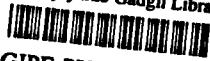


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**THE  
FEDERAL RESERVE SYSTEM**

**THE  
FEDERAL RESERVE SYSTEM**

**Its Purposes and Functions**



**UNITED STATES OF AMERICA  
WASHINGTON, 1939**

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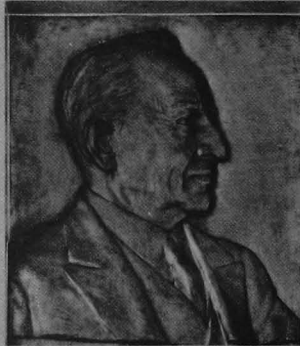
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CARTER GLASS  
DEFENDER  
OF THE FEDERAL RESERVE SYSTEM



IN THE FEDERAL RESERVE ACT WE INSTITUTED  
A GREAT AND VITAL BANKING SYSTEM  
NOT MERELY TO CORRECT AND CURE  
PERIODICAL FINANCIAL DEBAUCHES  
NOT SIMPLY INDEED TO AID  
THE BANKING COMMUNITY ALONE BUT TO GIVE  
VISION AND SCOPE AND SECURITY TO COMMERCE  
AND AMPLIFY THE OPPORTUNITIES  
AS WELL AS TO INCREASE  
THE CAPABILITIES OF OUR INDUSTRIAL LIFE  
AT HOME AND AMONG FOREIGN NATIONS

AN ADVENTURE IN CONSTRUCTIVE FINANCE  
CARTER GLASS

**BRONZE BAS-RELIEF AND INSCRIPTION, LEFT WALL, ENTRANCE TO THE  
FEDERAL RESERVE BUILDING, WASHINGTON, D. C.**

WOODROW WILSON  
FOUNDER  
OF THE FEDERAL RESERVE SYSTEM



WE SHALL DEAL WITH OUR ECONOMIC SYSTEM  
AS IT IS AND AS IT MAY BE MODIFIED  
NOT AS IT MIGHT BE  
IF WE HAD A CLEAN SHEET OF PAPER  
TO WRITE UPON  
AND STEP BY STEP WE SHALL MAKE IT  
WHAT IT SHOULD BE

FIRST INAUGURAL ADDRESS  
WOODROW WILSON

**BRONZE BAS-RELIEF AND INSCRIPTION, RIGHT WALL, ENTRANCE TO THE  
FEDERAL RESERVE BUILDING, WASHINGTON, D. C.**

## FOREWORD

This book is intended primarily for students, bankers, business men, and others who desire an authoritative statement of the purposes and functions of the Federal Reserve System. It is neither a primer, nor is it an exhaustive treatise. The aim has been to have it cover the middle ground between those extremes and to make it clear and readable without neglect of essentials.

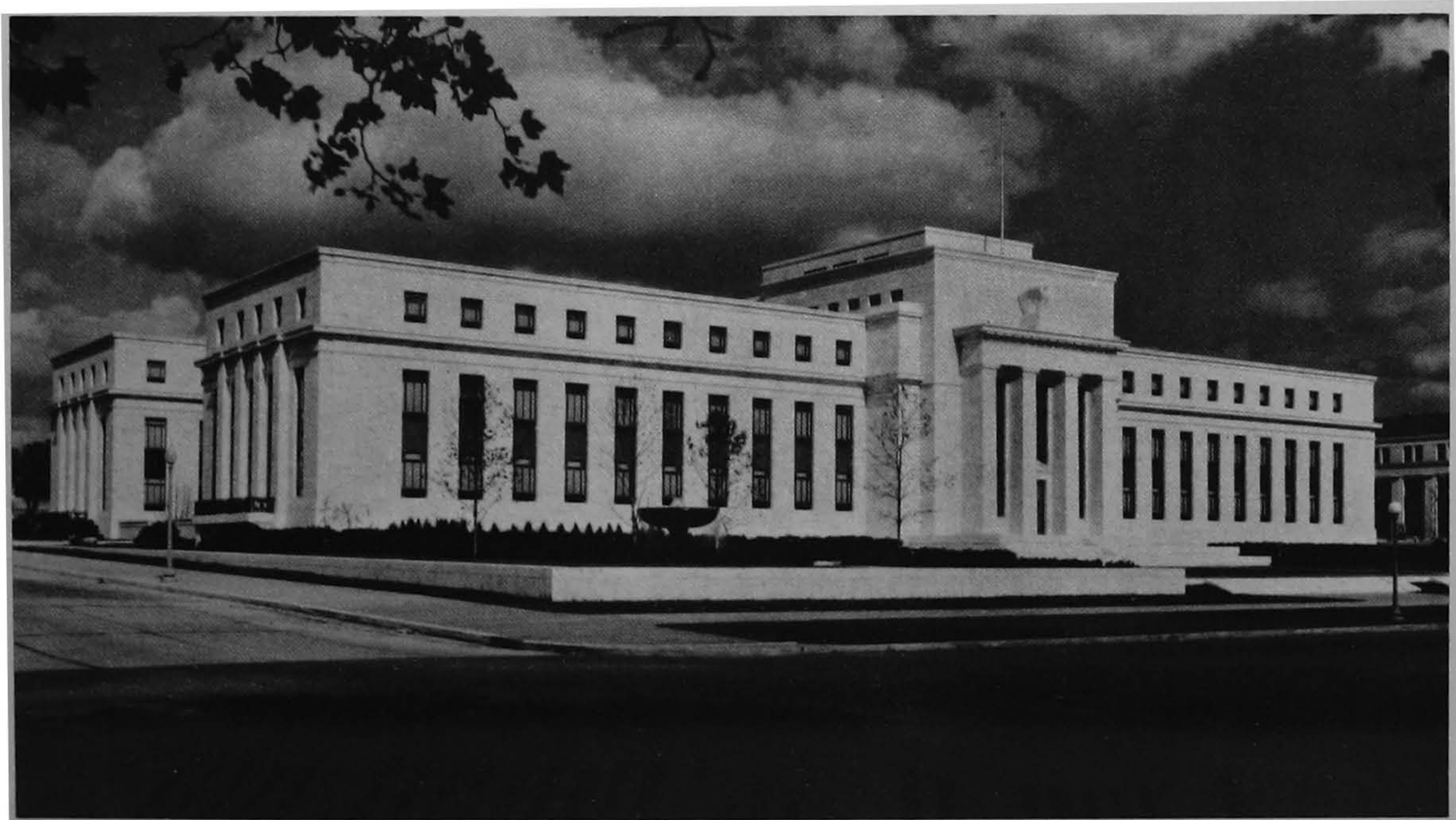
The Federal Reserve System is twenty-five years old this year. Its operations have become a factor of great importance in American economic life. While they chiefly concern banks and the Government, their effects extend into all forms of economic activity and are felt indirectly by everyone.

It is desirable, therefore, that the Federal Reserve System be as fully understood as possible by the public in whose interest it was established and in whose interest it is administered.

The text of the book has been prepared by Bray Hammond and the staff of the Board of Governors of the Federal Reserve System.

THE BOARD OF GOVERNORS OF THE  
FEDERAL RESERVE SYSTEM.

Washington, D. C.  
May 1, 1939.



**FEDERAL RESERVE BUILDING, CONSTITUTION AVENUE AT 20TH STREET, WASHINGTON, D. C.**

## CHAPTER I

### A GENERAL OUTLINE OF THE FEDERAL RESERVE SYSTEM

*The Federal Reserve System comprises the Board of Governors, the twelve Federal Reserve Banks, the Federal Open Market Committee, the Federal Advisory Council, and the Member Banks; the System's functions lie in the field of money, credit, and banking.*

**T**HE Federal Reserve System was organized in 1914. As now constituted, the System comprises the following:

1. The BOARD OF GOVERNORS.
2. The twelve FEDERAL RESERVE BANKS.
3. THE FEDERAL OPEN MARKET COMMITTEE.
4. The FEDERAL ADVISORY COUNCIL.
5. The MEMBER BANKS.

Responsibility for Federal Reserve policy and decisions rests on the first three of the above. In some matters the law puts primary responsibility on the Board, in some on the Reserve Banks, and in some on the Committee, though in practice there is close coordination of action. Accordingly, for the sake of simplicity, the term "Federal Reserve authorities" is frequently used when it is unnecessary to indicate which of the three is responsible for action or to what extent the responsibility is shared.

1. The BOARD OF GOVERNORS is composed of seven members. Their appointments are made by the President of the United States and confirmed by the Senate. Members are appointed for terms of fourteen years, so arranged that one term expires every two years. The





**PAINTING, EAST WALL OF THE BOARD ROOM, FEDERAL RESERVE BUILDING, WASHINGTON, D. C.**

Board's responsibilities lie in the field of money and banking. Their objective in a broad sense is to maintain sound banking conditions and an adequate supply of credit at reasonable cost for use in commerce, industry, and agriculture. The Board supervises the operations of the twelve Federal Reserve Banks. Its offices are in Washington, D. C.

2. Each FEDERAL RESERVE BANK serves a district comprising several States or parts of States. The Federal Reserve districts, and the location of the Federal Reserve Banks and their branches are shown on the preceding map. They are as follows:

Federal Reserve Bank of Boston	District Number 1
Federal Reserve Bank of New York Branch at Buffalo, New York	District Number 2
Federal Reserve Bank of Philadelphia	District Number 3
Federal Reserve Bank of Cleveland Branches: Cincinnati, Ohio Pittsburgh, Pennsylvania	District Number 4
Federal Reserve Bank of Richmond Branches: Baltimore, Maryland Charlotte, North Carolina	District Number 5
Federal Reserve Bank of Atlanta Branches: Birmingham, Alabama Jacksonville, Florida Nashville, Tennessee New Orleans, Louisiana Agency at Savannah, Georgia	District Number 6
Federal Reserve Bank of Chicago Branch at Detroit, Michigan	District Number 7
Federal Reserve Bank of St. Louis Branches: Little Rock, Arkansas Louisville, Kentucky Memphis, Tennessee	District Number 8

Federal Reserve Bank of Minneapolis Branch at Helena, Montana	District Number 9
Federal Reserve Bank of Kansas City Branches: Denver, Colorado Oklahoma City, Oklahoma Omaha, Nebraska	District Number 10
Federal Reserve Bank of Dallas Branches: El Paso, Texas Houston, Texas San Antonio, Texas	District Number 11
Federal Reserve Bank of San Francisco Branches: Los Angeles, California Portland, Oregon Salt Lake City, Utah Seattle, Washington	District Number 12

Each of the twelve Federal Reserve Banks is a corporation organized and operated in the public service. The Federal Reserve Banks differ essentially from privately managed banks in that they are not operated for profit, and their stockholders, which are the member banks, do not have the powers and privileges that customarily belong to stockholders of privately managed corporations.

Each Federal Reserve Bank has nine directors, three of whom are known as Class A directors, three as Class B directors, and three as Class C directors. These nine directors are not chosen the way the directors of business corporations are usually chosen. Class A and Class B directors are elected by member banks, one director of each class being elected by small banks, one of each class by banks of medium size, and one of each class by large banks. The three Class A directors may be bankers. The three Class B directors must be actively engaged in the district in commerce, agriculture, or some other industrial pursuit, and must not be



officers, directors, or employees of any bank. The three Class C directors are designated by the Board of Governors of the Federal Reserve System. They must not be officers, directors, employees, or stockholders of any bank. One of them is designated by the Board of Governors as chairman of the Reserve Bank's board of directors.

Under this arrangement, business men other than bankers constitute a majority of the directors of each Reserve Bank. The directors are responsible for the conduct of the affairs of the Reserve Bank, subject to the supervision of the Board of Governors. They choose the Reserve Bank officers, but the law requires that their choice of president and first vice-president be approved by the Board of Governors. The salaries of all officers and employees are also subject to the approval of the Board of Governors. Each branch of a Federal Reserve Bank has its own board of directors, a majority of whom are selected by the Reserve Bank and the remainder by the Board of Governors. These conditions with which the law circumscribes the selection of Reserve Bank directors and the management of the Reserve Banks, indicate the public nature of the Reserve Banks.

Decentralization is an important characteristic of the Federal Reserve System. Each Reserve Bank and each branch office is a regional and local institution as well as part of a nation-wide system. Its officers and employees are residents of the district, and its transactions are with regional and local banks. It gives effective representation to the views and interests of the particular region to which it belongs and at the same time helps to administer nation-wide policies.

The Federal Reserve Banks derive an income from

their operations which has been sufficient to cover expenses, to pay dividends limited to 6 per cent per annum, cumulative, to pay a substantial amount to the United States Treasury, and to make additions to surplus. This surplus, if the Federal Reserve Banks were to be liquidated, would belong to the United States Government.

3. The FEDERAL OPEN MARKET COMMITTEE comprises the seven members of the Board of Governors and five representatives of the Federal Reserve Banks. The Committee directs the open market operations of the Federal Reserve Banks, that is, the purchases and sales of United States Government securities and other obligations in the open market. The purpose of these operations is to maintain a basis for bank credit ample to meet the business needs of the country.

4. The FEDERAL ADVISORY COUNCIL consists of twelve members, one selected annually by each Federal Reserve Bank through its board of directors. The Council meets in Washington at least four times a year. It confers with the Board of Governors on general business conditions and makes recommendations regarding the affairs of the Federal Reserve System. Its recommendations are purely advisory.

5. MEMBER BANKS include all national banks in the continental United States, and such State banks and trust companies as apply for membership, meet the requirements, and are admitted. On December 31, 1938, the membership comprised 5,224 National banks and 1,114 State banks. There were over 8,000 other State banks and trust companies (exclusive of mutual savings banks) that did not belong to the System; these were mostly small banks, their aggregate deposits

being about 17 per cent of the total deposits of all commercial banks.

Each member bank, as required by law, holds stock in the Federal Reserve Bank of its district. This stock, equal to 3 per cent of its own capital and surplus, is acquired directly from the Federal Reserve Bank; it can not be sold, transferred, or hypothecated, and can be disposed of only by being surrendered to the Federal Reserve Bank.

Each member bank is also required to maintain its legal reserves on deposit with the Federal Reserve Bank of its district. These legal reserves are proportionate to the member bank's own deposits, the proportion varying according to the location of the member bank and the character of its deposits. Higher reserves are required against demand deposits than against time deposits, and banks in large cities, generally speaking, are subject to higher reserve requirements than banks in smaller cities and rural regions. No interest is paid on these reserves.

Member banks may and do maintain reserves in excess of requirements. On December 31, 1938, their reserve balances amounted in the aggregate to about nine billion dollars, of which about three billion were excess reserves.

### *The Monetary and Credit Functions of the Federal Reserve System*

The monetary and credit functions of the Federal Reserve System mean much more than merely the issuance of paper currency and coin. Currency is actually used for only a small part of the country's total volume of payments, the greater part being effected

by the use of bank checks. Whenever business is so active that additional means of payment are required, the additional amounts may, to some extent, be called for in the form of currency, in which event the Federal Reserve Banks have facilities for furnishing promptly all that is required. Or the addition may be wanted in the form of bank deposits transferable by check, in which event member banks lend the required amounts. In case the member banks have any difficulty in making the loans that are asked for, because their own funds are inadequate, it is possible for them to borrow additional funds from their Federal Reserve Bank and possible for the Federal Reserve authorities on their own initiative to supply additional funds through open market purchases of securities.

Before the establishment of the Federal Reserve System, banks maintained the reserves required to be held against their deposits partly in the form of cash in their own vaults and partly in the form of deposits in other banks. In general, banks in smaller cities and rural regions maintained the bulk of their reserve balances with banks in larger cities. A very large volume of these reserve balances was maintained in New York City and Chicago. These two cities and St. Louis were designated as central reserve cities, and National banks therein had to maintain all their legal reserves in the form of cash in their own vaults.

Under these circumstances, when banks throughout the country needed to draw down their reserve balances, the demand necessarily converged on a few banks situated in the financial centers. In ordinary times the demand was not excessive, for while some country banks would be drawing down their balances, others would be building theirs up. Now and then,



**FEDERAL RESERVE BANK OF BOSTON**  
**30 Pearl Street, Boston, Massachusetts**

however, the demand became wide-spread and intense. Banks all over the country would call on the Chicago and New York banks for currency, which the city banks were to supply and charge to the reserve balances of the country banks. In such circumstances, it might be difficult for the city banks to meet this demand, because the currency constituted their own reserves and there was no source on which they could rely for additional reserve funds. The efforts of these banks to protect their reserves frequently involved the sale of securities and the refusal to make loans and renewals, with the result that securities prices would fall, interest rates would rise sharply, borrowing

would become difficult, and loans would have to be liquidated.

Panics and crises like this were apt to occur every few years, and in 1907 there was one of unusual severity. Congress appointed a National Monetary Commission shortly thereafter for the purpose of determining what should be done. There was active and thorough consideration of the question for several years, and though Congress greatly modified the plan recommended by the Commission, it eventually adopted legislation embodying the results of study both by the Commission and by other authorities inside and outside Congress. This legislation is the Federal Reserve Act. It became law December 23, 1913.

The Federal Reserve Act directed that the Federal Reserve Banks be established, required that reserves of member banks be deposited with the Federal Reserve Banks, and empowered the Reserve authorities to discount paper for member banks, to engage in open market operations, and to issue Federal Reserve notes.

The member banks use the reserve accounts that they maintain with the Federal Reserve Banks in very much the same way that a bank depositor uses his checking account. On the one hand, they may deposit in the reserve accounts the checks on other banks and the surplus currency received from their customers; and on the other hand, they may draw on the reserve accounts for various purposes, especially to procure currency and to pay the checks drawn on them by their customers and deposited in other banks.

The volume of reserves required by law is much greater, ordinarily, than these uses alone would make

necessary. The reason for this is that required reserves have an additional purpose: they are the means through which the Federal Reserve authorities influence the lending and investing activity of banks. As long as a bank has reserves in excess of requirements, it is in a position to enlarge its extensions of credit, assuming a demand. As long as it is without reserves in excess of requirements, it is not in a position to enlarge its extensions of credit and may be impelled to borrow additional funds. Since the Federal Reserve authorities have the power to increase or decrease the supply of reserve funds and within limits to increase or decrease reserve requirements, they are able to exercise considerable influence over the amount of credit, in the aggregate, that banks may be in a position to extend.

These functions of the Federal Reserve authorities are sometimes called "central banking" functions. Practically every modern country has an institution for the performance of such functions. In Canada, it is the Bank of Canada; in England, it is the Bank of England; in France, it is the Bank of France. In the United States, however, there are twelve Federal Reserve Banks embraced in a regional system, and the coordination of their activities is effected through the Board of Governors in Washington.

The duties of the Reserve authorities fall into two main groups. One group includes duties which relate primarily to the maintenance of monetary and credit conditions favorable to sound business activity in all fields—agricultural, industrial, commercial. They call for policy decisions from time to time rather than routine activity. They involve lending to member banks,

open market operations, fixing reserve requirements, establishing discount rates, and issuance of regulations relating to these and other functions.

The other group includes duties which relate primarily to the maintenance of regular services for the member banks of the Federal Reserve System, the United States Government, and the public. These services are principally the following: holding member bank reserve balances; furnishing currency for circulation; facilitating the clearance and collection of checks; supervising member banks and obtaining reports of condition from them; and acting as fiscal agents, custodians, and depositories for the United States Government.

These regular services engage by far the greater part of the time and attention of the officers and employees of the twelve Federal Reserve Banks. They will be described with more detail in the chapter immediately following. In later chapters the monetary and credit functions of the Federal Reserve authorities will be discussed.



## CHAPTER II

### THE SERVICE FUNCTIONS OF THE FEDERAL RESERVE BANKS

*The twelve Federal Reserve Banks hold the legal reserves of member banks, furnish currency for circulation, facilitate the collection and clearance of checks, exercise supervisory duties with respect to member banks, and are fiscal agents of the United States Government.*

ONE of the primary functions of the Federal Reserve Banks is to hold the legal reserves of member banks. The member banks do not normally let these reserves lie in idleness awaiting an emergency but keep them in active use. This use entails a heavy amount of continuous work for the Federal Reserve Banks: furnishing the member banks coin and paper money of all denominations; receiving and sorting deposits of currency; and receiving, sorting, collecting, and clearing checks.

#### *Furnishing Currency for Circulation*

On December 31, 1938, the amount of United States money in circulation—that is, the amount of currency outside the vaults of the Treasury and the Federal Reserve Banks—was \$6,856,000,000. It was made up of the following classes:

Federal Reserve Notes .....	\$4,405,000,000
Treasury Currency:	
Silver certificates .....	1,339,000,000
Silver dollars .....	42,000,000
Subsidiary silver coin.....	357,000,000
Minor coin .....	151,000,000
United States notes .....	257,000,000

Currency in Process of Retirement:	
National bank notes.....	201,000,000
Gold certificates (old form)*.....	75,000,000
Federal Reserve Bank notes†.....	28,000,000
Treasury notes of 1890.....	1,000,000
	\$6,856,000,000

Federal Reserve notes are liabilities of the Federal Reserve Banks that issue them. They are a prior lien on the assets of the Federal Reserve Banks and are specifically secured by the pledge of collateral of at least equal amount. They are also obligations of the United States Government. As of December 31, 1938, the collateral pledged by the Federal Reserve Banks against the Federal Reserve notes in circulation comprised \$4,888,000,000 of gold certificates (new form) and \$3,000,000 of promissory notes and other obligations discounted by the Federal Reserve Banks, or \$4,891,000,000 in all.

Treasury currency, comprising silver certificates, silver dollars, subsidiary silver, minor coin, and United States notes, is issued by the Treasury itself, but it is placed in circulation for the most part through the Federal Reserve Banks.

The kinds of currency in process of retirement, comprising national bank notes, gold certificates (old form), Federal Reserve Bank notes, and Treasury

---

\* There are two forms of gold certificates. The old form, commonly in circulation before 1934, is no longer in use, except for certificates still outstanding. These are being retired as rapidly as they come into the Treasury. The new form of gold certificate is issuable by the Treasury only to the Federal Reserve Banks and is not in circulation.

† Federal Reserve notes and Federal Reserve Bank notes are two distinct types of currency authorized by the Federal Reserve Act. The distinction between them is technical and for all practical purposes Federal Reserve notes are sufficient. Federal Reserve Bank notes are, therefore, no longer issued.

notes of 1890, are being replaced by other types of currency—mainly Federal Reserve notes and silver certificates. Their retirement does not mean that the amount of money in circulation is being reduced but that fewer different kinds of money are now being issued.

All of the kinds of currency listed above are legal tender for all debts, public and private, public charges, taxes, duties and dues.

All United States paper currency is printed at the Bureau of Engraving and Printing in Washington, D. C., and all United States coins are made at the Philadelphia, Denver, and San Francisco mints. The Bureau of Engraving and Printing and the mints are operated by the United States Treasury. Federal Reserve notes are printed by the Bureau at the expense of the Federal Reserve Banks.

The total amount of paper money and coin in circulation — which, as indicated above, is about \$6,856,000,000 — fluctuates relatively little. The new currency being constantly produced by the Bureau of Engraving and Printing and by the mints for the most part merely takes the place of old currency that has been soiled, mutilated, or worn so that it is no longer fit to use.

#### *How Currency Is Distributed*

There are two principal ways by which any individual gets paper money and coin. Either he draws it out of his bank and has it charged to his account; or he is paid for his labor, his services, or his merchandise with money that has been drawn out of a bank by some one else.

Practically all money, therefore, passes into and out

of banks at one time or another. There are times when banks are called on to pay out more cash than they receive and there are times when they receive more than they pay out. The demand varies from season to season, from place to place, and from bank to bank. A heavy demand for currency at Christmas time is practically universal. In agricultural regions there is a heavy demand for cash at times when crops are being harvested; in cities there is a heavy demand for cash at certain times in the summer, particularly around the Fourth of July and Labor Day, when people withdraw money for their vacations. Moreover, the demand varies for different kinds of cash. Some communities use more coin than others and less paper money, and some use more of certain denominations than others do.

In accordance with this demand, banks provide themselves with the amounts and kinds of cash that the people in their communities want. Member banks depend upon the Federal Reserve Banks for replenishment of their supply, ordering what they require and having it charged to their reserve accounts. Non-member banks generally get their supplies from member banks.

The twelve Federal Reserve Banks in turn keep a large stock of all kinds of paper money and coin on hand to meet this demand. This includes both Federal Reserve notes, which are their own liabilities, and coin, silver certificates, and United States notes, which they obtain from the Treasury, giving the Treasury credit in its checking account for the amounts obtained.

Until the Federal Reserve Banks were established in 1914, the means of furnishing currency for circulation were unsatisfactory. A gap existed between the



**A SHIPMENT OF NEW CURRENCY, CASH DEPARTMENT OF A FEDERAL RESERVE BANK**

Treasury and the banking system, and demand for increased circulation could not always be met promptly. This was the case in the panic of 1907, and as already indicated, the experience of that year was one of the things that led to formation of the Federal Reserve System. The currency mechanism provided under the Federal Reserve Act has worked satisfactorily—money moves into and out of circulation automatically in response to increase or decrease in the public demand. The Treasury, the twelve Federal Reserve Banks, and the thousands of local banks throughout the country form a system of currency distribution that reaches every community, that enables cash to be furnished

promptly where it is needed, and that also enables surplus cash to be retired from circulation at times when the public demand subsides.

### *Collections, Clearances, and Transfers of Funds*

Currency and coin are indispensable, yet they are used only for the smaller transactions of present-day economic life. A hundred years ago they were used much more generally. The use of bank checks has increased to such an extent that payments made by check are now many times greater than payments made with currency and coin.

The use of checks is facilitated by the service of the Federal Reserve Banks in clearing and collecting them through the reserve accounts of member banks. For example, suppose that a manufacturer in Hartford, Connecticut, sells \$1,000 worth of electrical equipment to a dealer in Sacramento, California, and receives in payment a check on a bank in Sacramento. The check is an order on the Sacramento bank to pay the Hartford manufacturer \$1,000. Obviously, the Hartford manufacturer does not want to make a trip to California to collect the \$1,000 in cash, nor does he want to pay postage and insurance on a shipment of currency. He does not ordinarily want cash at all. What he wants is to have \$1,000 placed to his credit in his checking account. Accordingly, he deposits the check in his Hartford bank. The Hartford bank does not require cash for the check; it wants credit in its reserve account at the Federal Reserve Bank of Boston. Accordingly, it sends the check to the Federal Reserve Bank of Boston. The Federal Reserve Bank of Boston sends it to the Federal Reserve Bank of San Francisco. The Federal Reserve Bank of San Francisco sends it



**CHECK SORTING, CHECK COLLECTION DEPARTMENT OF A FEDERAL  
RESERVE BANK**

to the bank in Sacramento. The bank in Sacramento charges the check to the account of the depositor who wrote it, and either remits the amount to the Federal Reserve Bank of San Francisco or authorizes the San Francisco Reserve Bank to charge the amount to its reserve account. The Federal Reserve Bank of San Francisco thereupon credits the Federal Reserve Bank of Boston. The Federal Reserve Bank of Boston in turn credits the account of the Hartford bank. Thus the check effects the transfer through the Federal Reserve Banks of \$1,000 of deposit credit from the checking account of the dealer in Sacramento to the checking account of the manufacturer in Hartford.

Even though a bank is not a member of the Federal Reserve System, it may nevertheless arrange to maintain with the Federal Reserve Bank what is called a "clearing balance." Checks drawn on other banks which are received by the nonmember bank and forwarded by it to the Reserve Bank may be credited to this clearing balance, and checks drawn against the nonmember bank and deposited in other banks may be paid with funds from the balance.

Checks which are collected and cleared through the Federal Reserve Banks must be paid in full by the banks on which they are drawn, without deduction of a fee or charge. That is, they must be paid "at par." The Federal Reserve Banks have greatly shortened and simplified the process of clearing and collecting checks. By doing so, they have improved the means by which goods and services are paid for and by which monetary obligations are settled; they have also reduced the cost to the public of making payments and transferring funds. The Federal Reserve Banks also handle other items for collection besides checks, such as drafts, promissory notes, and bond coupons.

In order to make transfers and payments as promptly and efficiently as possible, the twelve Federal Reserve Banks maintain a fund in Washington called the Inter-district Settlement Fund, in which each Reserve Bank has a share. Through this fund money is constantly being transferred by telegraphic order from the account of one Reserve Bank to that of another. Many millions of dollars of transfers and payments are made every day, including large transfers for member banks and for the United States Treasury.

The relative importance of currency and of checks in Federal Reserve operations is indicated roughly by



the following figures: in the year 1938 the twelve Federal Reserve Banks handled about five billion separate pieces of coin and paper money, the total value of which was \$9,000,000,000. In the same period they handled a billion checks, the value of which was \$232,000,000,000. In other words, the number of pieces of coin and paper money was five times as great as the number of checks, but the monetary value of the checks was over twenty-five times as great as the amount of currency and coin.

### *Supervisory Functions*

According to the preamble to the Federal Reserve Act, one of the purposes of the Act was "to establish a more effective supervision of banking in the United States." However, specific duties of supervision are entrusted by law to other agencies as well as to the Federal Reserve authorities. The examination and supervision of all national banks, which comprise the majority of banks belonging to the Federal Reserve System, are conducted by the Comptroller of the Currency. Examination reports made by his examiners as to the condition of banks are available to the proper Reserve authorities. The other banks which belong to the System—all of them State banks—are supervised by State authorities and examined by them with the cooperation of the Federal Reserve Banks. Information is available to the Reserve authorities not only from the reports of examiners but also from periodic reports of condition submitted by the member banks themselves. Banks that are not members of the Federal Reserve System, but have deposit insurance in the Federal Deposit Insurance Corporation, are examined by the Corporation and by State authorities.

Each of the Federal Reserve Banks has an examining staff for the examination of banks in its district. The Federal Reserve Banks themselves are examined by the examining staff which the Board of Governors in Washington maintains.

Among other supervisory powers exercised by the Federal Reserve authorities, the most important are:

1. The power to fix the maximum rates of interest which member banks may pay upon time and savings deposits. The main purpose of this power is to prevent banks from paying such high rates, in competition for deposits, as to weaken their condition.

2. The power to take disciplinary action, including the following specific powers: to remove officers and directors of member banks—after citation in the case of national banks by the Comptroller of the Currency and in the case of State member banks by the Federal Reserve Agent—for continued violation of banking law or for continued unsafe or unsound banking practice; and to suspend member banks from recourse to the credit facilities of the Federal Reserve System if it is found that they are making undue use of bank credit for speculation in securities, real estate, or commodities.

3. The power to grant permits to national banks to exercise trust powers.

4. The power to grant permission to holding companies so that they may vote the stock of member banks controlled by them. Such companies are usually corporations which own all or a majority of the stock of one or more member banks.

5. The power to grant permits to member banks to establish branches in foreign countries. Under this authority seven large banks situated in New York, Boston, and San Francisco maintain foreign branches,

about a hundred in all, situated in twenty-three different countries.

### *Fiscal Agency Functions*

The twelve Federal Reserve Banks carry the principal checking accounts of the United States Treasury, handle much of the work entailed in issuing and redeeming Government obligations, and perform numerous other important fiscal duties for the United States Government.

The Government has an enormous amount of banking business to do. It is continuously receiving funds in all parts of the United States and spending them in all parts. Its receipts come mainly from taxpayers and purchasers of Government securities and are deposited in the Federal Reserve Banks to the credit of the Treasury. Its funds are disbursed mostly by check, and the checks are paid by the Federal Reserve Banks and charged to the Treasury's account.

The Federal Reserve Banks also perform important services for the Treasury in connection with the public debt. When a new issue of Government securities is sold by the Treasury, the Reserve Banks receive the applications of banks, dealers, and others who wish to buy, make allotments of securities in accordance with instructions from the Treasury, deliver the securities to the purchasers, receive payment for them, and credit the amounts received to the Treasury's checking account. The Reserve Banks also redeem securities as they mature, make exchanges of denominations or kinds, handle transfers and conversions, pay interest coupons, and do a number of other things involved in servicing the Government debt. They issue and redeem United States savings bonds and upon request hold

them in safekeeping for the owners. For the convenience of the Treasury and also for the convenience of investors in Government securities, it is necessary that there be facilities in various parts of the country to handle such transactions, and the Federal Reserve Banks furnish these facilities. Since the Federal Reserve authorities are constantly in touch with the money and investment markets, the Treasury follows the practice of consulting them for their advice as to the terms and conditions that will affect the sale and the refunding of Government obligations.

In connection with the lending and other financial activities of such Government agencies as the Reconstruction Finance Corporation, the Commodity Credit Corporation, and the Home Owners' Loan Corporation, the Federal Reserve Banks act as custodians of collateral and securities. This involves not only safekeeping but disbursement of funds upon receipt of proper documents and maintenance of accurate records of large quantities of securities, warehouse receipts for commodities, and other valuable papers which are constantly in process of being received, transferred, and returned, as loans are granted, as partial payments are made, and as maturing obligations are paid off or renewed.

The Federal Reserve Banks are reimbursed by the United States Treasury and other Government agencies for much of the expense incurred in the performance of fiscal agency functions.

Because of its situation in one of the principal financial centers of the world, the Federal Reserve Bank of New York acts as the agent of the United States Treasury in the foreign exchange operations of the



**FEDERAL RESERVE  
BANK OF NEW YORK  
33 Liberty Street,  
New York City,  
New York**

**Treasury's Stabilization Fund.** The Federal Reserve Bank of New York also has occasion to receive deposits of foreign central banks and to perform certain incidental services as correspondent of such banks. The Board of Governors exercises special supervision over all relationships and transactions of Federal Reserve Banks with foreign banks. Such relationships are confined almost wholly to the Federal Reserve Bank of

New York, which in these matters generally acts as agent for the other Federal Reserve Banks.

The service functions that have been described absorb the attention and time of the greater part of the Federal Reserve personnel. The fiscal agency and related activities alone occupy the full time of about 2,500 employees out of a total of about 11,000. These functions differ greatly in this respect from the task of determining and administering monetary and credit policy. Decisions as to discount rates, reserve requirements, and open market operations may need to be made by the Reserve authorities only occasionally. Yet, though they may take, on the whole, less time than functions that must be performed daily through the year, they may have more far-reaching effects upon the country's economic life.

### CHAPTER III

#### THE FUNCTION OF BANK RESERVES\*

*The amount of reserves held in relation to legal requirements is a controlling factor in the lending policy of banks.*

**T**HE aggregate deposits in the banking system as a whole represent mainly funds lent by banks or paid by banks for securities, mortgages, and other forms of investment obligations. It may seem that it should be the other way round—that bank loans and investments would be derived from bank deposits instead of bank deposits being derived from loans and investments; and it is true that deposits would not grow out of loans if currency were to be used by the public for monetary payments to the exclusion of bank deposits transferable by check. But as it is, the public in general prefers to have its monetary funds—including what it borrows—on deposit in banks rather than in the form of currency in its own possession. The result of this preference is that the proceeds of loans go on deposit to be disbursed by check, and aggregate deposits are increased.

Suppose, for example, that a man borrowed \$1,000 from a bank and took his loan in currency. The bank would have \$1,000 less currency than before and in its place a promissory note for \$1,000. Its deposits would remain untouched and unchanged. But suppose that the borrower, preferring not to take currency, asked for \$1,000 deposit credit instead. In that case the bank's currency would remain unchanged, it would

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\* The term "reserves" as used in this book denotes *asset* reserves exclusively—that is, the reserves that count virtually as cash. It does not denote the reserves against contingencies that may be set up on the liability side of a balance sheet.

have the promissory note, and it would have \$1,000 more deposits on its books. The loan, instead of decreasing the bank's cash holdings, would have increased its deposits.

Or suppose that the bank purchases a \$1,000 Government bond from one of its customers. The customer does not want payment in currency—he wants payment in deposit credit. Accordingly, the bank acquires a \$1,000 bond and its deposits increase by \$1,000. The bank's currency is not involved in the transaction and remains what it was.\*

It does not follow that bank deposits can be enlarged without limit by increased bank loans and investments. When banks give deposit credit to their customers, they assume an obligation to pay the customers' checks. Consequently, they must have funds on hand for the purpose; though ordinarily the amount need not be more than a fraction of the total deposit liability. How much it should be depends largely on circumstances. But its amount relative to deposit liabilities limits the ability of banks to lend and to invest.

The fact that banks can not increase their loans and investments unless adequate funds are available to them makes bank reserves of key importance. Upon the adequacy of reserves hinges the power of banks to expand loans and investments and therewith to expand deposits. Upon reserves also hinges the power of the Federal Reserve authorities to influence the credit policy of the member banks.

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\* As this and the preceding paragraph indicate, a bank's purchase of investments, i.e., bonds, mortgages, etc., is an extension of credit just as a loan is; and bank investments increase bank deposits just as bank loans do. For the sake of simplicity, the terms "lending" and "extension of credit" are often used where the *purchase of investments* by banks as well as *lending* by banks is meant.



Bank reserves need to be understood from both the operating and the legal point of view. From the operating point of view, they may be described as that portion of a bank's assets which the bank has not lent or invested but holds in cash or other forms readily available for use. In the early years of banking, reserves consisted of gold and other coin kept by each bank in its own chests; later on, reserves included also the funds which a bank might keep on deposit with another bank—usually with a larger one situated in an important financial center. The more conservative a banker was, the larger and more liquid the reserves he was inclined to maintain. Such reserves usually meant a sacrifice of income, but they also meant protection in time of emergency.

Although sound banking practice called for the maintenance of adequate reserves, there were banks that failed to observe sound banking practice. Consequently, about a hundred years ago, legislatures began to adopt legal standards, which might require, for example, that a bank's reserves be not less than 10 per cent of its note and deposit liabilities. But, while a legal requirement made certain that reserves be maintained, it also might interfere with their availability, since occasions would arise when a bank could not make the necessary use of its reserves without reducing them below the legal minimum. Just at a time when it was especially desirable, in the public interest, for banks to lend, they might be impelled to stop lending in order to avoid depleting the reserves which the law required them to maintain. Accordingly, it became clear after long and painful experience that to require reserves to be maintained in certain volume was not

enough—there should also be means whereby banks could obtain additional reserve funds when needed.

This need was met by the establishment of the Federal Reserve Banks and the organization of the Federal Reserve System; member banks were required to maintain reserves of a certain volume with the Federal Reserve Banks, and at the same time the Federal Reserve Banks were given the power to advance additional reserve funds to them either by lending to them directly or by purchasing securities and other forms of obligations in the open market.

Since it became possible under this power for the earning assets of banks to be converted readily into cash and reserve funds, the maintenance of large liquid reserves by individual banks became less necessary. Banks were put in a more secure position than they had been in when no means existed for enlarging their reserves. In addition, the Federal Reserve authorities were directed to use their power not merely so as to assure ample credit for the legitimate monetary needs of commerce, industry, and agriculture, but so as to curb the use of credit in speculation. Under these circumstances, reserve requirements took on a new significance. They became important as a means of giving effectiveness to the regulatory powers to be exercised directly with respect to the volume of bank reserves and indirectly with respect to the extension of credit by banks.

### *Reserve Requirements*

As stated in the Federal Reserve Act, the reserve balances that must be maintained by member banks with their Federal Reserve Banks are as follows:

For member banks in central reserve cities (New

York City and Chicago), not less than 13 per cent of their demand deposits (checking accounts) and 3 per cent of their time deposits (including savings).

For member banks in reserve cities (sixty other cities of lesser size), not less than 10 per cent of their demand deposits and 3 per cent of their time deposits.

For member banks elsewhere (so-called "country banks"), not less than 7 per cent of their demand deposits and 3 per cent of their time deposits. The greatest number of banks falls in this third classification, but the total volume of their deposits is smaller than that of either of the other classes.

The law permits the foregoing requirements to be changed by the Board of Governors of the Federal Reserve System, "in order to prevent injurious credit expansion or contraction." It limits the possible change, however; requirements may not be made lower than those stated in the law nor more than twice as high.

The following table shows the reserve requirements that have been in effect at different periods since 1917:

Classes of deposits and banks	June 21, 1917- Aug. 15, 1936	Aug. 16, 1936- Feb. 28, 1937	Mar. 1, 1937- Apr. 30, 1937	May 1, 1937- Apr. 15, 1938	Apr. 16, 1938 and after
	(Per cent of deposits)				
On net demand deposits:					
Central reserve city banks ...	13	19½	22½	26	22½
Reserve city banks .....	10	15	17½	20	17½
Country banks..	7	10½	12½	14	12
On time deposits:					
All member banks .....	3	4½	5½	6	5

In practice, these requirements relate to balances maintained on the average over a period (semi-weekly, weekly, or semi-monthly depending on the bank's location) and do not imply that the funds are to be left untouched. While maintaining his average reserve balance at or above the required minimum, a banker may make constant and active use of his reserve account. From day to day he may have credits to the account for checks on other banks received from his depositors; and from day to day he may have charges to the account for checks that have been drawn on him and deposited in other banks. He may also from time to time withdraw currency and have it charged to the account, and when he has more currency than he needs, he may deposit it at the Reserve Bank to be credited to his account. These current uses of his reserve account will not necessarily reduce his average balance below the requirement.

Since reserve requirements govern the ratio between reserves and deposits, it is apparent that they may be regarded as limiting either the extent to which reserves may be allowed to shrink in relation to a given volume of deposits or the extent to which deposits may be allowed to expand on the basis of a given volume of reserves. Sometimes an increase or decrease in deposits results in a simultaneous increase or decrease in reserves, but this is not necessarily so. Suppose, for example, that a given bank has \$2,000,000 of deposits, is required to have reserves of 10 per cent, and has exactly that amount, namely \$200,000. If a customer deposits an additional \$100,000, either in cash or in the form of a check on another bank, the first bank not only has its deposits increased by that amount, but also is put in position to increase its reserves equally



**FEDERAL RESERVE BANK OF PHILADELPHIA**  
925 Chestnut Street, Philadelphia, Pennsylvania

by depositing the currency or check in the Federal Reserve Bank.

But suppose that instead of depositing \$100,000 in cash, the customer borrowed that amount from the bank and deposited it in his account; in that case the bank's deposits would be increased, but the deposit would bring no currency or check with which the bank's reserves might be increased. Furthermore, the \$100,000 which the customer borrowed might be checked out, in which case the bank's reserves would be reduced by half, while its original deposits would remain unchanged.

In brief, when borrowed funds are checked out, the

result is a decrease in reserves; and when they remain on deposit, the result is an increase in deposits without an increase in reserves. In either event, lending has an immediate reaction upon the ratio of reserves to deposits. And, as a corollary, the amount of reserves held in relation to legal requirements is a controlling factor in the lending policy of a bank.

## CHAPTER IV

### THE EXPANSION AND CONTRACTION OF BANK RESERVES

*The ability of member banks to lend is largely dependent upon the volume of their reserves; they are required to keep their reserves on deposit with the Federal Reserve Banks; and the Federal Reserve authorities are empowered to extend Federal Reserve Bank credit for the expansion of those reserves. Therefore, the Federal Reserve authorities, through the medium of bank reserves, are able to influence the extension of member bank credit.*

**T**HERE are three prominent factors that, in the absence of operations by the Federal Reserve authorities, may render bank reserves inadequate in amount. One is an increased demand for borrowed funds, which, as banks increase their loans and investments in response to it, results in an expansion of bank deposits without a corresponding expansion of reserves. The second is an increased demand by the public for circulating currency: as the currency is withdrawn, it reduces both the reserves and the deposits of banks by the same amount, but the reduction in reserves is relatively greater than the reduction in deposits, since reserves are smaller than deposits. The third is a drain of gold out of the country, a condition which, like withdrawals of currency, effects a reduction of reserves relatively greater than the reduction it effects in deposits. Payments of Federal taxes by the public and purchases by the public of new issues of Government securities also tend temporarily to reduce bank reserves, but these reductions are soon offset when the Government disburses the funds it has received.

When any of these factors renders member bank reserves insufficient, an occasion arises for Federal Reserve Bank credit—that is, for funds which the Federal Reserve authorities are empowered to supply for the specific purpose of replenishing or increasing member bank reserves. This need may be confined to relatively few banks, or it may affect banks in general. It may be met through loans to individual member banks or through open market purchases, depending on prevailing credit conditions and policies.

#### *Discounts and Advances for Member Banks*

The loans which individual member banks may obtain from the Federal Reserve Banks are of two main classes: (1) the discount of so-called eligible paper; and (2) advances. •

Eligible paper consists principally of notes, drafts, and bills of exchange used to finance payments for agricultural and industrial products. Such obligations are eligible for discount if their maturities at the time of discount are not more than ninety days in the case of commercial or industrial paper and not more than nine months in the case of agricultural paper. A member bank owning such obligations may transfer them by endorsement to the Federal Reserve Bank, which will credit the proceeds thereof to the member bank's reserve account after deducting a discount or interest charge at the established rate.

Advances may be made by a Federal Reserve Bank to a member bank on the latter's promissory note secured by collateral. An advance secured by eligible paper may have a maturity of not more than ninety days and is subject to the same discount or interest charge as eligible paper itself. An advance secured by



other collateral satisfactory to the Federal Reserve Bank may have a maturity of not more than four months and is subject to a rate of interest not less than one-half of one per cent per annum above the current discount rate on eligible paper.

Under the two foregoing provisions a Federal Reserve Bank may supply a member bank with any amount of additional reserves the member bank needs, the only limitation being the amount of good assets the member bank can offer the Federal Reserve Bank as security.

### *Discount Rates*

Although the discount or interest rate which the Federal Reserve Banks charge their member banks is generally lower than the rate which commercial banks charge their customers, banks do not make it a practice to borrow from the Federal Reserve Banks for the purpose of gaining a profit by lending at a higher rate, nor has it been the policy of the Federal Reserve authorities to encourage borrowing for such a purpose. When member banks borrow, it is for the immediate reason that they need to in order to avoid a deficiency in their reserves. The Federal Reserve authorities may raise or lower the discount rate from time to time, accordingly as it seems advisable to impose restraint upon the lending activities of banks or to encourage such activities.

During the earlier period of the System's operation—that is, until very recent years—member banks had no excess reserves and in the aggregate were substantially in debt to the Reserve Banks. Under such circumstances, changes in the discount rates, which made this indebtedness either more or less expensive, were

the principal instrument by which the Federal Reserve authorities gave effect to credit policy. In recent years, however, banks have had a large volume of excess reserves, there has been little occasion for them to borrow from the Federal Reserve Banks, and the discount rates have not had the importance they formerly had. Since 1934 they have been maintained at a low level. Throughout the entire year 1938 discount rates on eligible paper were 1 per cent at the Federal Reserve Bank of New York and  $1\frac{1}{2}$  per cent at the other eleven Federal Reserve Banks, whereas in the 1920's they varied from 3 per cent to 7 per cent at different Federal Reserve Banks at different times.

The Federal Reserve Bank discount rates are more closely related to the so-called open market rates than to rates on the loans that banks make to their customers. Open market rates include the rates on commercial paper, bankers' acceptances, Treasury bills, stock market call loans, and other forms of obligations that may be bought and sold in the open market or called without regard to the borrowers' convenience. Open market rates are more sensitive to Federal Reserve credit policy or to market developments than are the rates banks charge their customers, because it is open market paper that banks usually purchase first when they have an excess of funds and dispose of first when they need funds. The relationship between open market rates and Federal Reserve Bank discount rates tends to be close when banks are borrowing and less close when they are not borrowing.

#### *Open Market Operations*

The second method of supplying banks with additional reserve funds is through open market purchases



**FEDERAL RESERVE BANK OF CLEVELAND**  
East 6th Street and Superior Avenue, Cleveland, Ohio

of Government securities and other obligations. These purchases are undertaken at the initiative of the Federal Reserve authorities and not of individual member banks. They do not have particular banks in view, but the aggregate reserves of the banking system as a whole.

Securities purchased by the Federal Reserve authorities in the open market come out of the portfolios either of banks themselves or of investors and corporations that are the customers of banks. If they come out of the *portfolios of investors and corporations*, the checks given in payment by the Federal Reserve au-

thorities are deposited by the investors and corporations in their respective banks, and as a result bank *deposits* are increased. The banks in turn deposit the checks in their reserve accounts at the Federal Reserve Bank, so that bank *reserves* also are increased. If the securities come out of the *portfolios of banks*, however, there is no resulting increase in bank deposits, because the funds paid for the securities are received directly by the banks themselves—not through their customers. There is a resulting increase in bank *reserves*, however, for the funds received by the banks are deposited by them in their reserve accounts at the Federal Reserve Bank. Open market purchases of securities by the Federal Reserve authorities always increase the reserves of banks, therefore, but whether they increase deposits as well depends on whether the securities purchased come out of the portfolios of banks themselves or of bank depositors.

To the extent that open market purchases increase bank reserves relative to bank deposits, they tend to furnish member banks a larger basis for credit expansion, because expansion is limited by the excess of reserves over the ratio required by law to be held against deposits. Thus if \$100,000,000 of securities purchased by the Federal Reserve authorities came from the portfolios of investors, with the result that bank deposits as well as reserves were increased by that amount, a portion of the reserves—say \$20,000,000—would be *required* as reserves against the \$100,000,000 of new deposits, and only the portion remaining—in this case, \$80,000,000—would be available for credit expansion. If, however, the \$100,000,000 of securities came from the portfolios of the banks themselves, the whole

amount, when received by the banks and added to their reserves, would be available as a basis for credit expansion.

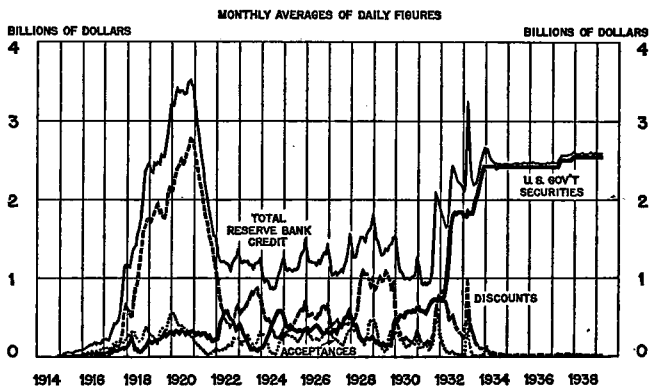
The funds paid for securities by the Federal Reserve authorities do not necessarily remain with the banks that happen to receive them first. Demand will determine to what particular banks the funds will go, in what volume, and how long they will stay with certain banks before being transferred to others. No matter what bank happens at any time to have possession of the funds, however, they continue to be part of the aggregate reserves of the banking system as a whole.

The reverse of the process described in the preceding paragraphs occurs when the Federal Reserve authorities sell, rather than buy, securities. If the securities are purchased by investors and corporations—that is, by the customers of banks—there will be a reduction not only in bank *reserves* but also in bank *deposits*. If they are purchased by banks, the reduction will be in bank *reserves only*. In either event the reduction in reserves tends to diminish the amount of credit that banks can extend, but a reduction in reserves without a reduction in deposits tends to diminish it more rapidly, because there is no accompanying reduction in the amount of reserves required.

Open market operations have different objectives at different times. At times their purpose may be to expand reserves, in which case securities are purchased. At other times their purpose may be to reduce reserves, in which case securities are sold. This does not mean that open market operations are a mechanical process by which any desired result may be obtained at will. On the contrary their efficacy is dependent upon a

variety of conditions. In recent years, with reserves at a high and rising level chiefly because of the gold inflow, but with business recovery still incomplete, the policy of the Federal Reserve authorities has been to maintain the existing portfolio in substantially unchanged volume. This policy has reflected the purpose of the Federal Reserve authorities to contribute to the maintenance of monetary conditions that would encourage recovery in commerce, industry, and agriculture.

### FEDERAL RESERVE BANK CREDIT



The accompanying chart (Federal Reserve Bank Credit) shows the amount of Federal Reserve Bank credit year by year for the period the Federal Reserve Banks have been in operation. It reflects the fact that in the 1920's Federal Reserve Bank credit was principally in the form of discounts for member banks, whereas in recent years it has been in the form of United States Government securities purchased in the open market.

*Federal Reserve Bank Credit and Member Bank Credit*

Loans and purchases of securities by the Federal Reserve authorities are one of the important sources of member bank reserves; member bank reserves in turn are the basis of member bank credit—that is, of the loans and investments of member banks. And member bank credit is a source of the bank deposits transferable by check wherewith business men and other persons make the bulk of their monetary payments. Member bank reserves function, therefore, as the link between Federal Reserve policy and member bank policy.

Thus, for example, when there is an active demand for goods, there is a corresponding need for means of payment wherewith the purchasers may settle their obligations to the sellers. This need is reflected in part in a demand for member bank credit—that is, for funds to be lent by banks to the purchasers. The member banks can furnish the credit—that is, they can lend the funds—only if they have adequate reserves. But additional reserve funds are always available to them in the form of Federal Reserve Bank credit, which they may get either as the proceeds of loans made to them by the Federal Reserve Banks or as the proceeds of purchases of securities by the Federal Reserve Banks.

In other words, member bank credit is used chiefly in the form of member bank deposits subject to check; Federal Reserve Bank credit is used chiefly in the form of member bank reserves held on deposit with the Reserve Banks; and the volume of member bank reserves—deriving in greater or less degree from Federal Reserve Bank credit—determines the ability of mem-

ber banks to meet the demands of their borrowers for member bank credit.

It is important to note, however, that Federal Reserve Bank credit and member bank credit are not the equivalent of each other, dollar for dollar. Member bank reserves do not have to be increased by \$500,000,000 of Federal Reserve Bank credit in order to make possible an increase of \$500,000,000 in member bank credit. The additional Federal Reserve Bank credit needed will be only a fraction of the additional member bank credit to be extended. The explanation of this goes back to the fact that an increase in member bank credit brings about an increase in bank deposits, because the funds that bank customers borrow commonly go on deposit; and to the fact that the reserves which member banks are required to maintain are only a fraction of their deposits. Suppose that banks were required to maintain reserves of 20 per cent and that they had just 20 per cent and no more. Then if their deposits were to be increased by \$500,000,000, they would have to increase their reserves by but \$100,000,000. Accordingly, \$100,000,000 of Federal Reserve Bank credit obtained by borrowing or by the sale of securities to the Federal Reserve Bank would increase their reserves sufficiently to enable them to expand their own credit by \$500,000,000. Under varying circumstances, depending on what the reserve requirements are at the time and on the character of the deposits, the expansion of deposits may be as much as ten times the expansion of required reserves. In recent years the possible expansion of deposits would be considerably less than ten times the expansion of reserves. But, however the ratio may vary, the fact remains that when the Federal Reserve authorities have occasion to



provide the amount of reserves necessary to facilitate a given expansion of member bank credit and member bank deposits, the amount of Federal Reserve Bank credit that they need to supply is only a fraction of such expansion.

The situation is different when a deficiency of member bank reserves arises from withdrawals of currency by the public for circulation or from shipments of gold abroad. Whatever the deficiency, it must be made up in full, and the Federal Reserve authorities may in such circumstances have to supply their member banks with Federal Reserve Bank credit to the whole amount of currency or gold withdrawn.

Since the ability of member banks to lend is largely dependent upon the volume of their reserves, since they are required to keep their reserves on deposit with the Federal Reserve Banks, and since the Federal Reserve authorities are empowered to extend Federal Reserve Bank credit for the expansion of those reserves, it follows that the Federal Reserve authorities, by the extension of *Federal Reserve Bank credit*, may influence very considerably the extension of *member bank credit*. By enlarging the volume of member bank reserve funds they can make it possible for the latter to meet almost any conceivable volume of demand by borrowers; and by reducing the volume of reserve funds they can apply restraint to an over-extension of member bank credit.

Yet, while Federal Reserve authorities have very great powers, they are also very much limited in the exercise of these powers. They can expand member bank reserves and to the extent that they do so, they can subsequently contract reserves. But they have no power to compel an extension of member bank credit.

The initiative must be taken by business men and others who wish to borrow. The member banks may extend credit as long as they have adequate reserves; when their reserves become inadequate, Federal Reserve Bank credit is available with which to replenish these reserves; to the extent that their enlarged reserves permit, the member banks can expand their loans as long as there is sufficient demand. Thus, Federal Reserve Bank credit can not insure a *demand* for member bank credit; it can and does insure the *availability* of ample member bank credit when and if a demand exists.

## CHAPTER V

### THE COMPOSITION OF BANK RESERVES

*Federal Reserve Bank credit and gold are the two main sources of bank reserves; checks are the principal means by which reserves are transferred from bank to bank.*

**F**ROM the point of view of member banks taken collectively, reserves are derived chiefly from the following sources:

**FEDERAL RESERVE BANK CREDIT**, in the form of loans by the Federal Reserve Banks and purchases by them of bills and securities.

**GOLD**, either produced from domestic sources or received from other countries.

From the point of view of the individual banker, the funds with which he currently maintains his reserves are:

**CHECKS** on other banks and **CURRENCY**.

Although the principal sources of bank reserves are Federal Reserve Bank credit and gold, this does not mean that every individual bank, in order to have reserves, must have borrowed from its Federal Reserve Bank or have come into possession of gold. On the contrary, gold may be and actually is the basis of reserves of banks that have not possessed it, and Reserve Bank credit may be and actually is the basis of reserves of banks that have not borrowed.

*How Reserve Funds Move from Bank to Bank*

When the Federal Reserve Bank receives a deposit of gold,\* or when it makes a loan or a purchase of securities, and the resulting credits are entered to the reserve accounts of the member banks concerned, the additional reserve funds resulting from the transaction immediately lose their connection with the transaction. They become simply reserve funds, indistinguishable from other reserve funds and transferable to other banks, regardless of how they originated. Like water circulating through connecting chambers, what is introduced at one point mingles with the rest and flows freely throughout the system.

Suppose, for example, a gold mining company has produced \$100,000 worth of gold, has sold it to the United States Treasury, and has received a check in payment for it from the Treasury. The company deposits the check with the X National Bank, and receives credit for \$100,000 in its checking account. The bank then deposits the check with the Federal Reserve Bank and receives credit for \$100,000 in its reserve account. The mining company buys equipment, pays salaries, and distributes profits; in the process it issues checks aggregating \$100,000 which are deposited by their recipients in other banks. These other banks,

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\* At present, gold purchased by the United States Treasury is not in fact deposited at a Federal Reserve Bank but is delivered to one of the United States Assay Offices, and the check received from the Treasury in payment is deposited in the Federal Reserve Bank. The technical steps involved in the transaction have no significance for present purposes, the effect being the same as if the gold were actually deposited in the Federal Reserve Bank and by it turned over to the Treasury. The gold, though held in the vaults of the Treasury, is nevertheless a part of the money supply of the country; on its way into the Treasury it gives rise to bank deposits and bank reserves, and if withdrawn from the banking system, through export or otherwise, it would reduce them.



**FEDERAL RESERVE BANK OF RICHMOND**  
9th and Franklin Streets, Richmond, Virginia

having given their depositors credit for the checks, send them to the Reserve Bank and receive credit for them in their reserve accounts. At the same time the checks are paid out of the reserve balance of the X National Bank. Thereby, the reserve funds derived from the original sale of gold become the reserve funds of banks which never heard of the gold. These other banks know only that checks drawn on the X National Bank were deposited by them in the Reserve Bank and that their reserve accounts have been credited accordingly. It is gold imports rather than domestic mining that has produced the great increase in our gold stock since 1933; but gold from whatever source gives rise

to bank deposits and bank reserves substantially as just described.

The same is true of Reserve Bank credit. If the X National Bank borrows \$100,000 at the Reserve Bank or receives funds paid for securities purchased by the Federal Reserve Bank, its reserve account is increased by a corresponding amount. It uses these additional funds incorporated in its reserves to pay checks drawn against it by its customers, and in the process the funds leave its account and become credited to the reserve accounts of other banks. The funds are part of the total reserves dispersed in hundreds and thousands of reserve accounts and constantly circulating in and out of each. No connection remains between them and the particular transaction which called them into being.

Although comparatively few banks receive gold and Federal Reserve Bank credit directly, yet all banks are daily receiving checks on one another. About a billion such checks were handled by the Federal Reserve Banks in 1938; no doubt many times that number, cleared locally and through banks in financial centers, never reached a Federal Reserve Bank. But, by whatever means they are cleared, checks deposited in banks other than those on which they are drawn maintain a constant flow of reserve funds from bank to bank.

### *The Flow of Funds and the Volume of Funds*

Sometimes a banker receives larger check payments from other banks than they receive from him. When that is the case, he gains reserves. Sometimes other banks receive more from him than he receives from them. In that case he loses reserves. It is obvious,

however, that when a check is deposited in the reserve account of one bank and charged to the reserve account of another, the total volume of reserves, taking all banks together, is not increased or decreased at all. One bank loses what another bank gains.

But when gold is deposited and the reserve balance of a given bank is increased thereby, there is no corresponding charge to the reserve balance of any other bank, for the gold came either from abroad or out of an American mine. In this case, consequently, not merely the reserve balance of one bank but the total volume of reserves held by all banks taken together is increased. The same is true if the Reserve Bank makes a loan or buys securities: the resulting increase in the reserves of the banks directly affected is not offset by a charge to the reserves of other banks. Instead, total reserves are increased. In both cases the total remains at the higher level regardless of the stream of checks by which funds are transferred from one reserve account to another. It remains at the higher level until any one of these things happens: (1) the Federal Reserve sells securities; (2) loans by the Federal Reserve are repaid; or (3) currency or gold is withdrawn. When any of these things occurs, and is not offset by a factor of opposite effect, there occurs a decrease in the aggregate amount of reserves. It comes about because the securities sold by the Reserve Bank are paid for by a charge against the reserves of the bankers by whom or by whose customers the securities were purchased; or because the loans are repaid by a charge against the reserves of the bankers that borrowed; or because the currency or gold when withdrawn is charged to the reserve account of the banker by whom it was withdrawn; and because the

charges to these reserve balances are not offset by any corresponding credits to other reserve balances.\*

From the individual bank's point of view, therefore, reserves are principally maintained by the deposit of checks on other banks; and from the point of view of all banks as a whole, reserves consist fundamentally of Federal Reserve Bank credit and gold. In other words, Federal Reserve Bank credit and gold are the two important basic factors in which bank reserves *originate*, and checks are the principal means by which reserves come to be transferred and *distributed* among all banks. Every banker has daily experience of the transfer of reserve funds resulting from check transactions and of his own consequent gain or loss of reserves; but experience of the origination and extinction of reserve funds resulting from gold transactions, open market operations, and Reserve Bank loans is far less common. Very few banks outside those cities where gold shipments are received or Government obligations are bought and sold in large amounts ever have any direct experience of gold transactions and open market operations; and borrowings from the Reserve Bank, while more common, are never a matter of daily routine as check transactions are.

### *Other Factors*

Other factors affect the aggregate volume of bank reserves, but mostly in a minor or transitory way as compared with gold and Federal Reserve Bank credit. The acquisition of silver by the Treasury has the same effect on member bank reserves as the acquisition of gold, but the dollar amount of silver acquired is far

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\* Gold may be withdrawn from the United States Treasury, under present law and regulations, at the discretion of the Secretary of the Treasury, for export or for use in the arts but not for domestic circulation.



less than that of gold. Chief among the transitory factors affecting the aggregate volume of reserves are receipts and expenditures by the United States Treasury. When Federal taxes are paid, the effect is to reduce the reserve balances of banks and to enlarge the cash balances of the Treasury. The same is true when banks use current funds to pay for new Government obligations issued by the Treasury. When the funds are disbursed by the Treasury the effect is to reduce the Treasury's cash balances and restore the reserve balances of the banks. The Treasury's transactions are in this way constantly producing large fluctuations which in the long run cancel each other. Similarly, fluctuations in the volume of currency in circulation affect the volume of reserves, but mostly in a temporary way. Currency on going into circulation is charged to member bank reserves and reduces them, and on retirement from circulation it is credited to reserves again and increases them. While these factors are of importance in explaining current fluctuations in the volume of reserves, they do not alter the fact that the basic constituents of reserves are gold and Federal Reserve Bank credit.

#### *The Relation Between Federal Reserve Bank Credit and Gold*

Before the Federal Reserve Banks were established, the basic reserves of the banking system consisted almost exclusively of gold, silver, and currency. There was no Federal Reserve Bank credit, nor any institution whose purpose it was to supply additional reserve funds. Banks could borrow from one another, but that meant merely the use of existing reserve funds, not the creation of new ones. Moreover, with banks holding one another's reserves and advancing reserve

funds to one another, the aggregate bank reserves shown on the books of banks always included duplications and exceeded the amount of gold and other currency that could be counted as reserves. Reserves shown in excess of this amount, however, were fictitious. In times of stringency it always developed that reserves were actually less than they appeared to be. With the establishment of the Federal Reserve Banks these faults were corrected. Existing reserves were transferred to the Federal Reserve Banks, and the Reserve Banks were empowered to create additional reserve funds. The result is that the aggregate volume of reserves became a definitely known figure, without duplication; and the Reserve authorities can create the necessary additional funds, either by lending to individual banks or by purchasing securities in the open market.

Since the establishment of the twelve Federal Reserve Banks, therefore, bank reserves have consisted basically of gold, the amount of which is not readily subject to control, and of Reserve Bank credit, the amount of which is wholly subject to control. Neither is fixed either in amount or in relation to the other. At times Reserve Bank credit has been a more decisive factor and at times gold. The two tend to displace each other; that is, the more gold there is coming into the country the less need there tends to be for Reserve Bank credit, and the less gold there is coming in or the more gold there is going out the more need there tends to be for Reserve Bank credit. The movement of gold is largely independent of control; although under certain conditions an increase in the volume of Reserve Bank credit may tend to drive gold out of the country by bringing about lower money rates, and a decrease in its volume may tend to draw



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gold into the country by bringing about higher money rates.

If, for example, there were a reversal of the gold movement of recent years, and gold, because of altered international conditions, began to be exported in large volume, the Reserve authorities, by lending or by the purchase of Government securities and other obligations, could furnish funds which would add to member bank reserves as fast as the gold withdrawals subtracted from them. The Reserve authorities could by this action prevent the banks of the country from suffering such a depletion of reserves as would force them to make drastic reductions in their loans and investments.

## CHAPTER VI

### RESERVES OF THE INDIVIDUAL BANK AND OF THE BANKING SYSTEM AS A WHOLE

*Additional reserve funds that enable the individual bank to enlarge its own loans by an almost equal amount, enable the banking system as a whole to enlarge the aggregate of loans by several times as much.*

**B**ANK deposits result chiefly from loans and other extensions of credit by banks. This does not mean, though, that an individual banker can increase his deposits to any desired extent simply by lending. He can not do that, because when his customers borrow they use the money they borrow; they pay it to others by whom most or all of it will be deposited in other banks. The banker has to part with most of what he lends and must be prepared for reduction of his reserves accordingly. When he makes a loan and the funds are credited to the deposit account of the borrower and then checked out, the funds sooner or later leave his bank and go on deposit in another bank. Under these circumstances, his loan increases another bank's deposits. If the other banker is also lending, then the deposits of both will increase still further. Each gets a part or most of what the other lends. So, in fact, the individual banker normally has more money to lend when other bankers are lending than he has when they are not lending. It is only when this process of lending is general and simultaneous on the part of many bankers that it can cause a rapid growth of bank deposits. No one banker has control of such a process. He has no means of making other bankers

lend—no means of making customers start borrowing. He has to feel his way, constantly watching the volume of his reserves. Unless his reserves are adequate, he will not wish to lend and run the risk of having them depleted. Accordingly, the requirement that he maintain a certain ratio between his reserves and his deposits is in effect a limitation on his power to lend.

*Assuming There Were Only One Bank*

Suppose there were only one bank instead of several thousand, and that this one bank did all the commercial banking business in the country. Suppose further that this bank were required by law to have reserves equal to at least 20 per cent of its deposits. Thus if it had deposits of \$5,000,000,000, its reserve balance with the Reserve Bank would have to be at least \$1,000,000,000.

Suppose that it had just exactly that—\$5,000,000,000 of deposits and \$1,000,000,000 of reserves, with \$4,000,000,000 of loans and investments. In such case, if it were to lend a single additional dollar it would reduce its reserves below the legal requirement, because if it did make a loan, the borrower would be given credit for it in his checking account, the bank's deposits would go up, its reserve balance would *not* go up, and in consequence the reserve balance would be less than 20 per cent of the bank's deposits.

The borrower, of course, would write a check for the amount he wanted to use, and so *his* deposit balance would be reduced; but the money would not necessarily leave the bank, or if it did it would come right back. For if the check were deposited by its recipient it would merely transfer a certain amount of deposit credit from the borrower's account to the recipient's

account. Or if it were cashed by the bank, the currency would sooner or later be deposited, and the funds which went out of the bank through one account would come back in through another. The bank's deposits would be increased by the loan in any event, except only if the money were kept in circulation, sent out of the country, or permanently lost, destroyed, or hidden. There would be no other bank for it to go to.

Realizing that any additional loans it made would increase its deposits out of proportion to its reserves, the commercial bank might stop making new loans. Suppose, however, that the Reserve authorities were of the opinion that more loans might advantageously be made and that the bank should be provided with additional reserves so that it could make them. Suppose they therefore purchased \$20,000,000 of securities in the open market. The sellers of the securities would deposit in the commercial bank the money they received in payment. The commercial bank in turn would deposit it in its reserve account at the Reserve Bank. Having these additional reserves of \$20,000,000, the commercial bank, by making loans, could increase its deposits to five times as much, or \$100,000,000—the \$20,000,000 being the 20 per cent reserves required against deposits of \$100,000,000.

Another possibility is that the commercial bank might borrow the \$20,000,000 from the Reserve Bank. But whether the commercial bank took the initiative in borrowing or the Federal Reserve authorities took the initiative in purchasing securities, in either event the sum total of reserve funds would be increased, and lending on an increased scale would be possible. In either event also, the Reserve authorities would not need to advance the full amount that the commercial

bank would lend, but only enough to supply the 20 per cent reserve required against the increased deposits resulting from its lending.

### *Taking All Banks Together*

The same principle that would operate if there were only one bank holds true of all banks taken together—the great difference being that effects which are immediately and directly discernible when there is assumed to be only one bank are much more difficult to follow when the explanation is applied individually to the thousands of banks actually in operation. What is true of banks as a whole is not true of every individual bank; there are always exceptions. When bank reserves in the aggregate are in excess of requirements, there nevertheless will be individual banks with no excess reserves; and when, therefore, banks in general are in a position to extend abundant credit, there nevertheless will be individual banks in no such easy condition. In particular, when the sum total of reserve funds is augmented by Federal Reserve or other action the increase will manifest itself first at certain individual banks which happen to be recipients of the additional funds. But no bank can expect to keep permanently what it receives. Its customers are always checking its funds elsewhere. By the normal and active process of clearing the enormous number of checks that are constantly being drawn on one bank and deposited in another—thereby entailing the transfer of funds from the reserve balance of one bank to the reserve balance of another—a rapid movement or circulation of reserve funds is maintained. The result is that any increase in the total volume of reserve funds tends sooner or later to spread itself from the few

banks where it originates to many other banks, if not all.

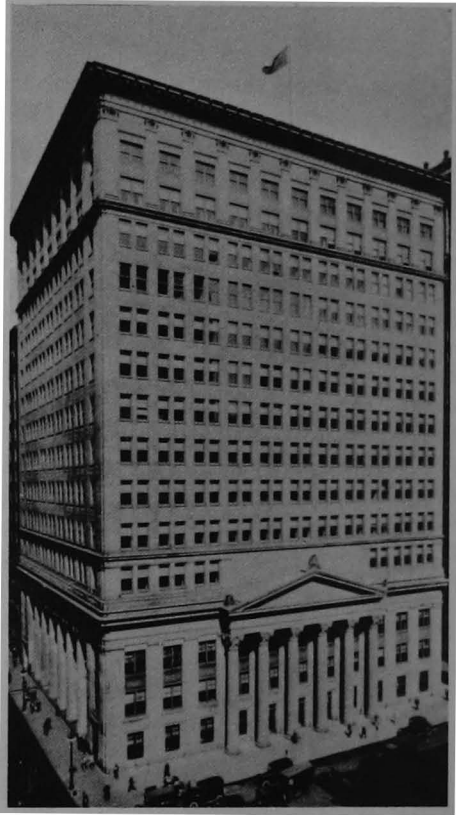
Let us assume that the Reserve authorities realize that banks as a whole have insufficient reserves for the expansion of credit that is needed and proceed to buy Government securities in order to supply the money market with additional funds. Suppose as before that they buy \$20,000,000 worth and that the entire sum happens to be deposited in some one bank. That particular bank's deposits and reserves will both be increased by \$20,000,000. But the bank is not required to have reserves of more than 20 per cent, and 20 per cent of the increase is \$4,000,000. Therefore, \$16,000,000 of what the bank receives is excess reserves. It lends the \$16,000,000—assuming it can find borrowers—and the whole amount, let us suppose, is checked out and deposited in a second bank. This second bank with increased deposits of \$16,000,000 against which it is required to keep reserves of only 20 per cent, or \$3,200,000, gets in consequence excess reserves of \$12,800,000. It lends these funds, and they are checked out by the borrowers and deposited in a third bank. The third bank, having to keep reserves of only 20 per cent against the increase of \$12,800,000 in its deposits, gets excess reserves of \$10,240,000 to lend. It lends, and the amount is checked out by the borrowers and deposited in a fourth bank. It is evident that this process could go on till the amounts involved for successive banks were negligibly small. Including six more banks in the illustration, or ten in all, the additional deposits, loans, and reserves made possible by the Federal Reserve Bank's disbursement of \$20,000,000 would be as follows:



	Additional Deposits Received (100%)	Additional Loans Made (80%)	Additional Reserves Retained (20%)
1st bank .....	\$20,000,000	\$16,000,000	\$ 4,000,000
2nd bank .....	16,000,000	12,800,000	3,200,000
3rd bank .....	12,800,000	10,240,000	2,560,000
4th bank .....	10,240,000	8,192,000	2,048,000
5th bank .....	8,192,000	6,553,600	1,638,400
6th bank .....	6,553,600	5,242,880	1,310,720
7th bank .....	5,242,880	4,194,304	1,048,576
8th bank .....	4,194,304	3,355,443	838,861
9th bank .....	3,355,443	2,684,355	671,088
10th bank .....	2,684,355	2,147,484	536,871
Total first 10 banks.....	\$89,262,582	\$71,410,066	\$17,852,516
Other banks in turn.....	10,737,418	8,589,934	2,147,484
	<hr/> \$100,000,000	<hr/> \$80,000,000	<hr/> \$20,000,000

These figures assume, for the sake of simplicity, that every bank is able to find borrowers for the full amount that it can lend and that the full amount of every loan is checked out to some one other bank; that there are no left-overs and that the different banks come into the picture one at a time. They make no allowance for the fact that an individual bank in making loans is not limited to its excess reserves, because it can bring them up to the required level by borrowing from its Reserve Bank.

On this basis, the figures show that the first ten banks had additional reserves of \$17,852,516, additional loans of \$71,410,066, and additional deposits of \$89,262,582. Other banks sharing in the remaining portion of the \$20,000,000 of additional reserves would increase their loans by \$8,589,934 and would have additional deposits of \$10,737,418. In the end, accordingly, an expansion of deposits amounting to \$100,000,000 would be made possible by the \$20,000,000 of additional reserves created by Federal Reserve action.



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The result would be the same if the banks were to purchase securities instead of making loans.

Of course, there would never be such an absolutely uniform division as we have been supposing, but the principle nevertheless holds true. Each bank could lend whatever reserves it had in excess of what it was required to have, and in the end the total additional loans and the total additional deposits would be several times as great as the total additional reserve funds created

by the Reserve authorities' purchase of securities.\*

The fact that what can be done by the banking system as a whole differs so much from what can be done by any individual bank is one of the most difficult things to understand clearly in the whole field of banking. It seems paradoxical. Yet it is a fundamental fact of utmost importance. The difficulty is to see that the limited power of the individual bank, which can lend somewhat *less* than the amount of additional reserves it receives, can, when exercised by many individual banks, enable them all together to lend several times the amount of the additional reserves. But what each bank receives is in each case the greater part of what has already been received by another bank, so that the same amount keeps working over and over again, a little diminished each time.

The practical consequence of this is that the Federal Reserve authorities, by supplying a *relatively small* volume of additional reserve funds, make it possible for the banking system as a whole to supply the public with a *far greater* additional volume of credit. Contrariwise, by withdrawing a relatively small amount of funds, when member banks have no excess reserves, the Federal Reserve authorities can make it necessary for the banking system to borrow the amount withdrawn or to reduce loans and investments—and consequently deposits—by several times that amount.

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\* The reserves required are not in fact 20 per cent at present, but about 15 per cent on the average. The figure of 20 per cent has been used for greater simplicity in illustration. The actual figure is always the result of several factors and varies from time to time, partly because of changes in the various required percentages and partly because of changes in the amount of deposits subject to the various required percentages. Between 1918 and 1929 the ratio of required reserves to deposits declined from about 9 per cent to about 7 per cent and thereafter rose again to about 8 per cent by the middle of 1936. In 1937 it rose to about 16 per cent, as a result of changed reserve requirements, and in 1938 it fell to about 15 per cent.

## CHAPTER VII

### FEDERAL RESERVE POWERS AND LIMITATIONS

*Although Federal Reserve powers are important and extensive, they are nevertheless constantly subject to limitations inherent in the conditions under which they are exercised.*

**T**HE limitations upon the powers of the Federal Reserve authorities are partly statutory and partly practical. Those that are statutory relate primarily to the reserves that the Federal Reserve Banks are required to maintain against their note and deposit liabilities.

The circulating notes issued by the Federal Reserve Banks and the reserve deposits maintained with them by member banks are alternative forms of Federal Reserve Bank liability. As of December 31, 1938, Federal Reserve notes in circulation amounted to about \$4,500,000,000, and member bank reserve balances on deposit with the Reserve Banks amounted to about \$8,700,000,000. When a member bank needs additional Federal Reserve notes, they are obtained from its Federal Reserve Bank, which charges their amount to the member bank's reserve balance. Correspondingly, when a member bank finds that it has more Federal Reserve notes on hand than it needs, it may send the notes to the Federal Reserve Bank and have their amount credited to its reserve balance.

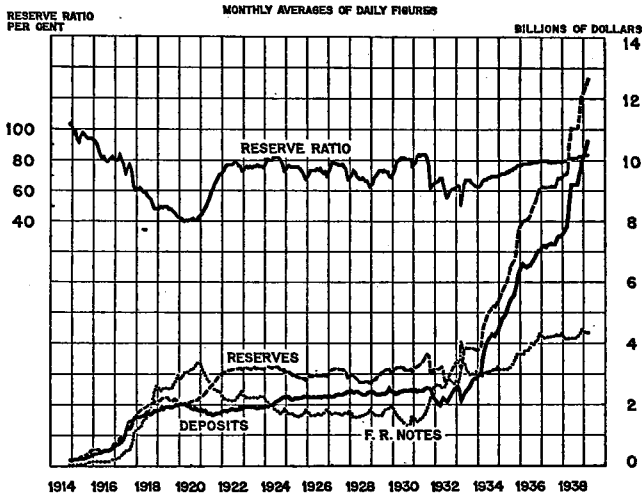
The Federal Reserve authorities expand the volume either of notes or of reserve balances in response to the demands of the public and of the member banks. Although they may at times take action to reduce the volume of bank reserves, they never need take action

to reduce the amount of notes in circulation. Currency in excess of the public's needs is promptly deposited in banks and by them is deposited in the Federal Reserve Banks. The process is spontaneous. In effect, therefore, the amount of money in circulation is governed by the public's action, not by action of the issuing authorities, and no more currency will remain in use than is required.

### *Legal Limitations*

The Federal Reserve Act stipulates that the Federal Reserve Banks shall have reserves of gold certificates equal to at least 40 per cent of the Federal Reserve notes in circulation and reserves comprising gold certificates or lawful money equal to at least 35 per cent of their deposits. Taking the figures as of December 31, 1938, this means that the Federal Reserve Banks must have at least \$1,800,000,000 in gold certificates as the 40 per cent reserve against their Federal Reserve notes of \$4,500,000,000, and \$3,535,000,000 of gold certificates—assuming they have no other lawful money—as the 35 per cent reserve against their \$10,100,000,000 of total deposits. That is \$5,335,000,000 of gold certificates, taking the two requirements together. Actually, however, the Federal Reserve Banks had \$12,000,000,000 in gold certificates, or more than twice the maximum amount required. Notes in circulation and reserve deposits could therefore be more than doubled on the basis of present gold reserves, so far as the law is concerned. And since the Reserve authorities are empowered to suspend for limited periods the requirements stated in the law, the volume of notes and reserve deposits could be much more than doubled if an emergency should make it necessary.

## FEDERAL RESERVE BANKS - RESERVE POSITION



The accompanying chart (Federal Reserve Banks—Reserve Position) shows the volume of Federal Reserve Bank liabilities in the form of deposits and circulating notes during twenty-four years of Reserve System operations. It also shows the ratio of the Reserve Banks' reserves, which at their lowest, during 1920, were about 40 per cent of note and deposit liabilities, but in recent years have been about 80 per cent.

### *Practical Limitations*

The practical limitation on Federal Reserve powers to expand note circulation and reserve deposits can best be understood when Federal Reserve notes and member bank reserves (which are deposits on the books of the Federal Reserve Banks) are considered together with Federal Reserve Bank credit and gold.

These four factors are closely interrelated, and no one of them can change without a corresponding change in one or more of the other three. They are the four principal items on the Federal Reserve Banks' statement of condition. Rounding them off and disregarding other items, they may be shown in balance as follows:

(a) Gold certificates .....	\$12,000,000,000
(b) Discounts and securities .....	2,500,000,000
	<hr/>
	\$14,500,000,000
(c) Deposits .....	\$10,000,000,000
(d) Notes in circulation .....	4,500,000,000
	<hr/>
	\$14,500,000,000

In the latter part of the year 1938 the deposits on the books of the the Federal Reserve Banks as shown above (c) were \$10,000,000,000, and the Federal Reserve notes outstanding (d) were \$4,500,000,000. At the same time the Banks held (a) \$12,000,000,000 in gold certificates and (b) \$2,500,000,000 of obligations in bonds, promissory notes, etc. The two groups of figures, taken together, show that \$14,500,000,000 of gold and Federal Reserve Bank credit made possible \$14,500,000,000 of Federal Reserve Bank deposits and notes. In other words, the gold certificates (a) and the Federal Reserve Bank credit (b) were the *sources* of funds amounting to \$14,500,000,000, and the reserve deposits (c) and the notes (d) represented the *uses* of those funds in like amount.

The Federal Reserve authorities have no control over the volume of gold. Its shipment into the United States is due to various causes, chief among them the excess of exports over imports and the flight of capital induced by the economic and political conditions in other countries. As the gold is received, the Federal

Reserve Banks' holdings of gold certificates (a) and their deposits (c) are both equally increased. By the same token, the reserve balances of member banks—which constitute the bulk of Federal Reserve Bank deposits—are increased, and member banks accordingly find it easier to meet reserve requirements. The demand for Federal Reserve Bank credit (b) is consequently lessened; the member banks will have little occasion to borrow and the Federal Reserve authorities will have little occasion to purchase securities. If, however, the Federal Reserve authorities were to purchase additional securities, the result would be to expand member bank reserves (c). If they sold securities or if some of the discounts (b) were paid, deposits (c) would correspondingly decrease; unless there were simultaneously an increase in gold certificate holdings, or a decrease in the amount of notes in circulation. The amount of notes in circulation (d) represents what the public requires; if an increase in the amount occurred—more notes being drawn into use—there would be a corresponding decrease in deposits, and if a decrease occurred—a smaller volume of notes being used—there would be a corresponding increase in deposits.

Although the power of the Federal Reserve authorities to create reserve funds by the extension of Federal Reserve Bank credit is subject to the statutory requirement as to the reserves in gold certificates and lawful money that they shall maintain against their notes and deposits, it is evident that the *practical* limitations upon that power lie in conditions reflected in the other three factors, namely, gold, member bank reserves, and circulating notes. These conditions will of course be diverse. The amount of gold in the country de-



depends upon world-wide political and economic conditions. The amount of bank reserves depends upon the amount of gold and upon the demand for currency, as well as upon the amount of Federal Reserve Bank credit. The demand for currency depends upon business conditions. The demand for Federal Reserve Bank credit is affected by all these factors and by the demand for member bank credit.

In brief, monetary factors are not only dependent on one another, they are dependent on other factors. A given economic situation is the resultant of a wide variety of forces—such as invention, labor, agriculture, foreign trade, Government expenditures, taxation, war, weather—besides money and credit. Federal Reserve policy must always be related to other factors, and its effectiveness is not independent of their influence.

### *Required Reserves*

The power to change member bank reserve requirements is closely related to the power to create and extinguish reserve funds. If member banks are under a requirement to have reserves of \$6,000,000,000 and actually have reserves of \$10,000,000,000, it is apparent that they have \$4,000,000,000 of reserves in excess of requirements. This excess would enable them to increase by an enormous amount the volume of bank credit extended by them, assuming a strong enough demand arose. If the Federal Reserve authorities were to lower the reserve requirements, the amount of excess reserves and therewith the volume of member bank credit that it might be possible to extend, assuming sufficient demand, would be still further increased. If the Federal Reserve authorities were to raise the reserve requirements, the amount of excess

reserves and therewith the volume of member bank credit that it might be possible to extend would be diminished, so long as the higher reserve requirements remained effective. While an increase in reserve requirements of itself tends to restrict the volume of member bank credit that might be extended, its effect can be offset, if advisable, by increasing the volume of Reserve Bank credit outstanding; with the possible advantage that in principle excess reserves which arise from Federal Reserve Bank credit are more flexible and better subject to current adjustment than excess reserves arising from gold. Consequently, a situation in which the aggregate volume of reserve funds is to a great extent dependent upon Federal Reserve policy is apt to be more in the public interest than one in which the aggregate volume is dependent upon gold, the movements of which are largely beyond control.

At the present time reserve requirements, as shown in Chapter III, are a little less than double what they formerly were. The reason for increasing them was that bank reserves had become expanded to an inordinate degree by the immense increase in the country's gold stock. As a result member bank reserves were so much in excess of requirements that the lending power of member banks, instead of being subject, as contemplated in the Federal Reserve Act, to the corrective influence of the Federal Reserve authorities, depended too largely upon the abnormal stocks of gold received from abroad and too little upon domestic factors subject to control. In an endeavor to return more nearly to conditions under which the normal regulatory powers established by Congress are effective, the volume of reserves in excess of requirements was reduced by raising the requirements. This



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action had the effect of offsetting, to a partial extent, the increase in the gold stock.

An increase in reserve requirements does not increase the power of the Federal Reserve Banks to lend or to hold securities. The lending and investing power of the Federal Reserve Banks is not derived from member bank reserve deposits, and larger required reserve balances do not increase that power. The lending power of the Federal Reserve Banks is a statutory power whereby the Federal Reserve Banks may acquire promissory notes, acceptances, bonds, and other obligations and give in exchange therefor Federal Reserve notes or credit to the reserve accounts of

member banks. Having such power, their ability to lend and to purchase securities is not limited by the volume of funds deposited with them by their member banks.

### *The Nature of Federal Reserve Bank Credit*

Credit in general is a matter of monetary agreements, the essence of it being an acceptable promise to pay. Bank credit is a special form of credit, peculiar in that it involves a promise or assumption of liability *by* a bank, given in exchange for a promise made *to* the bank. Thus, a bank accepts the promissory note of a customer and in exchange promises to pay the customer a corresponding amount, which, pending his order, is carried on its books as a deposit in his favor. Bank credit plays a vitally important part in modern economic life. As a source of bank deposits transferable by check, it provides the funds with which the bulk of monetary payments is effected. It is always interchangeable with legal tender money, but for the most part it is not derived from legal tender money, nor does the volume of bank credit bear any rigid relationship to the volume of legal tender money. If the volume of loans that banks could make and of deposits that they could accept were limited to the volume of currency in existence, bank credit would not have the utility it now has in our economic system. Bank credit is a means by which wealth in other than monetary forms can be transmuted temporarily into monetary forms; as when, for example, a man borrows a thousand dollars on mortgage or collateral security and thereby obtains monetary funds without selling his property.

Federal Reserve Bank credit resembles bank credit in general, but under the law it has a limited and special use—as a source of member bank reserve funds. It is itself a form of money authorized for special purposes, convertible into other forms of money, convertible therefrom, and readily controllable as to amount.

Federal Reserve Bank credit, therefore, as already stated, does not consist of funds that the Reserve authorities “get” somewhere in order to lend, but constitutes funds that they are empowered to create. The process of creation is one of giving the promises of the Federal Reserve Bank—in the form of Federal Reserve notes and reserve deposits—in exchange for the promises made by others to the Federal Reserve Banks, the reason for the exchange being that the Federal Reserve Banks’ promises are recognized by law as having a particular monetary utility not possessed by the promises of individuals or of private institutions. That is, Federal Reserve Bank promises—or “liabilities,” as they are commonly called—serve in the form of *Federal Reserve notes* as the principal element of the circulating medium, and they serve in the form of *reserve deposits* as a basis for the extension of credit by member banks. These are the specific uses of the funds that have their source in Federal Reserve Bank credit.

Although the powers possessed by the Federal Reserve authorities are important and extensive, nevertheless they are constantly subject to limitations inherent in the conditions under which they are to be exercised. They are most effective when there is an active demand for credit. When the demand is slack,

or member bank reserves are greatly in excess of requirements, the powers are much less effective. The Federal Reserve authorities can create credit when it is in demand, they can encourage the demand for it by making funds abundant and cheap, they can create deposits by open market purchases of securities from others than member banks; but they can not create a demand for credit or cause the created deposits to be actively used.

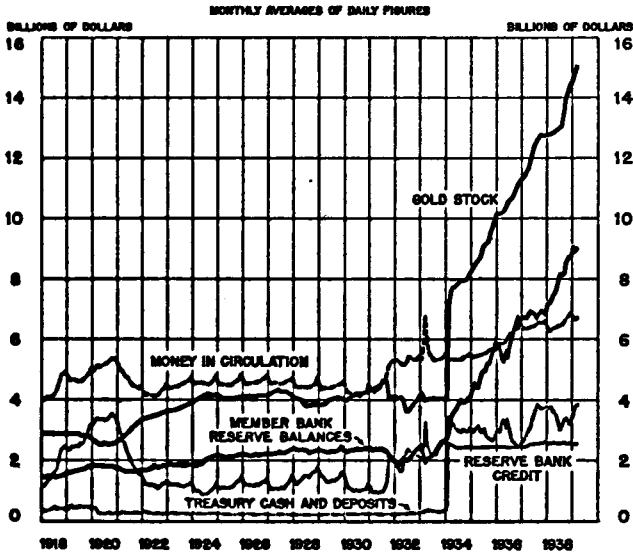
## CHAPTER VIII

### MEMBER BANK RESERVES AND RELATED ITEMS

*The principal factors involved in Federal Reserve policy are member bank reserve balances, gold stock, Federal Reserve Bank credit, money in circulation, and Treasury cash and balances.*

**I**N THE four preceding chapters the factors of Federal Reserve policy have been discussed at length. The accompanying chart (Member Bank Reserves and Related Items) shows the movement of the more important of these factors from the early years of the

### MEMBER BANK RESERVES AND RELATED ITEMS



Federal Reserve System to the present. This chart, slightly modified for present purposes, and the chart (Member Bank Reserve Balances) which appears later in this chapter, are regularly published in the FEDERAL RESERVE BULLETIN to portray current monetary developments.

The chart shows five lines, which may be considered in the following order:

- Member Bank Reserve Balances
- Gold Stock
- Reserve Bank Credit
- Money in Circulation
- Treasury Cash and Deposits

From 1918 through 1932 member bank reserve balances in the aggregate never exceeded \$2,500,000,000 for more than a few days at a time, and until 1932 and 1933 their total fluctuated relatively little. Since 1933 the amount of these balances has greatly increased, until by the end of 1938—that is, in a period of five years—they were \$9,000,000,000, or three times as much as they ever were before the increase began. These reserve balances are a potential base for a credit expansion far in excess of anything this country has ever experienced.

#### *Gold and Federal Reserve Bank Credit*

As explained in preceding chapters, the principal sources of reserve balances are gold and Federal Reserve Bank credit. Which of these is responsible for the remarkable increase in reserve balances since 1933? It is obvious from the chart that it is gold, the total amount of which has doubled since 1934, while the



amount of Reserve Bank credit has remained practically stationary; gold has risen to about \$15,000,000,000, while Reserve Bank credit is only \$2,500,000,000.

Before 1934, however, and prior to the recent large increase in the gold stock, the volume of Federal Reserve Bank credit showed wide fluctuations. It was then a more active factor in the volume of reserves. Before 1932 banks generally had no reserves at the Federal Reserve Banks in excess of what was required, and they frequently found occasion to borrow. At the same time and for the same reason, the Federal Reserve authorities had more occasion to buy and sell securities currently in the open market as a means of increasing and decreasing the volume of reserve funds. When the Reserve Banks *increased* their holdings, banks gained reserves and were enabled to pay off their borrowings and extend additional credit; when the Reserve Banks *decreased* their holdings, banks lost reserves and were forced to borrow or else curtail their extensions of credit. In 1932 and 1933 the Reserve Banks increased their holdings of United States Government securities, and the funds given in payment for their purchases first enabled the member banks to reduce their borrowings and then increased their excess reserves.

Since 1933 the rapid inflow of gold shown by the chart has increased member bank reserves much more rapidly than bank credit has been expanded. Consequently, banks have held large amounts of reserves in excess of requirements, and there has been little occasion for them to seek Federal Reserve Bank credit, or for Federal Reserve Bank credit to be expanded by open market operations.

*Money in Circulation, Treasury Cash, and  
Treasury Balances*

It will be noted from the chart that at all times the volume of bank reserves has been less than the total of gold and Federal Reserve Bank credit combined. This reflects the fact that gold and Federal Reserve Bank credit are the principal sources not only of bank reserves, but also of money in circulation, which consists principally of Federal Reserve notes. They are also a source of the cash held by the Treasury or deposited by it in its checking account with the Federal Reserve Banks. The amount of these Treasury balances was relatively small until 1934, when it was substantially enlarged by the increased value of the gold stock resulting from revaluation of the dollar. As explained in a preceding chapter, fluctuations in Treasury balances generally represent a temporary rather than a permanent or basic use of funds. When the Treasury collects taxes, it receives the bulk of the payments by check. These checks in effect transfer money from the commercial banks to the Treasury; that is, they enlarge the Treasury's balances at the Federal Reserve Banks and reduce the reserve balances of member banks. The same thing occurs, in effect, when the Treasury borrows. On the other hand, when the Treasury expends the funds it has received, its own balances at the Federal Reserve Banks are reduced and the reserve balances of member banks are increased. Because Treasury receipts and disbursements alternately decrease and increase the reserves of banks, they tend to cancel out; though at any given time they may account for current changes of considerable magnitude in the volume of bank reserves and of Reserve Bank credit.



**FEDERAL RESERVE BANK OF MINNEAPOLIS**  
73 South 5th Street, Minneapolis, Minnesota

Another factor of potential importance, not shown on the chart, is Treasury currency. This includes coin, silver certificates, and United States notes. When these forms of money go into circulation, they are ordinarily deposited by the Treasury in the Federal Reserve Banks and are paid out by them to member banks as currency is required by the public. Like gold and Federal Reserve Bank credit, they are a source of bank reserves. They are not funds obtained by the Treasury from existing reserves through borrowing or taxation. Accordingly, an increase in the issue of coin, silver certificates, or United States notes will tend to increase bank reserves.

*Interrelations Between Factors*

All of the factors shown on the chart are closely and necessarily interrelated. Some of them are not directly subject to control by the Federal Reserve authorities, while others are subject to control in part. Increases and decreases in the volume of gold are relatively uncontrollable. The same is true of money in circulation; whatever the public requires is supplied without delay or interference. Changes in Treasury cash and deposits and in Treasury currency generally reflect fiscal requirements and occasionally monetary policies (e.g., revaluation of gold, gold sterilization, and issuance of silver certificates); at any rate they are not among the factors directly subject to control by the Federal Reserve authorities. This leaves Federal Reserve Bank credit as the one factor that is largely controllable. As explained in the preceding chapter, the fact that it is controllable is the reason for its existence; it can be increased or decreased as a counterweight to changes in the less controllable factors.

At the present time, the interplay of the foregoing controllable and uncontrollable factors determines the volume of member bank reserve balances. At any given moment this volume may be affected by the *uncontrolled* movement of gold, or changes in the amount of money in circulation, or Treasury receipts and disbursements, and by the *controlled* increase and decrease in the volume of Federal Reserve Bank credit.

Bank reserves are not always or necessarily, however, so passive a resultant of other factors as they are under present conditions. At times when member banks have almost no reserves in excess of what they are required to have, as they did before the gold

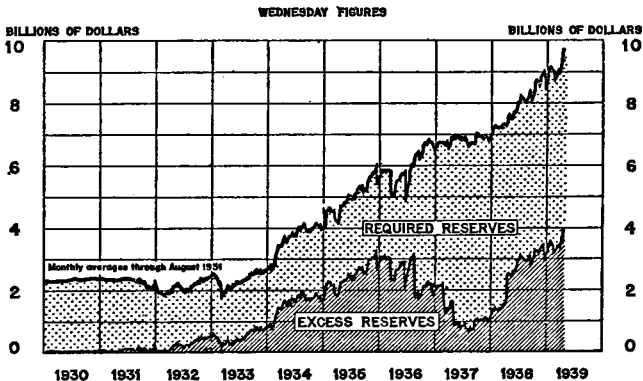
influx of recent years, there will be a greater need for Federal Reserve Bank credit, and member banks will borrow from the Reserve Banks. Under those circumstances changes in the volume of reserves will be a governing cause of changes in the volume of Federal Reserve Bank credit.

It will be noted that prior to 1934 there was a very close relation between money in circulation and Reserve Bank credit, seasonal fluctuations in the two lines almost duplicating each other. This reflects the fact that increases in the volume of money in circulation mean withdrawals of currency from the Federal Reserve Banks, with a consequent decline in the volume of member bank reserves. Similarly, when currency is retired from circulation, and deposited in the Federal Reserve Banks, it is credited to the reserve balances of member banks and increases them. When the reserve balances represent merely what banks are required to have and there is no excess, the withdrawals of currency for circulation purposes have to be offset by extensions of Federal Reserve Bank credit. A given member bank, for example, that needs \$100,000 in currency, but has no excess reserves, will borrow \$100,000 from the Federal Reserve Bank and have the amount credited to its reserve account so that the withdrawal will not reduce its reserves below the required amount. And, correspondingly, as soon as the member bank accumulates sufficient currency, it will deposit what it can spare in the Federal Reserve Bank and pay off its borrowing. Therefore, when banks have only such amount of reserves as they are required to have—as was generally true before 1934—increases and decreases in the amount of money in circulation

bring about corresponding increases and decreases in the volume of Federal Reserve Bank credit. But when banks have large excess reserves—as they have had since 1934—increases and decreases in the amount of money in circulation do not appreciably affect the volume of Federal Reserve Bank credit but only the volume of the excess reserves.

A striking feature of the chart is the abrupt increase in the gold stock in 1934. This reflects revaluation of the dollar, by which the price of gold was raised from \$20.67 to \$35 an ounce. Before this action was taken, all gold already in the country, which for the most part was held by the Federal Reserve Banks, was turned over to the Treasury. The whole increase in the monetary value of the gold went to the United States Government, therefore, and was added to the Treasury's cash balance. Except to the extent that a part of this increment was later expended by the Treasury, the increase in the value of the gold stock had no effect on member bank reserves.

### MEMBER BANK RESERVE BALANCES



*Required and Excess Reserves*

The accompanying chart (Member Bank Reserve Balances) shows reserve balances divided into required reserves and excess reserves. Required reserves are the part of total reserves which banks must keep in proportion to their own deposits, and excess reserves are the part in excess of what is required.

Before 1932, banks had almost no excess reserves. They maintained just what they were required to maintain and little more. When they needed larger reserves they used Federal Reserve Bank credit, which was therefore a much more active factor, as already explained, than it is now.

## CHAPTER IX

### WHAT THE TWELVE FEDERAL RESERVE BANKS OWN AND WHAT THEY OWE

*The central banking functions of the Federal Reserve System are reflected in the balance sheet of the Federal Reserve Banks.*

**T**HE functions described in the preceding chapters are all reflected in the balance sheet of the twelve Federal Reserve Banks, which is made public every Friday and shows the condition of the Reserve Banks as of the Wednesday immediately preceding. It appears in the Friday issue of the principal daily newspapers of the country and is usually accompanied by explanatory comment, particularly as to changes in member bank reserves and related factors.

The statement as of December 31, 1938, in condensed form is as follows, only the most important items being shown separately.

#### ASSETS

1. GOLD CERTIFICATES on hand and due from U. S. Treasury .....	\$11,798,000,000
2. Other cash .....	368,000,000
3. U. S. GOVERNMENT SECURITIES .....	2,564,000,000
4. DISCOUNTS FOR MEMBER BANKS .....	4,000,000
5. Other earning assets .....	16,000,000
6. Uncollected items .....	711,000,000
7. Miscellaneous assets .....	120,000,000
<b>TOTAL ASSETS</b> .....	<b>\$15,581,000,000</b>

#### LIABILITIES

8. FEDERAL RESERVE NOTES .....	\$ 4,452,000,000
9. Deposits:	
RESERVES OF MEMBER BANKS .....	8,724,000,000
U. S. Treasurer's account .....	923,000,000
Other deposits .....	441,000,000
10. Deferred availability items .....	694,000,000
11. Miscellaneous liabilities .....	3,000,000
<b>TOTAL LIABILITIES</b> .....	<b>\$15,237,000,000</b>



## CAPITAL ACCOUNTS

12. Capital .....	\$ 135,000,000
13. Surplus (section 7) .....	149,000,000
14. Surplus (section 13b) .....	27,000,000
15. Other capital accounts .....	33,000,000

TOTAL LIABILITIES AND CAPITAL ACCOUNTS.... \$15,581,000,000

*Explanation of Asset Accounts*

1. **GOLD CERTIFICATES** on hand and due from the United States Treasury. This amount comprises certificates due the Federal Reserve Banks for gold acquired by the Treasury, including both gold transferred by the Federal Reserve Banks to the Treasury upon adoption of the Gold Reserve Act of 1934 and gold subsequently acquired. It includes \$10,000,000 constituting a redemption fund for Federal Reserve notes.

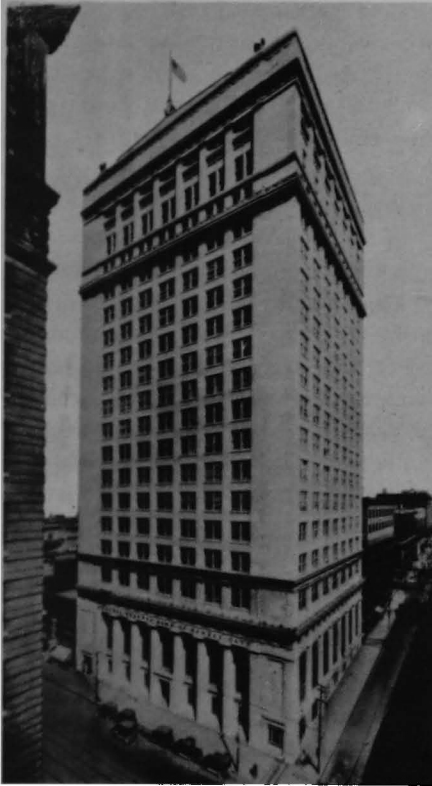
2. Other cash is coin and paper money (not including gold certificates or Federal Reserve notes) in the Reserve Bank vaults.

3. **UNITED STATES GOVERNMENT SECURITIES** are bonds, Treasury notes, and Treasury bills purchased from dealers and others in the open market. This account shows the amount of Federal Reserve Bank credit created by such purchases in order to increase or replenish member bank reserves. Like the account which follows, Discounts for Member Banks, it reflects one of the most important Reserve Banking functions. Under the present law, Government obligations are never purchased from the Treasury by the Federal Reserve Banks but are purchased only in the open market.

4. **DISCOUNTS FOR MEMBER BANKS.** This account shows the amount of Federal Reserve Bank credit created by lending and is represented in part by prom-

issory notes of member banks, secured by collateral, and in part by promissory notes or other obligations endorsed over to the Federal Reserve Bank by member banks. These are usually called discounts, or rediscounts, because when the Reserve Bank acquires them it gives credit for the amount thereof less a discount, i.e., an interest charge deducted in advance at the established rate. Like the account which precedes, United States Government Securities, it reflects one of the most important central banking functions. Until recent years, before gold imports expanded the reserves of member banks and made it unnecessary for them to borrow except infrequently and on a small scale, discounts were very large. In 1920, for example, discounts for member banks were \$2,500,000,000, United States Government securities owned were only \$300,000,000, and other earning assets (mostly acceptances bought in the open market, now less than \$1,000,000) were \$400,000,000. This is in marked contrast to the more recent figures.

5. Other earning assets are now mainly loans made to industrial and commercial enterprises in accordance with section 13b of the Federal Reserve Act. This item also includes bills purchased, which, as referred to in the preceding paragraph, now amount to less than \$1,000,000. At times when the supply of bank reserves has been low, however, the Federal Reserve Banks have bought substantial amounts of bills and thus have supplied funds for seasonal credit and currency demands, especially in the autumn months. These bills are acceptances, that is, two-party obligations arising from transactions in commodities, especially in the import and export trade. The Federal Reserve Banks pur-



**FEDERAL RESERVE  
BANK OF KANSAS  
CITY  
10th Street and  
Grand Avenue,  
Kansas City,  
Missouri**

chase them at established rates in such volume as they are offered for sale.

6. Uncollected items include checks and other cash items deposited with the Federal Reserve Banks and still in process of collection at the time the statement is made up.

7. Miscellaneous assets consist of several items, of which the largest is the bank premises owned by the

Federal Reserve Banks and carried at \$43,000,000. They also include premium on securities owned and accrued interest receivable.

*Explanation of Liability and Capital Accounts*

8. FEDERAL RESERVE NOTES are the obligations of the Federal Reserve Banks that circulate as money. They are described in Chapters II and VII.

9. Deposits consist mainly of the RESERVES of MEMBER BANKS. They also include checking accounts of the United States Treasury and other Governmental agencies, deposits of foreign banks, and deposits maintained by certain nonmember banks for use in clearing and collecting checks.

10. Deferred availability items are of technical rather than general significance. The account arises from the fact that Federal Reserve Banks do not give immediate credit for checks deposited for collection. Broadly speaking, deposit credit is deferred until the checks have had time to reach the banks upon which they are drawn and to be paid by them. Pending this, the Federal Reserve Banks give what is known as "deferred credit." These items are generally in approximate balance with "Uncollected items," shown among the assets (Number 6).

11. Miscellaneous liabilities consist of several items, the principal ones being discount on bills and securities and miscellaneous accounts payable.

12. All of the capital stock of the Federal Reserve Banks is owned by banks which are members of the Federal Reserve System. See Chapter I.

13. Surplus (section 7) is governed by section 7 of the Federal Reserve Act. It can be drawn on to meet deficits or losses, if any. It can not be distributed to



**FEDERAL RESERVE BANK OF DALLAS**  
**Wood and Akard Streets, Dallas, Texas**

the stockholding member banks, except as may be necessary to pay the regular 6 per cent dividend. The law provides that, if the Reserve Banks are dissolved, any surplus be paid to the United States.

14. Surplus (section 13b) represents the funds received from the Secretary of the Treasury for the purpose of making loans in accordance with section 13b of the Federal Reserve Act, plus or minus the net earnings or net loss arising from the use of such funds.

15. Other capital accounts consist primarily of reserves for contingencies, amounting to \$33,000,000, and undistributed earnings, if any.

It is plain from a glance at the statement that four items are by far the largest, namely, GOLD CERTIFICATES and GOVERNMENT SECURITIES among the assets, and NOTES and RESERVE DEPOSITS OF MEMBER BANKS among the liabilities. These items, with DISCOUNTS FOR MEMBER BANKS, reflect the essential operations of the Federal Reserve Banks as central banking institutions. The amount of gold certificates is increased from time to time as the Treasury makes use of the gold it acquires. The Government securities, discounts, and other earning assets are acquired when the Federal Reserve authorities create additional reserve funds for member banks. They represent the Reserve Bank credit advanced by the Reserve Banks and discussed in previous chapters.

Federal Reserve notes, on the liability side, constitute the largest and most flexible portion of the country's circulating medium. As already explained, their amount can increase or decrease in immediate response to the public's requirement of increased or decreased amounts of cash.

The reserve deposits standing to the credit of member banks on the books of the Reserve Banks serve at the same time (a) as clearing balances through which bank checks are collected and through which currency is drawn into circulation and returned therefrom, and (b) as the means through which regulation of the lending power of commercial banks is effected. See Chapters II, III, and IV.

It will be observed that the Federal Reserve Bank statement shows a very small proportion of assets that yield income—only about 15 per cent of the total. That 85 per cent of the assets are in such form that they yield no income is abnormal from the viewpoint

of privately managed enterprise operated for profit. It is not usual even for a central bank, but since such an institution is conducted for public purposes and is not guided by the motive of earnings, circumstances may be such as to result in a large proportion of its lending power remaining unused. Such circumstances exist today.

## CHAPTER X

### FEDERAL RESERVE BANK EARNINGS

*The operations of the Federal Reserve Banks, although not conducted for profit, yield an income which is ordinarily sufficient to cover expenses.*

**T**HE creation of Federal Reserve Bank credit through lending and through purchases of securities incidentally yields an income to the Federal Reserve Banks in the form of interest.

Ordinarily this income is adequate to cover the necessary expenses of the Federal Reserve Banks and the Board of Governors and to leave a balance. Around the year 1920, the net earnings of the Federal Reserve Banks were large, to a great extent because of operations in connection with war financing, but since that period they have been relatively small. Some of the Federal Reserve Banks in certain years have operated at a loss. In twenty-four years (1914-1938) the total earnings of the twelve Federal Reserve Banks have amounted to \$1,277,000,000.

The distribution of these earnings is shown in the accompanying chart (Distribution of Earnings of Federal Reserve Banks, 1914-1938).

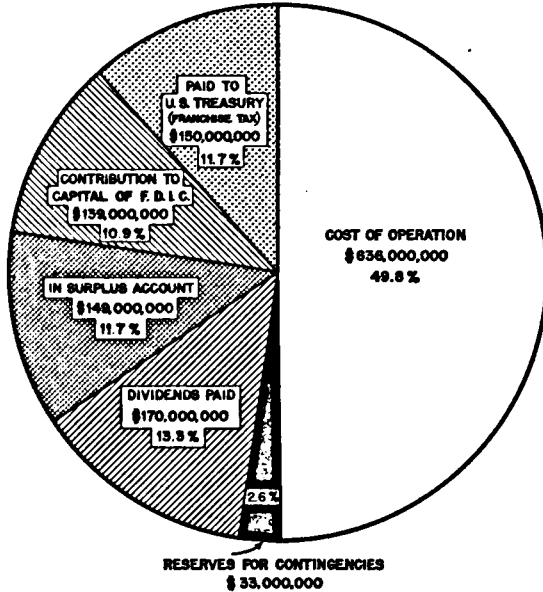
In round numbers, earnings have been used as follows:

Expenses and reserves for contingencies .....	\$669,000,000
Dividends .....	170,000,000
Paid to United States Treasury .....	150,000,000
Paid to Federal Deposit Insurance Corporation .....	139,000,000
Surplus remaining .....	149,000,000
	<hr/>
	\$1,277,000,000



DISTRIBUTION OF EARNINGS  
OF FEDERAL RESERVE BANKS, 1914 - 1938

TOTAL EARNINGS - \$1,277,000,000



The twelve Federal Reserve Banks operate with a force of about 11,000 officers and employees, and the total payroll in the course of twenty-four years, after deducting salary reimbursements, has been about \$345,000,000. Other important items of expense in the same period have been \$51,000,000 for depreciation and charge-offs on bank premises; \$50,000,000 for the expense of issuing and redeeming Federal Reserve currency; \$56,000,000 for postage, expressage, and insurance on currency and securities shipments; \$22,000,-

000 for local taxes; and \$20,000,000 for maintenance of the Board of Governors, in Washington, which regulates and supervises the Federal Reserve System. The Board is not supported by Government funds or appropriated moneys but by assessment upon the twelve Reserve Banks.

Congress provided in the Federal Reserve Act that dividends of 6 per cent per annum, cumulative, be paid by the Reserve Banks on their capital stock. The Act requires that this stock be purchased and held by member banks. Dividends are paid after all necessary expenses have been met.

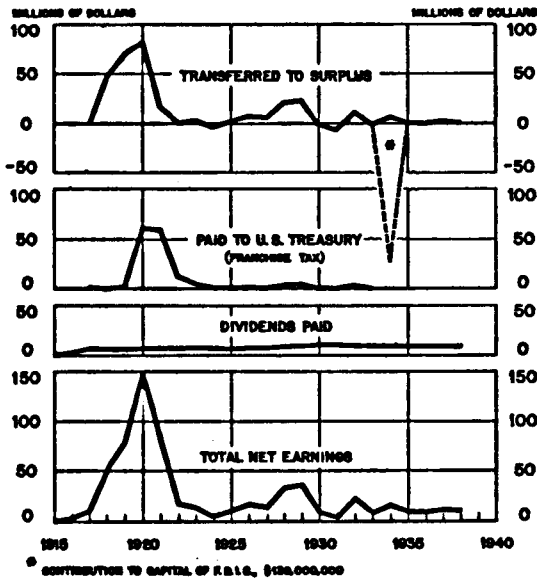
Until 1933, the Federal Reserve Act required each Federal Reserve Bank to pay to the United States Treasury an annual franchise tax consisting of all net earnings after payment of dividends and certain additions to surplus. The sum paid in the course of eighteen years amounted to about \$150,000,000. In 1933, Congress required the Reserve Banks to pay about \$139,000,000 to the Federal Deposit Insurance Corporation, which had just been organized. This payment reduced the surplus by about half. At the same time Congress removed the requirement that the Reserve Banks pay the Government a franchise tax. This enabled the Banks to apply unused earnings to a more rapid restoration of their depleted surplus.

As indicated, the surplus of the Federal Reserve Banks is now about \$149,000,000. This, with their capital of about \$135,000,000, gives them capital and surplus combined of about \$284,000,000.

The surplus is available to the Federal Reserve Banks for meeting losses, deficits, and unearned dividends, but it can not be otherwise distributed to the stockholding member banks. As already stated, the

law provides that if the Reserve Banks should be liquidated, any surplus would be paid to the United States, after payment of debts and the par value of the stock with dividends due thereon.

DISPOSITION OF NET EARNINGS  
OF FEDERAL RESERVE BANKS



The accompanying chart (Disposition of Net Earnings of Federal Reserve Banks) covers the whole period of Federal Reserve Bank operations and shows, year by year, the amount of net earnings transferred to surplus, the franchise tax paid to the Government, and dividends paid to member banks. It reflects the fact that there were large additions to surplus in the years

about 1920 when earnings were highest, and in some subsequent years either there have been no additions or surplus has been drawn down. It reflects the fact that in 1933, as stated, Congress directed the Federal Reserve Banks to pay an amount equal to half their surplus to the Federal Deposit Insurance Corporation and also discontinued the franchise tax. It also reflects the fact that dividends have remained about the same.

As the chart shows, the net earnings of the twelve Federal Reserve Banks have varied considerably in the course of years. They were highest in 1919, 1920, and 1921, when the total was \$310,000,000. In these three years there was a strong demand for credit, and the Reserve Banks made a large volume of loans. Their net earnings in those three years amounted to approximately one-half their total net earnings in twenty-four years. In 1936, 1937, and 1938 the total net earnings were \$29,000,000. The reduced earnings in recent years reflect the fact that there has been little demand for credit. In 1920 when the Federal Reserve Banks had the highest earnings, they had loans and investments of more than \$3,000,000,000, most of which were loans yielding from around 4½ per cent to 6 per cent or 7 per cent. In 1938, when their net earnings were only a small fraction of what they were in 1920, they had loans and investments of about \$2,500,000,000, most of which were Government securities yielding less than 1½ per cent.

## CHAPTER XI

### MARGIN REQUIREMENTS

*The Federal Reserve authorities have special power to curb the use of credit for speculation in securities.*

**T**HE regulatory powers of the Federal Reserve authorities so far described relate to the volume and cost of bank credit in general, without regard to the particular field of enterprise or economic activity in which the credit is used. In one respect, however, the Federal Reserve authorities are enjoined by law to give particular attention to the use to which credit is put. That is its use in speculation.

Speculation may occur in almost any field. It may occur in land, in commodities, or in securities; and wherever it occurs it is apt to have marked effect upon credit conditions in general. The Reserve authorities are instructed by the statute to keep themselves informed as to "whether undue use is being made of bank credit for the speculative carrying of or trading in securities, real estate, or commodities" and are authorized to take certain actions to prevent undue use of credit in these fields. In addition, they have special power to curb the use of credit for speculation in securities.

This power is exercised by limiting the amount which holders of securities may borrow upon them, either from banks or from brokers and securities dealers, for the purpose of purchasing or carrying securities. The amount is a percentage of the current market value of the securities. It is determined by the Board of Governors of the Federal Reserve System.

Since 1934, when Congress gave the Board this authority, the figure has been as low as 45 per cent and as high as 60 per cent. A figure of 60 per cent means, for example, that a person owning listed stocks currently worth \$1,000 may borrow on them for speculative purposes no more than \$600. The limitation does not apply, however, to any loan for commercial purposes, even though the loan be secured by stocks. When it appears that there is borrowing on a large and growing scale to finance purchases of stock, and that it is in the public interest to exercise further restraint on speculation in securities, the Board may reduce the percentage which can be borrowed. As indicated, the limit has been as low as 45 per cent.

In this field, as in the general field of credit regulation, therefore, the Reserve authorities undertake to exercise a stabilizing and corrective influence.

This power to establish loan values for securities is commonly spoken of as a power to establish "margin requirements," that is, the amount of collateral which must be put up by the borrower in excess of the amount of his loan. If one is buying \$1,000 worth of securities, and the loan value is 60 per cent, he may borrow \$600 against the securities and must furnish the other \$400 himself. The banker or broker who makes him the loan then holds collateral worth \$400 in excess of the amount of the loan. This is his margin. The Board's regulation may be thought of, therefore, either as prescribing minimum margin requirements or as limiting maximum loan values.

The Board's regulation applies to the margin required at the time the loan is made. If the collateral security subsequently declines in value, the regulation



**FEDERAL RESERVE BANK OF SAN FRANCISCO**  
Sansome and Sacramento Streets, San Francisco, California

does not make it necessary either to put up additional collateral or to reduce the loan.

Aside from having to do with a specific use of credit, the authority with respect to security loans differs from other Federal Reserve powers in reaching outside the Federal Reserve System to banks which are not members of the System and to brokers and dealers in securities. It is closely related, however, to other regulatory powers of the Federal Reserve authorities, because the use of credit for purchasing or carrying securities has a very important bearing upon its use for business purposes in general. The greater part

of credit used in carrying securities is extended by brokers, whose customers pay only partly in cash for the securities they purchase and go into debt to the broker for the balance. The broker himself must pay in full for the securities he buys, however, and ordinarily he borrows from his bank. Since brokers could not carry customers on any substantial scale unless they were themselves carried by the bank, most of the credit used by the customers in buying the securities is in reality furnished by the banks, and fluctuations in bank loans to brokers, as in any other bank loans, directly affect the banks' reserve position. A strong demand on brokers for credit, reflected in a strong demand by brokers for bank loans, may occasion substantial changes in money rates. By limiting the amount that can be borrowed on securities, therefore, and so restraining such demand for credit, the Federal Reserve authorities are able to impose restrictions on the use of bank funds for stock market speculation without restricting the volume of credit available for commercial and industrial needs or raising its cost.



## CHAPTER XII

### SUMMARY

*The Federal Reserve System has successfully overcome certain difficulties that formerly beset American economic life and imposed upon it great losses; the System still has constantly to meet new problems and difficulties.*

**T**HE basic powers of the Federal Reserve authorities relate to money and banking. They are monetary in that they deal with the means of payment, which consists in part of currency, in part of deposit credit originating from gold, and in part of deposit credit originating in loans and in purchases of securities by banks.

Before the Federal Reserve System was organized, the outstanding defects of American banking were diagnosed as "inelastic currency" and "scattered bank reserves." Establishment of the System promptly cleared the way for the anticipated improvements. Elasticity of the currency was achieved. The machinery for note issue proved adequate for the purpose and in time was found to work almost automatically. For many years now the volume of money in circulation has expanded and contracted smoothly and efficiently in accordance with the varying requirements of the public, and the currency function of the Federal Reserve Banks has become virtually a matter of routine, entailing no uncertainties and no difficult administrative problems.

The reserve function, on the other hand, has assumed far greater importance. It has come to be recognized

as much more than a matter of "pooling" or "mobilizing" scattered reserves and making available to banks in need of funds the surplus reserves of banks that have more than they need. It involves a power to *create* reserve funds and to *extinguish* them. If the funds lent by a Federal Reserve Bank, or paid by it for securities, were merely the funds deposited with it by its member banks, the loans and the purchases would not enlarge the total volume of reserve funds. In fact, however, they *do* enlarge the total volume of reserve funds. By acquiring the obligation of a member bank or other obligor and in exchange crediting an equivalent amount to the reserve balance of the member bank, a Federal Reserve Bank expands both its assets and its liabilities, and the expansion continues in effect so long as the obligation is held. The action is creative.

This does not mean that the power of the Federal Reserve authorities is unlimited and that they can create something out of nothing. The law itself limits their power to expand their deposits—that is, the reserve balances of member banks—and to expand their note issue by requiring that their liabilities not exceed a certain ratio to their holdings of gold certificates. Although this limitation has lost effectiveness, because of the present large gold stock, a fully effective limitation of more practical nature remains. This is that Federal Reserve action will not result in an increased use of bank credit unless there is a demand from the public for additional funds. The Federal Reserve authorities have considerable control over the *volume* of bank reserves, but they have no corresponding control over the *use* of bank reserves, and in particular they do not have power to create a demand for credit. They are able to expand bank reserves to meet almost any

conceivable demand for credit once that demand comes into existence and also to curb or discourage a demand for credit when it shows signs of developing speculative excesses. They possess no means, however, of impelling bank customers to borrow or of impelling bankers to lend.

The purpose of Federal Reserve functions, like that of Governmental functions in general, is the public good. Federal Reserve policy can not be adequately understood, therefore, merely in terms of how much the Federal Reserve authorities have the power to do and how much they have not the power to do. It must be understood in the light of its objective—which is to maintain monetary conditions favorable for an active and sound use of the country's productive facilities, full employment, and a rate of consumption reflecting widely diffused well-being. In formulating their policy, the Federal Reserve authorities take into account the factors making up the prevailing situation and use their powers in the way that seems to them best calculated to contribute, with other agencies, to economic stability.

In recent years the most important problems affecting Federal Reserve policy have arisen from the enlargement of bank reserves as the result of the increasing amount of gold in this country. This increase has been contributed to by increased production of gold from domestic mines, but to a much larger extent it has been the result of movements of gold into this country from abroad. The stock of gold in the United States has become about four times as great as it ever was before 1934 and amounts to about 60 per cent of all the monetary gold in the world. Various causes have brought about this unprecedented accumulation, but

the principal cause has been the disturbed economic and political situation in Europe. The result of the accumulation has been the expansion of the reserves of American banks to an amount and degree never before approximated. Member bank reserve balances, which scarcely ever exceeded \$2,500,000,000 before 1933, have mounted to \$9,000,000,000 and more—principally as a result of gold shipments from other countries.

The potential lending power derived by banks from receipt of this gold creates an unprecedented problem of control; because the unused reserves of banks are much greater than can be absorbed by the Federal Reserve authorities under present powers. If changed conditions should result, however, in a return of gold to Europe, the powers of the Federal Reserve authorities would be found highly effective in protecting American interests from being hurt by the withdrawal.

The principal means through which the Federal Reserve authorities may exercise their powers over bank reserves are, in review, the following:

**OPEN MARKET OPERATIONS.** These operations directly affect the volume of reserves: purchases of securities by the Federal Reserve authorities supply banks with additional reserve funds, and sales of securities diminish the volume of such funds. As a means of credit expansion, these operations are limited only by the supply of bills and securities available for purchase and by the reserve position of the Federal Reserve Banks themselves, assuming a demand for bank credit. As a means of credit contraction, they are limited by the amount of bills and securities held by the Reserve Banks. This amount at the end of 1938 amounted to about \$2,500,000,000, which of course is considerably

less than the amount of member banks' excess reserves.

**DISCOUNTS.** Through the power to discount and make advances, the Federal Reserve authorities are able to supply individual banks with additional reserve funds and may make these reserve funds more or less expensive for member banks by raising or lowering the discount rate. Discounts can expand only when member banks need to borrow.

**RESERVE REQUIREMENTS.** Raising or lowering requirements as to the reserves which member banks maintain on deposit with the Federal Reserve Banks has the effect of diminishing or enlarging the volume of funds that member banks have available for lending. Under existing law, the requirements may be raised from the present level by only about one-seventh and lowered by about three-sevenths.

As already stated, the foregoing powers directly affecting the volume of member bank funds have no immediate effectiveness with respect to the utilization of those funds. In the field of stock market speculation, however, the Reserve authorities have a direct means of control over the use of funds—namely, through margin requirements. The Reserve authorities may also exercise limited influence over the credit practice of banks through bank examinations.

In addition to the credit functions which have just been described, the Federal Reserve Banks perform certain services of which the most important are: holding member bank reserve balances; furnishing currency for circulation; facilitating the clearance and collection of checks and the transfer of funds; and acting as fiscal agents, custodians, and depositaries of the United States Government.

Establishment of the Federal Reserve System has

made it possible to meet and overcome many difficulties that formerly beset American economic life and imposed upon it great losses. The System has accomplished improvements in the monetary and banking field that are now taken for granted. Yet new problems and needs are always arising. Those that result from recent changes in monetary conditions here and abroad are especially complex and difficult. Federal Reserve policies must be constantly adapted to conditions in an ever-changing world.

## FEDERAL RESERVE PUBLICATIONS

The **FEDERAL RESERVE BULLETIN**, published monthly by the Board of Governors, contains reviews of current economic developments, special articles on banking and credit matters, regulations and rulings of the Board, and statistics on domestic and foreign financial and business developments. It is sent to all member banks without charge; to others in the United States the subscription price is \$2.00 a year; and single copies are 20 cents.

An **ANNUAL REPORT**, reviewing operations and policies of the System, is submitted by the Board of Governors to Congress and is available to the public.

The Board releases special statements from time to time as to actions taken and regular weekly statements on the **CONDITION OF THE TWELVE FEDERAL RESERVE BANKS** and on the **CONDITION OF REPORTING MEMBER BANKS IN 101 LEADING CITIES**. Comprehensive statistics compiled from the **CALL REPORTS** of all member banks are issued either three or four times a year.

Each Federal Reserve bank publishes a **MONTHLY REVIEW** of banking and business conditions in its district.

A set of **FEDERAL RESERVE CHARTS ON BANK CREDIT, MONEY RATES, AND BUSINESS** has been published by the Board and is for sale to the public at 50 cents a copy.

The **FEDERAL RESERVE ACT AS AMENDED** has been printed by the Board and will be supplied without charge.

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Reprints have been made from time to time of statements made by the Board, of special articles, and of statistical compilations published in the Bulletin or the Annual Report. The more important of these reprints, which will be supplied upon request without charge, are as follows:

**PROBLEMS OF BANKING AND BANK SUPERVISION.** Excerpts from the 1938 Annual Report of the Board of Governors of the Federal Reserve System.

**MONETARY MEASURES AND OBJECTIVES.** Containing three statements by the Board on objectives of monetary policy, on proposals to maintain prices at fixed levels through monetary action, and on legislative proposals relating to monetary measures and objectives.

120      **THE FEDERAL RESERVE SYSTEM**

**THE HISTORY OF RESERVE REQUIREMENTS FOR BANKS IN THE UNITED STATES.**

**SUPPLY AND USE OF MEMBER BANK RESERVE FUNDS.** An explanation of the method of analyzing the sources of member bank reserve funds and the uses to which such funds are put.

**MEMBER BANK STATISTICS.** A discussion of the statistics compiled and published by the Board covering the operations and condition of member banks.

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Copies of this book, **THE FEDERAL RESERVE SYSTEM—ITS PURPOSES AND FUNCTIONS**, are obtainable in cloth binding at 50 cents a copy and in paper cover without charge. They can be furnished individually or in quantities for classroom and other use. Orders should be addressed to the Board of Governors of the Federal Reserve System, Washington, D. C.



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