Statistics.

²Annual Report, 1943, p. 19.

³Ibid., 1945, p. 7.

the debt on the one hand, while safeguarding the value of government securities and keeping the cost of the debt low.¹

To restrict the monetization of the debt a rise in the interest rate would seem to be a step in the right direction. Aside from the effect on the outstanding securities and on Treasury finance, the Board said that there was no assurance that a rise in short-term interest rates from $7/8$ of 1 per cent to $1\ 1/4$ per cent would stop the monetization of the debt and ". . . even less reason to suppose that it would be of value in combating inflationary dangers"2

These objections to raising short-term interest rates in 1945 gave way to considerations of checking the monetization of the debt and credit inflation in 1946. While acknowledging the fact that increases in short-term interest rates would not solve the problem, the Board said that " a readjustment of short-term rates and the introduction of some flexibility into rate policy would provide some check to further bank shifting and credit expansion"3 The Board said further that increases in short-term rates as an inducement for banks to retain their government securities would not prevent banks from selling those securities to make loans to customers at higher interest rates. "There is no

¹Ibid., 1945, p. 7.

²Ibid.

³Ibid., 1946, p. 6.

assurance that this could be prevented except by permitting interest rates to rise to a point that would unstabilize and perhaps demoralize the entire government securities market."¹

Effective regulation of bank credit expansion in the future can be assured only by providing for a more direct way of decreasing the ability of banks to shift at will their holdings of Government securities to the Reserve System and then to engage in excessive credit expansion.²

The Board felt, then, that the problem of credit control could not be solved by utilizing the powers it already possessed, but that additional powers were needed. There were various considerations that the Board must heed in formulating any plan for the control of bank credit, and with present powers the Board was stopped at almost every turn by considerations for Treasury finance, credit inflation, or earnings of certain institutions in the country.

Proposals for Board to Regain Control
over Credit Expansion

Treasury Refunding Policies. While not strictly applicable to increasing the powers of the Board, refunding policies of the Treasury, however, can make the task of credit control easier or more difficult. Replacing bank-held maturing securities with privately held new issues, decreases the amount of further monetization of the debt that the banks

¹Ibid.

²Ibid.

could affect. The sales of these securities, if paid for out of current income, i.e. new savings, would exert a deflationary effect on the economy. Federal debt in the hands of the banks would be reduced, as well as bank deposits.

The Board recommended that the securities issued in the refunding process be ineligible for bank purchase and carry provisions that would penalize the holder if the bonds were cashed before maturity.¹ The bonds should be of a type such as the Series E bonds, payable on demand, but at a discount if cashed before maturity.² This ". . . would assure eligible investors of an opportunity for investment of savings funds" and ". . . the investor would be guaranteed against risk of price fluctuations in case of liquidation before maturity were necessary."³

Under present conditions, if additional issues of long-term marketable securities were sold, it would be an inducement for investors to sell a part of their present holdings of government securities to purchase the new ones. This would allow the banks to further monetize a portion of the debt, by selling short-term issues to the Reserve banks to finance purchases of the bonds on the market.⁴

¹Ibid., 1945, p. 14.

²Ibid.

³Ibid.

⁴Ibid., 1946, p. 7.

Issuing securities that were non-marketable and cashable before maturity or at a penalty would be an inducement to some investors to hold them until maturity. It seems, however, that the major provision would be non-marketable character of the securities. That in itself would prevent the banks from purchasing them. Loss of income does not seem important, for they would be held unless there was a more profitable investment for the funds. The bonds would be cashed and the funds used for other investment or consumption, if the need should arise, for the amount of discount would be taken into account in deciding if other uses were to be made of the funds.

This policy, also, would have very little effect, if used by itself, without granting the Board additional power over credit. If attempts were made to get investors to hold the securities until maturity by this penalty method and prices were allowed to increase by reason of bank credit expansion, the price rises would lessen the effect of the penalty, and perhaps make it insignificant. Attempts to issue non-marketable, non-demand obligations would fit in with the general problem more, but there would be a major problem in selling that type of security. Waves of buying when goods were in short supply could not be accentuated by using funds acquired by cashing the savings bonds. The penalty provision seems to give little supplementary help to the non-marketable quality of the bonds, which would be issued under this proposal.

Treasury Balances and Excess Reserves. It has been suggested that the Treasury could alleviate the situation by carrying on certain of its operations with a direct view of influencing member bank reserves.¹

The Treasury, whose powers to control excess reserves equal if they do not exceed those of the Federal Reserve authorities, may. . . . regulate the volume of excess reserves by varying the size of the balance which it carries with the Federal Reserve banks.²

The major ways the Treasury can reduce member bank reserves are: a transfer of deposits from member banks to the Reserve banks; sales of securities on the market whereby the money received is deposited in the Reserve banks; sterilizing gold and silver purchases by selling securities on the market equal to the purchases of gold and silver;³ deposit of tax receipts in the Reserve banks; receipt of funds for trust accounts;⁴ and, considering government securities owned by the member banks as excess reserves, which seems proper,

¹Edward C. Simmons, "Treasury Deposits and Excess Reserves," Journal of Political Economy, Vol. 48, No. 3, June, 1940, pp. 325-343.

²Ibid., p. 326.

³While this does not decrease member bank reserves, it does prevent the gold and silver purchases from increasing their reserves.

⁴Since the Treasury acts as a bank for the various government trust accounts, receipt of money to be held for the account of these trust funds would decrease member bank reserves. Simmons, op. cit., p. 328.

retiring bank held securities, including the Reserve banks, by using funds obtained from the sale of securities to non-bank investors or from taxation. The reverse of these operations would increase member bank reserves.

Action by the Treasury to affect member bank reserves deliberately would necessitate a large balance in the general fund that would not be justified for normal fiscal reasons. This would increase the size of the public debt and therefore the interest charge on the debt. Simmons recognizes that Treasury borrowing in the market to enable it to control excess reserves might meet a wave of criticism from the public who would be taxed to pay for this "unnecessary" expense, but says that "certainly, the cost of borrowing funds in order to immobilize excess reserves ought not to be the deciding factor in matters of monetary Policy."¹

Since this article was written, the situation has changed considerably. Excess reserves amounted to \$5,001 million at the end of 1939; member banks held \$11,186 million of government securities; Reserve bank credit in the form of government securities amounted to only \$2,484 million; and the Reserve authorities had not taken on the task of supporting the price of government securities, although the emphasis of open-market policy was on orderly conditions in the government securities market. In 1946 the situation was more critical

¹Ibid., p. 342.

Excess reserves amounted to only \$562 million, but member banks held \$66,484 million of government securities, almost all of which were as liquid as excess reserves because of the support given by the Reserve System to the government security market. Reserve bank holdings of government securities had increased greatly, amounting to \$23,350 million, but could be increased or decreased only with regard to conditions in the government securities market. In addition to these factors, the monetary authorities were concerned over the selling of securities by private investors to the banking system—further monetizing the national debt.

In the light of these conditions attempted control over member bank excess reserves by the Treasury by varying the amount of deposits held in the Reserve banks would seem to have little promise of alleviating the situation. The government securities in the hands of the banking system would defeat any action on the part of the Treasury to control bank credit expansion. Any withdrawal of funds by the Treasury from the commercial banks would only mean a shifting of government securities to the Reserve banks.

While it may be true that this action could have been effective at the end of 1939, the problems confronting monetary authorities at the end of 1946 made it an impossibility.

Also there would be no useful purpose served if the Treasury was forced to sell securities on the market to influence bank reserves and then build up its balances in the

Reserve banks. If the securities were sold to non-bank investors, which they would have to be if the end was to be accomplished, retiring bank held debt would have the same effect as increasing balances at the Reserve banks. This has been discussed before and needs no further discussion here.

Therefore, while Treasury action of this sort would help the problem by reducing member bank holdings of government securities by causing a shift to the Reserve banks, the action alone would not be sufficient. The problems encountered would be the same as discussed under new security issues by the Treasury.

Changes in Reserve Requirements.¹ The simplest way to give the Board power to regain control over credit would be a legislative change in the Federal Reserve Act empowering the Board to raise reserve requirements sufficiently to absorb excess reserves and the greater part of member bank holdings of government securities. This would mean a shifting of member bank held government securities to the Federal Reserve banks. This change in character of excess reserves of member banks would decrease their earnings by a considerable amount, and it has been suggested that the Reserve banks be

¹Most of the following proposals are modifications of a change in reserve requirements but differ as to how the increase in reserves may be held. Since all the plans include some like features, they will be presented separately and then discussed in relation to each other.

permitted to pay interest on their deposits.¹ Reserve bank credit would be increased by an amount equal to their purchases of government securities, but would be insulated from the market as long as the high reserve requirements would be in effect.

Secondary Reserve Plan. This would entail an increase in reserve requirements as under the first plan, but would permit the reserves to be held in the form of short-term government securities, bills or certificates, or in the form of cash, as the banks so chose. This would still enable banks to hold their earning assets but would insulate them from the market.

Continued support of the government securities market could still be maintained without fear of a large monetization of the public debt by the banks. It would also ". . . result in stability of interest yields on short-term Government securities, and therefore of the cost of the public debt."²

From the standpoint of credit control and the problem of banks' shifting their holdings of securities from short- to long-term maturities, this plan would permit banks to hold

¹Woodlief Thomas and Ralph A. Young, op. cit., p. 114. Cf. also Committee for Economic Development, Jobs and Markets (New York: McGraw-Hill, 1946), p. 114.

²Annual Report, 1945, p. 8.

substantial amounts of short-term securities, while limiting their ability to sell them to the Reserve banks. Then, too, it would put short-term government securities in a preferred market position over other short-term paper and ". . . . thus permit interest rates on Government securities to be stabilized, while allowing fluctuations in other rates."¹ This would not restrict the possibility of credit expansion for the banks would still be free to sell the longer-term government securities to the Reserve banks to adjust their reserve position when they expanded credit.²

It would be expected, however, because of the increase in required reserves due to the imposition of the secondary reserve requirements, the commercial banks would have left only small amounts of long-term government securities. These long-term securities would then occupy the place that the short-term securities did during the war years. When the banks had expanded credit, and therefore deposits, these long-term issues would be sold to adjust their reserve position at the Reserve banks. The whole of these operations would mean a shifting back to shorter-term assets by the banking system, which, however, would not mean an increase in the liquidity of banks.

¹Thomas and Young, op. cit., p. 115.

²Ibid.

Issuance of Special Reserve Bonds. This proposal, which is very similar to the preceding one in several respects, would impose higher reserve requirements on banks, those reserves to be held in the form of special reserve bonds issued by the Treasury.¹ Congress would enact legislation permitting a minimum amount of these bonds to be issued, and the available volume of the bonds would be controlled by the Board of Governors.²

These bonds would be redeemable on demand by the Reserve banks, so the banks holding them would be free from any risk. Banks would be allowed to accept deposits which were not backed by the reserve bonds if a 100 per cent reserve were maintained.³ In effect these bonds would be exchanged for the marketable government securities now held by the banking system, and because of the limited marketableness of the special bonds and the higher reserve requirements, the banks' power to monetize the public debt would be greatly lessened or eliminated.⁴ To the monetary authorities this

. . . . would greatly reduce both the costs of withdrawing support and the dangers of continuing support (of the Government security market). If there were a drop in the bond market it would not imperil either bank solvency or bank liquidity.⁵

¹See Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," Journal of American Statistical Association, Vol. 35, March, 1940.

²Ibid., p. 33.

³Ibid., p. 33.

⁴cf. Jobs and Markets, p. 92.

⁵Ibid.

The effects of this are quite similar to the Secondary Reserve plan in that government securities now held by the banks would, in the main, be insulated from the market; monetization of the debt would be restricted; and the multiple expansion of bank credit would be curtailed by a higher reserve ratio. The cost of debt service to the Treasury would remain low, as the interest rate on these special bonds could be held low enough to give banks sufficient earnings so that they could continue to provide the free services that they now offer. From the standpoint of the Treasury these bonds would be a quasi-permanent part of the debt, remaining so as long as the legislation was in effect.¹

Discussion of the Proposals. All proposals have the common feature of requiring an increase in reserve requirements, but making this applicable to members of the Federal Reserve system would penalize member banks, make membership in the system less attractive, and exclude an important sector of deposits and holdings of government securities.² This would be difficult from the standpoint of legislative enactment for non-member banks would bring pressure against the bill.

¹Lawrence H. Seltzer, op. cit., p. 33.

²Cf. Jobs and Markets, p. 93; Seltzer, op. cit., p. 29; and Thomas and Young, op. cit., p. 113.

While member banks of the System hold 85 per cent of all the deposits,¹ exempting less than 1/7 of the deposits of the country from the increase in reserve requirements might defeat the purpose of the increase. Control over excess reserves and bank holdings of government securities is a means of controlling inflationary pressures in the economy. Control over the major part of possible bank credit expansion may not be enough, coupled with the large liquid holdings of the public in the form of savings bonds as well as deposits.

Any plan to increase reserve requirements and therefore restrict the use of bank credit to feed inflation may be defeated by that fact. To leave the door open for an increase in bank credit means adding an additional threat to a runaway inflation.

These three plans, while reducing the ratio of multiple credit expansion of Reserve bank deposits, treat the banking system as a unity. The increase in reserve requirements fall ". . . . with uneven severity upon individual banks."² Some banks would be able to meet the increase in reserve requirements with little difficulty because of their large holdings of government securities, while other banks would

¹Annual Report, 1946, p. 50.

²Howard S. Ellis, "Central and Commercial Banking in Postwar Finance," in Economic Reconstruction, ed. by Seymour E. Harris, McGraw-Hill, N. Y., 1946, p. 224.

have to borrow heavily from the Reserve banks. Subsequently, these banks would have to restrict their credit to repay their borrowings at the Reserve banks. Since it is unlikely that the banks that had to borrow could attract deposits from other banks and thus ease the adjustment of their reserve positions, it is possible that they would have to contract credit by a larger amount than their borrowings at the Reserve banks.

If, however, the customer borrower repays the indebted bank, financed by credit from a different bank, the burden would be shifted to another bank and the increased reserve requirements necessary to back the new loan would be met by the sale of government securities or from excess reserves. It should be noted that the bank making the loan would not do so if it must borrow from the Reserve banks.¹ Assuming that the reserve requirements were increased to 50 per cent and that the customer borrowers from the bank were not able to acquire new credits from different banks, the bank borrowing from the Reserve bank would have to contract credit equal to

¹This assumes that the tradition against borrowing from the central bank to extend new credits will be upheld. If a tendency towards this was started, a new problem of increasing the discount rate would exist. To what extent the Reserve authorities would feel free to increase the discount rate and disturb the existing rate pattern, and therefore the cost of debt service to the Treasury, would be pure conjecture. In all probability all existing credit policies would be changed.

twice the amount it borrowed to repay its borrowings at the Reserve bank. This, then, would penalize the bank in two ways: (1) it would have to pay an interest charge for the money borrowed from the Reserve banks or a charge for the reserve deficiency; and (2) it would have to contract credit double the amount of its borrowing or reserve deficiency with the result that there would be a greater loss of earning assets.

Waiving the penalty for reserve deficiency, as suggested by the Research Staff of the C. E. D.,¹ during the period of adjustment of reserve positions, would only partially compensate for the unequalness among banks of a straight increase in reserve requirements. The loss of income from other earning assets would still result in inequality.²

The Secondary Reserve plan, as opposed to the Security Reserve plan, would permit banks that did not have sufficient amounts of short-term government securities to hold their reserves in the form of balances with the Reserve banks. This has definite advantages over the issuance of the special reserve bonds in sufficient quantity for reserve purposes. To issue the special bonds in excess of the short-term securities now held by the banks would mean an increase in the public

¹Jobs and Markets, p. 95.

²Proposals which circumvent this objection will be discussed later.

debt with an increase in the service cost, an expansion of bank credit, and an increase in bank reserves. If the money acquired from the sale of the special bonds over the amount necessary to cancel the securities the banks would exchange for the new bonds was used for the retirement of privately held debt, the first objection would disappear, but the other two would remain.

For every dollar of private debt that was retired bank deposits or money in circulation would increase proportionately. A new possible pressure on prices would exist. In addition, if the money for debt retirement was deposited in the banks by private persons, reserves of the banking system would be increased and the increase in reserve requirements made less effective by that amount. To give banks the alternative of keeping 100 per cent reserves in place of the reserve bonds for new deposits would almost assure that the reserve bonds would be in large demand, and that government securities in the hands of the banking system would ultimately be increased instead of decreased.¹

To circumvent this, the amounts of the special bonds which the banks could hold could be controlled by the Reserve Board, as provided by Seltzer. By doing so the Board could

¹Cf. Thomas and Young, op. cit., p. 115. This analysis follows along the lines suggested in their article.

effectively control the expansion of credit by not offering more bonds to the banks, forcing them to maintain 100 per cent reserves behind further increases in deposits. Varying the terms on which the banks could buy the bonds would not seem to be very effective, as the banks would attempt to invest any excess reserves in the interest-bearing bonds, even if the bonds bore no interest yield as long as the reserve requirements in bonds were less than 100 per cent.

A flexible control over bank earnings from government securities could be initiated by this plan. By varying the terms of sale, whenever an easing of bank credit was deemed advisable, yields on those securities could be increased or decreased with the resultant change in bank earnings. Whereas the primary consideration would be the control of bank credit, the cost of debt service and bank earnings could be made secondary considerations.

These plans, then, could effectively stop bank credit expansion and the monetization of the debt if the increased requirements were high enough. It would not be necessary to absorb all the government securities, as the need for bank credit to finance business would still be present. The tightening of the money market to such a degree might produce the opposite effect desired; instead of preventing further inflation, interest rates could be forced upward and a general contraction of credit begun.

Ceiling Reserve Plan. In contrast to the three previous plans this contemplates an additional reserve for increases in bank deposits. Under this there would be no change in reserves against existing deposits except as some banks gained deposits at the expense of others,¹ while new deposits, resulting from loans, would bear high reserve requirements.

To compensate for the effects of such movements, as well as to support the profit motive in bank competition for deposits, it might be desirable to set the reserve requirements for additional deposits at a figure well below 100 per cent.²

This, then, would force banks to be more selective in their loans, and would leave the decision to the banks, through accepting additional deposits, to increase their reserve requirements. This, too, would overcome the objection that an increase in reserve requirements, in any one of the three methods presented above, falls with uneven severity upon individual banks.³ Banks would retain all their earning assets unless they decided to make sales to the Reserve banks in order to expand their loans and deposits.

The effects of this plan, like the others, would effectively restrict the expansion of bank credit if the requirements were high enough; and, to be completely effective,

¹Seltzer, op. cit., p. 30.

²Ibid.

³Goldenweiser, Federal Reserve Objectives and Policies: Retrospect and Prospect, p. 337. Cf. also Howard S. Ellis, op. cit., p. 22.

should be applicable to all insured banks.¹ A reduction of the ratio of multiple credit expansion of a dollar deposited in the Reserve banks would be accomplished.

In the administration of this plan a wide measure of discretion would be necessary in the case of new banks.² This could be worked out on the basis of the present classification of banks for reserve purposes as well as on the basis of bank capital. As an example, after deposits of the new bank exceeded five times its paid-up capital, the other reserve requirements would be put into effect.

While under this policy the Reserve system would still have to support government security prices, the problem of bank purchases and bank monetization of the debt would be restricted. Debt management policies could be carried out with a lesser offsetting influence by the banks than at present.³ Imposing a graduated increase in reserve requirements for dollar increases or percentage increases in deposits would give the Reserve authorities a greater control over future credit expansion. Legislative rigidity in the impositions of the graduated reserve requirements, however, could defeat the purpose of the legislation over a period of time. This would apply also in the case of a single reserve requirement

¹Seltzer, op. cit., p.

²Ibid.

³This would be true under the other plans also.

for increases in deposits. Increases in production would necessitate a revision of the reserve requirement unless a tightening of the money market and a sharp downward pressure on prices were to be avoided. The need for administrative flexibility is therefore apparent.

Capital-Deposit Ratio. The capital-deposit ratio, traditionally thought of as protecting depositors from loss, used as a control device by the Board of Governors, would restrict banks from extending credit, and therefore accepting deposits, while the ratio of capital to deposits was below certain standards. Banks operating at the minimum required by law could be permitted to except deposits on a 100 per cent reserve basis.¹ By requiring banks to increase their capital accounts when their deposit liabilities increased beyond the minimum ratio required, credit expansion would be effectively stopped until banks could raise new capital, and, once the new capital was raised, the depositors would be further protected from a possible downward revaluation of the bank's assets.

Unquestionably, at a given time, an increase in the ratio of capital to deposits would restrict the lending activity of those banks operating close to the old ratio. But since the increase would only come in times of prosperity, when inflationary pressures were large, banks may be able to raise

¹Seltzer, op. cit., p. 31.

additional capital easily because of their large earnings.¹ This would be a weakness in the plan, as that period, a period of inflationary pressures, would be the critical one in controlling further expansion of credit. If banks were able to secure additional capital, the use of this as a regulatory measure seems very limited.

A second major criticism of the plan is that

Other instruments of control not only are more flexible but have the advantage of not giving rise to unrelated and possibly damaging secondary effects. In some periods the interests of credit control might require the application of capital standards far in excess of those demanded by prudence, while in others they might neglect minimums of safety for the sake of other interests.²

These criticisms, coupled with the questionable use of a capital-deposit ratio in bank supervision,³ limit quite seriously the usefulness of this means of controlling a credit expansion.

Conclusion. Of the various plans presented here none are without faults. From the standpoint of quantitative credit control all could effectively restrict a multiple bank

¹Germany, after the first World War, and China, today, would be exceptions to that, as well as other countries that suffered a runaway inflation as a result of war and postwar finance.

²Roland I. Robinson, "The Capital-Deposit Ratio in Banking Supervision," Journal of Political Economy, University of Chicago Press, Chicago, Vol. 49, No. 1, February, 1941, p. 56fn.

³Ibid., pp. 49-53.

credit expansion on the basis of deposits in the Reserve banks if the requirements were sufficiently high. Since that is the case, the secondary effects of these proposals are prime considerations in selecting a method, or methods. Also, from the monetary standpoint, but outside the field of bank credit control, other factors can offset any attempt to control inflation by restricting bank credit. Fiscal policy and debt management policies are as important. The large liquidity of individuals in the country presents a problem that is outside the fields of banking and fiscal action. Large-scale hoarding or dishoarding could create problems that would require drastic legislative action, which might well disrupt our economy.

While there are factors outside the banking system that could feed an inflation, the banking system is capable of taking the same action. As has been shown above, the powers of the Reserve System to cope with credit expansion are practically nil. Discount rate increases and open-market operations are dominated by Treasury finance, and are no longer credit control measures. As of the end of 1946, the power to raise reserve requirements could only be exercised with reference to banks in central reserve cities and only to the extent of of a 6 per cent increase. Reserve requirements were at their legal maximum at reserve city and country banks.

Though none of the plans presented are panaceas for the inflationary conditions that exist today, they do attack one

phase of the problem. With employment at high levels and the liquidity of the public larger than ever before, shortages of goods will show themselves in high prices. Increases in money income and dissaving either sustain past increases or increase the prices of goods further. While monetary authorities, if granted additional powers as set forth here, can restrict the amount of credit going into consumer loans and loans for productive purposes and attempt to prevent excessive speculation on the stock exchanges, they cannot deal with the other matters. To blame the present conditions on the banks and expect them to effect a cure-all by giving monetary authorities additional powers is fooling ourselves. The heritage of war finance is here. Credit policies will play one of the major roles in the future of combating both inflation and deflation, but it will not, and cannot, play the whole part.

APPENDIX

Table XVII: Federal Reserve Bank Credit, Monthly, 1941-1947.

(Millions of Dollars)

Total U. S. Government Securities^a

	1941 ^b	1942 ^b	1943 ^b	1944 ^c	1945 ^c	1946 ^c
January	2,184	2,243	5,969	12,026	19,006	23,297
February	2,184	2,262	5,871	11,816	19,439	22,972
March	2,184	2,244	5,919	12,297	19,516	22,974
April	2,184	2,357	6,455	12,998	20,444	22,304
May	2,184	2,489	6,222	14,251	21,023	22,983
June	2,184	2,645	7,202	15,081	21,693	23,385
July	2,184	3,153	8,187	14,802	21,570	23,633
August	2,184	3,426	9,088	15,852	22,358	23,606
September	2,184	3,567	8,919	16,501	23,186	23,866
October	2,184	4,667	9,354	17,261	23,089	23,608
November	2,184	5,399	10,348	18,411	23,646	23,682
December	2,254	6,189	11,543	19,064	24,037	23,350

Treasury Bills and Certificates^{b, d}

January	....	1,690	9,711	16,272	20,945
February	....	2,275	9,237	16,748	20,652
March	....	2,936	9,685	17,326	20,634
April	89	3,320	10,392	18,331	19,874
May	183	3,463	11,613	18,891	20,341
June	254	4,907	12,434	18,896	20,882
July	743	5,752	12,309	18,871	22,282
August	1,011	6,572	13,502	19,516	22,256
September	1,161	6,947	14,190	20,306	22,515
October	1,137	7,056	14,922	20,192	22,162
November	1,117	8,101	16,054	20,627	22,093
December	1,856	9,313	16,253	20,970	22,241

^aYears 1941-1944, Annual Reports; years 1944-1948, Federal Reserve Bulletin.

^bEnd of month figures.

^cFigures for last Wednesday in each month.

^dFederal Reserve Bulletin.

^eIncludes industrial loans, acceptances purchases, discounts, and advances.

Table XVII (Continued)

	Other Reserve Bank Credit ^{a, e}					
	1941 ^b	1942 ^b	1943 ^b	1944 ^c	1945 ^c	1946 ^c
January	66	127	370	358	546	601
February	81	149	426	421	719	705
March	59	111	273	452	559	988
April	50	112	391	487	866	598
May	96	145	425	508	1,235	574
June	83	129	374	343	518	600
July	109	192	499	321	560	532
August	91	138	378	315	705	495
September	80	207	465	441	707	719
October	125	293	469	638	701	494
November	128	315	415	930	1,118	734
December	107	490	696	757	1,135	744

Table XVIII: Demand and Time Deposits of Member Banks in 101 Leading Centers, Monthly, 1941-1947.^a

(Millions of Dollars)

Demand Deposits^b

	1941	1942	1943	1944	1945	1946
January	22,757	24,307	29,215	34,429	35,506	37,648
February	23,092	24,714	30,412	31,747	36,493	37,665
March	23,324	24,882	31,956	32,814	37,429	37,386
April	23,515	24,856	31,591	33,853	38,231	37,412
May	24,010	25,250	30,354	35,424	39,886	38,502
June	23,969	25,878	32,199	35,886	38,854	39,592
July	24,211	25,992	33,108	32,873	36,619	39,282
August	24,343	26,638	34,250	34,111	37,553	39,155
September	24,404	27,637	33,418	35,580	38,748	39,578
October	24,391	28,268	31,062	36,331	39,331	39,425
November	24,168	29,261	32,416	38,368	39,751	39,751
December	24,142	28,749	34,111	35,459	37,591	40,370

Time Deposits^c

January	5,244	5,098	5,218	6,138	7,643	9,372
February	5,262	5,010	5,284	6,184	7,812	9,482
March	5,282	4,976	5,344	6,266	7,982	9,567
April	5,275	4,942	5,382	6,370	8,109	9,632
May	5,246	4,921	5,419	6,519	8,265	9,769
June	5,233	4,924	5,504	6,636	8,380	9,910
July	5,254	4,962	5,611	6,705	8,506	9,985
August	5,274	5,000	5,742	6,882	8,751	10,066
September	5,271	5,031	5,781	7,065	8,968	10,093
October	5,280	5,074	5,796	7,344	9,087	10,154
November	5,290	5,117	5,889	7,464	9,186	10,175
December	5,188	5,109	5,981	7,473	9,200	10,191

^aFederal Reserve Bulletin.

^bIncludes demand deposits other than interbank and government, less cash items reported as in process of collection.

^cIncludes time deposits for individuals, partnerships, and corporations only. Excludes Postal Savings, interbank deposits, and deposits of states and political subdivisions and U. S. government.

Table XIX: Member Bank Reserves, Monthly, 1941-1947.^a

(Millions of Dollars)

	Total Reserves					
	1941 ^b	1942 ^b	1943 ^b	1944 ^c	1945 ^c	1946 ^c
January	13,930	12,927	13,630	13,002	13,884	15,681
February	14,203	12,619	12,067	12,109	14,228	15,555
March	13,371	12,575	12,759	12,053	14,305	15,395
April	13,524	12,658	12,204	12,537	14,708	14,457
May	13,724	12,405	12,031	13,045	15,371	15,689
June	13,051	12,305	12,085	13,081	14,760	15,910
July	13,151	12,492	12,590	12,793	14,699	15,991
August	12,794	12,338	12,855	13,132	15,070	15,867
September	13,227	11,592	11,864	13,355	15,274	15,975
October	12,580	12,735	12,068	13,940	15,751	16,111
November	13,140	13,208	12,401	14,719	16,261	16,131
December	12,450	13,117	12,886	13,969	15,658	16,139

	Excess Reserves ^d					
	1941 ^b	1942 ^b	1943 ^b	1944 ^c	1945 ^c	1946 ^c
January	6,380	3,347	2,387	1,023	869	1,061
February	6,534	2,969	1,925	1,077	965	1,039
March	5,776	3,073	1,518	630	852	995
April	5,771	2,791	2,315	640	835	836
May	5,801	2,486	1,728	711	1,113	830
June	5,210	2,362	1,212	1,239	1,362	867
July	5,215	2,130	1,268	1,280	994	856
August	4,796	2,143	1,123	928	986	714
September	5,169	1,690	1,684	865	893	724
October	4,557	2,644	1,102	783	904	737
November	3,828	2,909	985	1,062	1,293	643
December	3,085	1,988	1,236	1,260	1,213	562

^aYears 1941-1944, Annual Reports; years 1944-1947, Federal Reserve Bulletin.

^bEnd of month figures.

^cFigures for last Wednesday in each month.

^dEstimated.

Table XX: Commercial Bank Ownership of Government Securities,
Monthly, 1941-1947.^a

	(Millions of Current Dollars)					
	Jan. ^b	Feb. ^b	March	April	May	June
1941						
Treasury						
Notes			2,876	2,879		2,931
Certificates						
Treasury						
Bills			566	847		1,112
Guaranteed						
Obligations			3,661	4,172		4,107
Treasury						
Bonds ^c			<u>10,494</u>	<u>10,642</u>		<u>10,864</u>
Total			17,597	18,540		19,014
1942						
Treasury						
Notes	2,994	2,972	2,941	2,936	2,902	3,725
Certificates				817	869	1,971
Treasury						
Bills	1,428	1,292	710	1,191	1,350	1,557
Guaranteed						
Obligations	3,732	3,733	3,689	3,694	3,698	2,847
Treasury						
Bonds ^c	<u>12,863</u>	<u>13,695</u>	<u>13,782</u>	<u>13,845</u>	<u>14,737</u>	<u>14,841</u>
Total	21,017	21,693	21,127	22,483	23,556	24,941

July	Aug.	Sept.	Oct.	Nov.	Dec.
2,941	2,926	2,915	2,854	3,252	3,246
1,102	1,098	788	780	1,030	1,037
4,519	4,565	4,582	4,597	4,094	4,119
<u>10,936</u>	<u>10,943</u>	<u>10,889</u>	<u>11,513</u>	<u>11,534</u>	<u>12,186</u>
19,498	19532	19,172	19,745	19,911	20,588
3,683	3,602	4,506	5,289	5,828	5,670
1,921	3,008	3,978	3,782	4,389	6,470
2,837	2,903	2,884	3,468	4,216	4,897
2,263	2,648	2,893	2,637	2,660	2,665
<u>16,146</u>	<u>16,387</u>	<u>16,445</u>	<u>17,367</u>	<u>17,388</u>	<u>19,457</u>
26,850	28,548	30,706	33,083	34,481	38,759

1943	Jan.	Feb.	March	April	May	June
Treasury Notes	5,697	5,699	5,850	5,825	5,813	5,500
Certificates	6,594	6,837	6,845	9,196	9,759	9,823
Treasury Bills	5,568	5,302	5,069	6,415	7,017	6,502
Guaranteed Obligations	2,650	2,664	2,712	2,753	2,552	2,602
Treasury Bonds ^c	<u>19,772</u>	<u>20,187</u>	<u>20,829</u>	<u>21,533</u>	<u>24,018</u>	<u>24,238</u>
Total	40,281	40,649	41,317	45,722	49,159	48,665

1944

Treasury Notes	1,367	9,040	11,390	11,473	11,485	11,697
Certificates	13,335	13,030	12,918	12,953	12,924	15,013
Treasury Bills	4,904	5,484	4,606	4,137	3,627	4,894
Guaranteed Obligations	2,528	2,458	1,032	998	943	948
Treasury Bonds ^c	<u>28,850</u>	<u>29,803</u>	<u>29,139</u>	<u>29,281</u>	<u>29,382</u>	<u>30,681</u>
Total	56,984	59,815	59,084	48,842	59,361	63,233

1945

Treasury Notes	15,450	15,517	12,613	12,567	12,545	16,037
Certificates	15,124	15,235	17,803	17,521	17,172	16,758
Treasury Bills	3,931	3,386	2,719	2,564	2,241	2,798
Guaranteed Obligations	920	585	580	559	574	10
Treasury Bonds	<u>37,146</u>	<u>37,464</u>	<u>37,794</u>	<u>38,222</u>	<u>39,003</u>	<u>41,492</u>
Total	72,571	72,187	71,509	71,433	71,535	77,095

July	Aug.	Sept.	Oct.	Nov.	Dec.
7,506	7,534	7,603	7,569	7,547	7,382
9,890	11,000	11,936	13,357	13,159	12,684
5,939	5,233	6,448	6,227	5,643	4,716
2,392	2,481	2,556	2,521	2,486	2,465
<u>24,736</u>	<u>25,182</u>	<u>25,916</u>	<u>27,795</u>	<u>27,927</u>	<u>28,113</u>
50,463	51,430	54,459	57,469	56,762	55,360
12,070	12,193	12,155	12,175	12,359	15,375
15,943	15,987	15,683	15,447	15,862	15,011
5,477	4,554	3,613	3,091	2,935	4,113
942	915	920	942	944	959
<u>32,034</u>	<u>32,387</u>	<u>32,602</u>	<u>32,938</u>	<u>33,981</u>	<u>36,251</u>
66,466	66,036	64,973	64,953	66,081	71,709
16,173	16,018	15,790	15,795	15,640	15,664
16,778	16,379	16,175	16,195	16,333	18,065
2,737	2,193	2,034	1,977	2,305	2,476
10	11	12	12	13	11
<u>42,507</u>	<u>42,851</u>	<u>42,513</u>	<u>43,148</u>	<u>44,239</u>	<u>46,173</u>
78,205	77,452	76,624	77,127	78,530	82,389

1946	Jan.	Feb.	March	April	May	June
Treasury						
Notes	13,616	13,589	10,932	12,036	11,793	11,360
Certificates	27,353	21,687	18,464	19,566	18,126	16,651
Treasury						
Bills	2,387	2,395	1,205	1,874	1,715	1,141
Guaranteed						
Obligations	12	12	13	10	13	13
Treasury						
Bonds	<u>46,873</u>	<u>47,043</u>	<u>48,170</u>	<u>47,520</u>	<u>47,766</u>	<u>46,938</u>
Total	84,241	84,726	78,784	81,006	79,413	76,103

^aU. S. Treasury Bulletins.

^bData not compiled before March 31, 1941.

^cIncluded with Treasury bonds are Panama Canal bonds, Postal Savings bonds, and some Conversion bonds which total about \$12 million a month.

July	Aug.	Sept.	Oct.	Nov.	Dec.
8,904	8,810	7,621	8,436	8,323	6,090
17,588	16,316	12,574	13,318	11,807	11,196
1,224	924	827	1,125	847	1,187
12	12	11	11	12	12
<u>47,255</u>	<u>47,449</u>	<u>42,822</u>	<u>47,974</u>	<u>48,058</u>	<u>47,999</u>
74,983	73,511	63,855	70,864	69,047	66,484

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Typed by Irene Long